

# **GENDER DIVERSITY IN BOARDROOMS AND FINANCIAL SOUNDNESS: A CASE STUDY OF BANKING IN PAKISTAN**



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## CERTIFICATE

This is to certify that this thesis entitled: “**Gender Diversity in Boardrooms and Financial Soundness: A Case Study of Banking in Pakistan**”. submitted by **Mr. Muhammad Abdullah** is accepted in its present form by the School of Economics, Pakistan Institute of Development Economics (PIDE), Islamabad as satisfying the requirements for partial fulfilment of the degree in Master of Philosophy in Economics and Finance.

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## **Author's Declaration**

I Muhammad Abdullah hereby state that my M.Phil. thesis titled **Gender Diversity in Boardrooms and Financial Soundness: A Case Study of Banking in Pakistan** is my own work and has not been submitted previously by me for taking any degree from Pakistan Institute of Development Economics or anywhere else in the country/world.

At any time if my statement is found to be incorrect even after my Graduation the university has the right to withdraw my M.Phil. degree.



Date: April 26, 2024

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## **Abstract**

This study investigates the effect of gender diversity on the financial soundness (FS) of banks. More specifically, study aims to assess that how the presence of women in the boardroom effect the bank's financial soundness. We also investigate the percentage of women (greater representation of women) impact the FS of Islamic banks (IBs) and conventional banks (CBs) of Pakistan. We employed data from several sources, such as bank-level data obtained from financial statements and annual reports over the period of 2010 to 2022. Selection of banks is on the basis of full-fledged IBs and CBs. Moreover, study uses panel techniques of Hausman tests, random effects models for the empirical analysis. Empirical results for the model suggest that having women as a board of director (BOD) does represent a valuable resource for CBs. Our results imply that IBs face possible explanation of the negative association between women presence and FS of IBs is that the social role theory and the importance of social norms and religious values in either discouraging or upholding gender stereotypes, to the debate by studying women board participation in IBs on religious doctrine. Moreover, in case of CBs presence of women can positively enhance the FS of the CBs, it also enhances creativity, innovation, and productivity. Our findings provide supporting evidence for recruiting women to serve on boards in the banking industry.

Keywords: Gender Diversity, Financial Soundness, Boardroom, Corporate Governance

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## **List of Abbreviations**

FI: Financial Institutions

BODs: Board of Directors

IBs: Islamic Banks

CBs: Conventional Banks

SSB: Sharia Supervisory Board

GDP: Gross Domestic Product

NPF: Non-Performing Loans

NPL: Non-Performing Loans

ROA: Return on Assets

ROE: Return on Equity

OEXP: Operating Expenses

GNP: Gross National Product

WPBOD: Presence of Women in Boardroom

WPPBOD: Percentage of Women in Boardroom

LR: Loan Ratio

CAR: Capital Adequacy Ratio

LDR: Loan to Deposit Ratio

PSX: Pakistan Stock Exchange

WDI: World Development Indicators

IMF: International Monetary Funds

IFS: International Monetary Statistics

SBP: State Bank of Pakistan

SECP: Securities and Exchange Commission of Pakistan

CEO: Chief Executive Officer

# Chapter 1

## Introduction

### 1.1 Background

The BOD is a corporate body that is responsible for the management, direction, and operation of the bank, and its members are chosen by the shareholders (Rashid et al., 2020; Martinez-Jimenez et al., 2020). Companies board has the same legal duties or responsibilities as a board of CBs (Abdeljawad & Masri, 2020). Furthermore, the board members of the IB has additional duties and obligations as a result of the Islamic financial principles (Hakimi et al., 2018; Rehman & Hashim, 2020). In principal, numerous board attributes can play a key role in managing financial soundness (hereafter FS) of the companies e.g. expertise, independence and education. One of the main concerns in the corporate governance literature about board qualities is board diversity (Jabari & Muhamad, 2021a). Researchers have been paying more and more attention to gender diversity (García-Meca et al., 2015).

In general, many scholars have long been investigated at the variables that account for variations in the FS of the banks (Farag & Mallin, 2017; Giannetti & Zhao 2019; Karkowska & Acedański, 2020). However, gender diversity on the BOD has gained growing attention particularly in last decade among the policymakers (Arnaboldi et al., 2020). There is ongoing debate on the "brains of the boards" for the betterment of the FS of the banks. The BOD is solely accountable for decisions that influence the growth of a firm (Chen & Kao, 2022).

In principal the board's decision-making quality may depend not only on the director's attributes and talent but also on the characteristics of the directors (Cumming et al., 2015; Giannetti & Zhao, 2019). By giving a large number of proportions to women on the board, as long as the presence of women can positively enhance the FS of the banks, also enhance creativity, innovation, and productivity (Simionescu et al., 2021).

In addition, woman presence is important to enhance the bank FS and reputation (Nwude & Nwude, 2021). In addition to that, diversity on BOD likely to improve the quality of board decisions, and rise the ability of a board to deliver better transparency. Further, having more women on the BOD improves monitoring of managers' operations, activities and financial statements through increased auditing, better board attendance, and better manager accountability (Adams & Ferreira, 2009; Sarma et al., 2024). Moreover, women directors are more motivated to stop bad corporate practices (Cumming et al., 2015; Tanaka, 2019). The women's presence in the boardroom has gradually increased in recent years, though, the class prejudice has slowed down representation of women in specific sectors of the economy, such as financial sector (Girardone et al., 2021). Women directors tend to get paid less money and are sometimes passed over for promotions despite having more qualifications than their male colleagues (Field et al., 2020). As a result, discussions about the impact of the gender diversity of the BOD are ongoing.

In general, across countries, bank's FS may be different due to differences in the macroeconomic environment, particularly the inflation rate and GDP growth (Ishioro, 2023). It is crucial to remember that the specifically inflation effects FS of a bank that can be influenced by various factors, including the overall economic conditions, monetary policies, regulatory environment, and the bank's risk management practices (O'Connell, 2023). In principal, the banks can be influenced by changes in GDP growth, and the literature highlights several ways in which GDP can affect

bank FS (Kanapiyanova et al., 2023). The specific impact of GDP on a bank's FS depend on factors such as the bank's business model, market position, and overall economic conditions (Rashid et al., 2017).

However, task leadership is thought to fit into stereotypically masculine (i.e., Instrumental) positions, according to the social role theory of leadership. Task leadership entails things like defining leader and subordinate roles, holding subordinates to high standards of performance. This understanding stems from the social role theory of leadership. Conversely, stereotypical feminine roles align with interpersonal leadership, which include actions like assisting and demonstrating concern for subordinates, looking for their wellbeing, and being approachable (Eagly & Carli, 2009). The perspective contributes to the explanation of why men and women frequently exhibit distinct behaviors and leadership philosophies (Eagly et al., 1995; Nassar et al., 2021). Particularly, women tend to exhibit greater tendency to display people-oriented behaviors than men do (Martinez-Leon & Olmedo-Cifuentes, 2020) or transformational leadership styles (Kark et al., 2023). In companies that have gone through a period of poor performance or when success looked implausible, women have a greater probability than men to be chosen to senior roles (Ryan & Haslam, 2005; Ryan et al., 2010; Armstrong et al., 2023). As a result, it has been suggested that in certain organizational circumstances, there may be a "think crisis–think female" relationship (Kulich et al., 2021).

Effective corporate governance has the potential to mitigate the influence of a financial crisis on financial institutions (FIs) by boosting their profit (Ajanthan & Ramesh, 2021; Komath et al., 2023). Thus, the effective corporate governance of FI, especially those in the banking industry, is important to preserving the sustainability of the financial system and preventing a financial crisis. Thus, excessively risk-taking corporate governance may contribute to a slowdown in the economy

(Komath et al., 2023). Corporate governance is based on six major pillars: participation, moral integrity, responsibility and accountability, effectiveness and efficiency, and standards of law. Each of these corporate governance pillars demonstrates a noteworthy impact on improving the performance of the company (Nizam, 2022). There are certain principles (accountability, transparency, fairness and responsibility) which drive good corporate governance, as suggested by (Al Muhaisen & Alobidyeen, 2022).

In the existing literature, numerous studies investigate the women's presence on the BOD and its outcomes on the management of stock market performance of IB and CB; see, for example, (Loy & Rupertus, 2018; Yang et al., 2018; Greene et al., 2020; Menicucci & Paolucci, 2022). Some scholars have reported that the women's presence in BOD does not have a significant impact on the FS of IB; see, for instance, (Almutairi & Quttainah, 2019; Bitar & Tarazi, 2019). However, the existing literature is limited and inconclusive regarding the influence of women's presence in BODs on the FS of IBs and CBs, especially in developing countries like Pakistan.

Numerous studies investigate the role of women in different aspects of banks, e.g., the role of women in the boardroom in financial operations (Loy & Rupertus, 2018; Birindelli et al., 2020), the women's presence on the board and its impact on stock market returns (Greene et al., 2020), and the role of women on the board to overcome financial loopholes (Li & Li, 2020). But now this study can see the change, Therefore, this study makes two contributions to the understanding of the impact of presence of women in IB and CB on their FS. First, it investigates the presence of women on BODs and its impact on the FS of IB and CB. More specifically, it means that if there is only one woman or not even a single woman in the boardroom, so how that will affect the FS of a banks. Second, this study empirically explores how the percentage of women in BODs affects the FS of banks. Here percentage shows the greater representation of women in the boardroom

impact the FS of banks. From a resource dependence perspective, gender diversity improves FS through gaining access to a broader talent pool and expanding the variety of expertise available to the BOD, which, in turn, increases a bank's competitive advantage compared to less diversified banks.

## **1.2 Problem of the Statement**

It is desirable to empirically and theoretically investigate those factors of the firm which have an impact on the FS. Ineffective governance structures, such as the BODs is one of the causes of poor FS of bank. FI with competent and efficient BODs can produce and distribute high quality financial reports. The degree to which women's involvement in the banking sector affects the stability and financial soundness of banks is still understudied, despite progress made in gender equality and growing awareness of the value of diversity and inclusion in the workforce.

Women directors are appointed to boards because of their affiliations to these corporate groups. These females just sitting on the board to fulfill the quota requirement mandated by Pakistan corporate governance law but they don't effectively participate in the monitoring and preparation. This study is important in a practical way to deal with the gender discrimination. So, FI need to modify their position and manage their financial reports under the appropriate level in the economy.

In Pakistan, where the banking industry is crucial to economic growth and stability, it is critical to comprehend how women's work affects banks' ability to maintain a stable financial position. Nonetheless, there is a deficiency in the extant literature about exhaustive empirical examinations of this correlation in the particular setting of Pakistan between 2010 and 2022. This disparity

impedes the creation of well-informed policies and tactics meant to capitalize on gender diversity to improve banks' FS. Numerous studies have been done on the financial stability and financial performance of banking sector in the context of Pakistan, other way around study on the FS is not yet explored. This study has explored the presence of women on the boardroom and the impact of the FS on the banking sector of Pakistan.

### **1.3 Research Questions**

1. How the presence of women in the BOD affects the FS of IB and CB?
2. Does the percentage of women in BODs impact the FS of IB and CB?

### **1.4 Objective of Research**

1. To investigate the presence of women in BOD and its impact on FS of IB and CB.
2. To examine how the role of gender in BODs affects FS of IB and CB banks.

### **1.5 Significance of the Study**

This study is important as it contributes positively to a related literature gap in Pakistan by constructing role of women in the BOD to assess the overall financial health and stability of a banks in Pakistan. The finding of this study is important for policymakers as well as for FIs to navigate better financial positions which lead to assists stakeholders in assessing a bank to meet its capacity to withstand economic challenges. This study is significant because it provides important evidence for policymakers about the connection between women as a director and FS of banks in Pakistan.

Moreover, the study helps specially to the banking sector to make sure to promote role of women in the board decisions that may help the policy maker in the future to make their decisions vigorous

for the better FS of the banks. Future researchers can assist policy maker to design such investigation such as foreigner in the board that help in making board room more affective policies.

## **1.6 Limitations and Future directions**

Addressing limitations transparently and planning for future research directions is essential for advancing knowledge and contributing to the academic or practical understanding of the subject. The findings of this paper add to the existing literature on the relationship between corporate governance and banks' FS. In addition, the findings suggest that for Islamic banks to improve their financial performance, they should consider attracting women who are more likely to bring their experience, knowledge and values to the BOD. Therefore, the findings of this study are expected to provide insight and understanding in the selection and appointment of BODs members.

This study has some limitations. In addition, this research contributes to the comparative banking literature on corporate governance. Future research could further extend the role of the Sharia Supervisory Board (SSB) in governing IBs. We also encourage future research to include more countries in their analysis for more balance and certainty.

## **1.7 Scheme of the Study**

The dissertation consists of five chapters. Chapter 1 illustrates the introduction and background of the study and Chapter 2 reviews all the existing literature related to gender diversity in board rooms and FS. Chapter 3 describe the theoretical linkages among the FS and the presence of women also the ratio of women in boardrooms and also explains the data and methodology while the discussion of results unfolds. Chapter 4 illustrates the results of our study. Moreover, chapter 5 comprehensibly illustrates the conclusion and policy recommendations.



# Chapter 2

## Literature Review

### 2.1 Introduction

In this chapter discussing the existing literature on the gender diversity and its input on the FS of the IB and CB. In addition, we discuss the impact of women presence and women percentage in the boardroom and its relationship with bank performance on IBs and CBs. Moreover, we also review the existing literature on the control variables which can affect the FS of IB and CB.

According to Menicucci and Paolucci. (2022), Cardillo et al. (2021) gender diversity on the BOD has a significant impact on the probability and size of public bailouts. The researchers reported that gender diversity on the BOD is positively linked to bank's FS. This also suggested that women directors are effective monitors compared to male directors and so they positively influence the FS of banks (Aryani et al., 2024). Women have historically been underrepresented in senior management positions in businesses. According to Nili (2019) analysis, there has been a rise in the ratio of women directors on boards. The findings corroborate earlier research's findings, which indicate a broad trend toward greater gender diversity in boardrooms.

### 2.2 Gender Diversity

Corporations are facing societal and legal pressure to include more women on their boards, and authorities in a number of nations have established laws quoting women directors (Mazza et al., 2024). Usually, the reasoning behind these regulations is that increased representation of women's presence on boards improves the financial stability of boards, which in turn improves banks' FS;

in academics, however, there is continuous dispute regarding this idea, and empirical results are not entirely conclusive (Venkatarathna et al., 2024). In addition, Alharbi (2022) reported that the percentage of women in boardrooms and the FS of CBs have a favorable and significant association. A recent study (Bernile et al., 2018; Duppati et al., 2020) found a positive relationship between the representation of women on board and the FS; however, other studies (Bennouri et al., 2018; Yang et al., 2019) found a negative correlation, and some studies (Arnaboldi et al., 2021) found no correlation at all. Surprisingly, though, no academic study has examined how different the FS, like IBs with women on the board, are from CBs as far as we are aware, IBs may find it more problematic to have women on their boards than CBs due to the lower acceptance of women in positions of leadership in companies with a strong religious component (Alazzani et al., 2019). Performance may be hampered by this conservative conduct, which could prevent human capital from being allocated efficiently (Khan et al., 2020).

High levels of masculinity inside an organization result in a gender-diverse board with a majority of object-oriented members (Kabir et al., 2023). On the other hand, gender equality prevails in feminine culture, and board members are amiable and accommodating. According to Lückers-Rovers (2013), women on boards are more inclined to provide non-financial tasks and grant another member autonomy. The focus of research to ascertain the possible effects of greater gender diversity on corporate boards on board effectiveness and, subsequently, a firm's success has shifted significantly over the previous ten years or more (Martinez-Jimenez et al., 2020). While increasing the gender diversity on boards can broaden the spectrum of expertise and foster the development of new, important talents (Kim & Stark, 2016).

In general FS is the measurement of an organization's success in meeting its financial objectives for goals, policies, and operations. It relates to the state of the finances and can be used to compare

similar businesses operating in the same industry (Ngumo et al., 2020). A bank's FS is one of its most important characteristics; it also affects the bank's competitiveness, commercial potential, management's financial interests, and the reliability of both existing and future contractors (Kadhim, 2022). FS analysis evaluates a business, sub business, or mission's viability, stability, and fertility (Aliyu & Eliphus, 2021). Shareholders that invest in good financial services receive rewards (Soomiyol et al., 2023). The shareholder believes that a bank's FS is based on how much wealthier the shareholder is at the end of a given time period than they were at the beginning. This can be accomplished by using information on stock market prices or by employing ratios that are derived from financial statements, particularly the income and balance sheets (Baraza, 2020).

In similar fashion diversity opponents contend that diversity has more negative effects than positive ones, increasing the expense of making decisions and increasing the likelihood of conflicts between people of different backgrounds on a team (Farag & Mallin, 2017). Advocates of diversity contend, however, that a more varied board is better able to gather information and reach judgments. Additionally, they contend that diversity enhances the effectiveness of the board by introducing a range of perspectives, experiences, and backgrounds, all of which promote innovative thinking and creativity (Adams et al., 2015). Women are perceived as being nice and kind, which is helpful in banking sector, especially during difficult times. However, when it comes to leading businesses during wealthy times, men are viewed as self-assured leaders (Papangkorn et al., 2019).

Based on studies on gender diversity, women exhibit more morally dubious acts and opinions than males (Beltramini et al., 1984). In terms of corporate governance, banks with better FS are those in which women representation is higher (Mirza et al., 2012). Furthermore, according to a global poll, Pakistan, Japan, Netherlands, and India rank lowest in terms of the percentage of women

holding executive roles (Burke, 2016; Noland et al., 2016). Gender diversity is to be a friend of FS (Dang et al., 2023). According to Kinateder et al. (2021) women's presence lowers credit risk. During the crisis, banks with a higher ratio of women directors have not always lower risk profile. Women who work in the financial sector might be just as risk averse as their male colleagues (Adams & Raganathan, 2015).

In the context of Pakistan, the importance of gender diversity is at its initial stage. The problem of gender diversity in Pakistan's corporate sector is currently receiving a lot of attention. A growing ratio of women serving on boardroom has prompted inquiries about financial stability of the company (Shafique et al., 2014). In light of the aforementioned situation, the researcher intends to investigate how gender diversity on boards affects a company's profitability in Pakistan's banking industry. As there are many attributes of board which includes i.e. board composition, board size, board gender diversity, board education level, non-executive board and executive board. Those which are mentioned may contribute for the better FS of the firm (Imran & Shafique, 2022).

Similarly, it is possible that women in finance have risk aversion levels that are on equal with or even lower than those of men (Adams & Raganathan, 2015). On the other hand, women take fewer risks than men, according to Gajewski and Meunier (2020); however, this theory shouldn't be applied to jobs in administration or other professions. According to Berger et al. (2014), there is a consensus in the literature that women are less risk-averse when it comes to financial decisions. Woman directors are more averse to financial fraud and are more likely to resign from firms involved in dishonest activities compared to their male counterparts (Gao et al., 2017). Thus, gender diversity on a BOD can enhance a firm's accounting conservatism and earnings quality (Lara et al., 2017). Gender diversity on the board can control bank misconduct, reduce systemic risk, and strengthen financial decisions (Arnaboldi et al., 2021).

Ben Abdallah and Bahloul (2021) explored the association between the members of the BOD and their expertise with profitability, results of the study indicate that the total board members in the BOD and their expertise have an indirect effect on FS. In addition to that, BOD does have an effect on financing, while no significant relationship is reported with investment account holders' funds. This suggests that the presence of a larger or more qualified Shariah board does not directly impact the profitability of IB but instead influences financing activities. Furthermore, the study found that the outcome of IB is not significantly affected by the choice of women directors on their boards and is similar to CBs in this regard.

### **2.3 Other Variables**

In this section discuss is about the control variables and how they impact on the FS of IBs and CBs. These control variables are taken from the existing empirical and theoretical literature on the connection between diversity and bank's financial soundness. Factors, such as, type of ownership, board size, firm size, industry, customer base, social characteristics influence women's presence on corporate governance.

#### **2.3.1 Board Size**

In addition to having numerous established theories, it is well known that board size affects the FS and is a dynamic aspect of the board's basic structure (Majeed et al., 2020; Gyamerah et al., 2020). For this purpose, the most discussed topic in structure of board is the influence of board size on a bank's FS (Nomran & Haron, 2020). Smaller boards may have an impact on the agency theory and improve the FS of banks (Agoraki et al., 2010; Majeed et al., 2020; Nasution et al., 2024). Agency theory basically contends that if ownership and management of a company are divided, management always want to act in its own best interests, which frequently goes against the primary

goal of maximizing shareholder value. Adverse selection and moral hazard are the two ways that this, often referred to as the agency problem, can appear (Eisenhardt, 1989; Stoelhorst & Vishwanathan, 2024; Bouteska et al., 2024). When actors falsely describe their capacity to carry out activities or duties and are selected for such tasks or functions as a result of such deception, this is known as adverse selection. Moral hazard is the phenomenon whereby agents fail to fulfill their assigned duties or responsibilities because they lack commitment, resulting in residual costs to the principal even in situations when the principle is purportedly acting in their best interest (Salman, 2023).

Agency costs are the expenses acquired as a result of agents' poor performance (Aernan et al., 2023). The agency hypothesis states that a higher BOD makes it more difficult for directors to coordinate their work and raises communication issues (Jensen, 1993; Ahern & Dittmar, 2012; Musallam, 2024; Bahari, 2024). Furthermore, a smaller board appears to make management decisions more effective, making it more difficult for banks to stimulate the bank's financial presentation (Jensen, 1993; Ruigrok et al., 2006; Scafarto et al., 2021; Al-Matari & Alosaimi, 2022; Muhammad et al., 2023). The resource dependence theories suggest that a larger BOD may have a positive financial impact on the bank. Larger boards may also present more opportunities than smaller ones (Adams & Mehran, 2012; Venturelli et al., 2024).

Furthermore, Numerous researches have indicated a negative correlation between FS and board size (Mukherjee et al., 2024). Since bigger size of board hinder the FS of bank is non-significant (Bahari, 2024; Shanak, 2024). The number of members with extended tenure, the number with managerial and industrial experience, and the number of members representing particular ownership groups are some of the indicators used to assess the depth of board knowledge. The

influence of gender diversity on boards on corporate decisions has been studied in the past using the agency theory method (Humairo & Abidin, 2024; Birindelli et al., 2024).

One prominent management theory that addresses strategy and organization is resource dependence theory (Rashid et al., 2024). The notion states that a corporation is an open system that is impacted by external events. Previous research on the BOD suggests that resource dependence theory is a valuable paradigm for understanding and analyzing boards (Mansour et al., 2024). In addition, organizations benefit from the information that directors provide for counselling and advice, preferential access to resources, information that connect the company for emergencies, and legitimacy (Reddy & Jadhav, 2019; Aly et al., 2024; Hurtado & Herrero, 2024).

Despite laws pertaining to equal pay and opportunities, the percentage of women directors in corporations is extremely low (Babafemi, 2023; Mazza et al., 2024). The bank's FS is significantly improved by board size (Salim et al., 2016; Gafoor et al., 2018; Almoneef & Samontaray, 2019). Contrary studies explore a negative relationship between board size and banks' FS (Goel & Sharma, 2017; Aminu et al., 2015; Bansal, 2023). According to Mohsni et al. (2021), there is a positive association between firm risk and the ratio of women directors on corporate boards. Bekiaris (2021); Gwaison and Maimako (2021); Aernan et al., (2023), examined the influence of board size on banks' FS, illustrated that board size, women directors and independent directors were positive and had a significant impact on the FS of bank. Khan et al. (2023) examine board size are positively connected to liquidity and credit risk in IB. This suggests that larger boards and the presence of a Shariah board may contribute to increased risk-taking behavior in IB.

According to Amine (2018), there may be a greater financial risk associated with a board that has a big number of directors. The size of the BOD has an adverse effect on the FS of IBs, as demonstrated by Bukair and Rahman (2015). This outcome is corroborated by Buallay (2019). On

the other hand, a larger board is said to have a wider range of expertise by proponents of the resource reliance theory (Rositha et al., 2019; Rashid et al., 2020). Several studies suggested that a large board has a favorable connection with FS and can manage risk efficiently to prevent liquidation (Hakimi et al., 2018; Naveed & Abdin, 2020). Based on the review of the above literature, the study expects that:

*H1: Board size positively affects the FS of banks.*

### 2.3.2 Loan Ratio

In the literature, loans are termed differently in IB and CB. Therefore, according to Nabella et al. (2023), Non-Performing Financing (NPF) and Non-Performing Loans (NPL) are the same; it's just that NPF is a term for IBs and NPL is a term for CBs. The available literature additionally addresses factors which impact whether banks are perceived and behave. Guttentag and Herring (1986); Odekunle et al. (2023); Hakimi et al. (2023), argue that although with completely understanding the markets, economic sectors, and borrower information, banks can enhance their soundness. Empirical research has also been used to examine the effects of loan increase, condition supporting change in the availability of loans, by drop-in interest rates on lending or a relaxation of lending rules (Dang, 2019). According to the Hess et al. (2009), banks are experiencing more losses after two to four years due to the current rapid expansion in loans. These authors also show that this effect is greater for large institutions or in the setting of macroeconomic volatility.

Banks' primary functions involve deposit mobilization and subsequent lending to borrowers, generating interest revenue. This revenue stream consistently contributes significantly to the overall bank revenue. Accelerating lending operations may enable banks to gain market share, boost earnings, and enhance overall performance. High loan growth, however, frequently coincides with bad lending choices, which hurts banks' FS. Furthermore, it is shown by Foos et



al. (2010) that loan growth negatively affects both interest income and risk-adjusted interest income, suggesting that loan growth is a crucial factor in defining a bank's FS.

According to Paul (2023), the growth in the loan portfolio of the banks had a markedly negative effect on the FS of the banks in later years but a negligibly good influence on the FS of the banks at the time. Another study by Fahlenbrach et al. (2016) illustrates that those banks that have rapid loan growth in one year not be as successful in the next three year, as seen by a drop-in banks' FS. Broadly speaking, an abundance of research on the effects of quick expansion on earnings indicates that organizations that experience rapid expansion ultimately have lower profitability. According to a study by Dang (2019), businesses that grow faster make less money than those that grow slower.

According to Onyiriuba (2009); Ughulu and Odion (2023) loan is a sum of money that a bank extends to a borrower for use as credit, with the understanding that they return the money to the bank with interest at a certain future date. When a creditor (lender) extends a loan to a debtor (borrower), typically in the form of cash, goods, or securities, it is particularly referred to as credit (Magaji et al, 2023). In general, NPF is a credit whose payment is in arrears of more than 90 days (Nabella et al., 2023). Problematic financing also has an impact on many aspects, such as operations, liquidity and solvency. Both established and developing countries' banking systems view loans as a source of concern and as a crucial component of financial stability. The following hypotheses are formulated to examine the impact of these bank-specific variables:

*H2: Loan ratio have a negatively and significantly influence on banks FS.*

### 2.3.3 Non-Performing Loans

The number of NPL that the debtor is responsible for compared to the total credit that the bank owns and extends to the debtor. The situation for banks gets worse the bigger the NPL number. Reduced ROA could result from a high number of NPL (Laryea et al., 2016). Kwashie et al. (2022) demonstrated how the NPL has a detrimental effect on the FS measures. Similarly, Safitri and Oktavia (2022) discovered that NPLs had a substantial and adverse impact on banks' FS. Similarly, NPL have a negative and strong correlation with return on assets (ROA), as demonstrated by Bandara et al. (2021). Moreover, Do et al. (2020) found that NPL have a detrimental impact on a bank's profitability.

Bank credit risk is reflected in NPL; the lower the NPL, the lower the bank credit risk. When granting credit, banks have to assess a borrower's capacity to pay back their debts. Banks are obligated to keep an eye on how credit is used as well as debtors' compliance and ability to fulfill their commitments once credit has been issued. To reduce credit risk, the bank reviews, evaluates, and binds collateral (Sukmadewi, 2020). Favorable and substantial impact on company value, which means that if the value of NPF increases, the value of the company also increases and vice versa.

NPF ratio demonstrates the bank management's capacity to oversee its issue loans. Higher NPF ratios indicate worse rating of credit, which leads to more problematic loans, losses, or problems for the bank. But each growth in NPF is proportionate to the rise in the company's worth (share price), meaning that investors continue to be drawn to a bank as long as it generates profits, regardless of the quality of the bank's credit, which is represented in the NPF's size, this shows that investors do not see the risk of bad credit that occurs accepted by banks as the main concern,

investors tend to look more at the profits they receive from their share investments as well as external factors that can influence the condition of the company (Nugroho and Rachmaniyah, 2020; Wiadnyani et al., 2023; Yahya et al., 2023; Rokhimah et al., 2024).

NPL and a bank's efficiency can be impacted by a number of reasons. It is established that a rise in NPL negatively affects the banking industry. Therefore, it is vital to comprehend the factors that contribute to NPLs in order to maintain the general economy's efficiency and soundness (Rachman et al., 2018). In most nations around the world, NPL may be a primary cause of economic and financial instability (Rahadian & Permana, 2021; Zain & Ghazali, 2018). NPL ratios are an essential indicator of a bank's FS. Banks serve as go-betweens for depositors and borrowers. A bank's efficiency may suffer from a greater NPL ratio (Warjiyo, 2021). Because the Indonesian banking system's clusters operate differently and because the NPL percentage can also be impacted by outside causes, it is crucial to remember that rising NPLs do not always translate into lower efficiency (Islam et al., 2023). NPLs have an impact on efficiency since the bank will have to pay more to manage the drop in NPLs if the percentage of bad loans is large (Abidin et al., 2021; Setiawan & Tobing, 2024).

Governments and financial experts who work to stabilize the macroeconomy and financial system continue to found value in discussing NPL. For the banking industry, the NPL ratio is the most important indicator of credit risk and asset quality (Kingu et al., 2018). This ratio serves as a preliminary risk indicator for things like declining bank cash flows in the future, duration issues that could arise when receivables are collected past due, and higher expenses associated with collecting receivables through legal action (Akter & Roy, 2017).

According to Cucinelli (2015), the NPL ratio is a measure of the income-generating quality of loans included in a bank's assets. Increases in the NPL ratio have a detrimental effect on bank liquidity and frequently lead to bank collapses (Christaria & Kurnia, 2016). Still, bank failures do not account for the entire cost of bad loans. Bank credit availability declines when their NPL ratio rises because they will need to set aside more money as a safety measure for troublesome loans, which are based on the possibility that they won't be repaid (Mileris, 2012), restricting the funding options required for economic expansion. Because of this, the economy is under pressure to decrease as a result of the rise in NPL. NPL has become a significant issue that needs to be tackled due to the detrimental effects of rising NPL on commercial banks' returns on their assets, particularly in the aftermath of the global economic recession (Anastasiou et al., 2016; Anastasiou, 2023).

The policies and actions that policy and decision makers in the financial sectors must take to address this issue rely on the variables with a negative influence on NPL, or the factors that determine NPL. One of such sources is the magnitude and nature of NPL as a part of credit risk and its management process (Farooq & Zaheer, 2015). Loan variables can affect the growth rate of financing, which can then have an impact on banking assets (Rokhmat et al., 2023). NPL refers to a bank loan subject to late repayment, or there are indications that the debtor is unlikely to repay the credit in full (Elekdag et al., 2020). NPL will negatively affect banks because NPL can reduce capital. If banks continue to have high NPL, the banks may not be able to disburse credit in the next period—this reduce the source of income of the banks, thus affecting profitability in the long run (Skvarciany et al., 2019).

Rizvi et al. (2020) found that NPL had a significant negative effect on profitability measured using ROA and return on equity (ROE) for banks in Indonesia. Prihartana and Gani, (2024) revealed that

NPL has a significant negative influence on FS of bank. Previous research examining the impact of women's presence on boards on financial risk and business performance shown that gender diversity had a negative impact on ROA but a negligible influence on risk for nonfinancial organizations. It also has a negative impact on ROA.

However, better corporate governance practices are typically promoted by gender-diversified boards. Improved procedures ultimately contribute to a successful firm (Carter et al., 2010; Chijoke-Mgbame et al., 2020). Businesses with higher ratio of women as a board member appreciate lower agency costs, whereas those with lower ratio of women as a board member incur higher agency costs. Diversity in gender also improves performance and decision-making. There are a number of myths behind the underrepresentation of women in Pakistani corporate top management, when there are more women in boardrooms, it can be easier to take the riskier decisions (Chen et al., 2016; Fauzi et al., 2017; Nadeem et al., 2019). It is believed that women are less confident, more aggressive, psychologically unstable, emotionally overreactive, and incapable of handling pressure adequately. Due to this, less than 10% of Pakistani enterprises have women in senior management, marginalizing more than half of the population and contributing significantly to the country's economic weakness (Burke, 2016; Noland et al., 2016). The following sixth hypothesis shows:

*H3: NPL has a negative and significant effect on FS of bank.*

#### 2.3.4 Operating Expenses

Operational efficiency is a measure of management's ability to control expenses. According to Uddin (2022), operating efficiency has a negligible and unfavorable effect on profitability. Rent, rates and taxes, publishing and stationery costs, legal and professional fees, travel expenditures, maintenance and repair costs, depreciation, and other costs are included in operating expenses

(OEXP). Moreover, Sumantri et al. (2022) suggested that operational efficiency ratio has a significant negative impact on profitability. Likewise, Setyowati et al. (2020) demonstrated that operational effectiveness significantly and negatively affects IB profitability. Additionally, Adam et al. (2018) found a negative correlation between operational efficiency and bank profitability.

OEXP highlights a finance program's capacity to offer a specific service at the least amount of cost (Adhikary, 2014). Operational efficiency as an indicator of performance used by FIs to assess how well they are streamlining their processes while accounting for input and output costs (Nyanchama & Long, 2017). Effective cost control should guarantee a more efficient use of FI's loanable resources, potentially increasing FI's profitability. Okombo (2015) investigated how reduced transaction costs affected deposit accepting FIs' soundness, statistically significant and favorable correlation between FS and low transaction costs. Agola (2014) investigated the relationship between FIs' expenses and FS and found that FS, credit assessment, credit risk management, and collection policy were positively correlated.

Banks with lower OEXP tend to be more efficient than banks with higher OEXP in terms of managing their operational costs. Good OEXP management is very important for banks to ensure business continuity and to meet the expectations of stakeholders such as shareholders, customers and regulators (Effendi et al., 2024). OEXP is an important financial soundness indicator to use in measuring the operational expenses of a bank. The lower the OEXP of a bank, the more efficient the bank is in managing its operational expenses and the higher the profits generated from its operational activities (Budianto & Dewi, 2023). Conversely, an elevated OEXP suggests poor FS from the bank's management, leading to increased operational expenses and a decline in the bank's profitability.

Nevertheless, not many earlier studies have emphasized the connection between operating costs and banks' financial strength (Ayalew, 2021). However, the majority of empirical research investigations examined the connection between operational costs and bank stability (Rahman et al., 2021). According to Zhang et al. (2013), among other researchers, there is a trade-off between the banking industry's soundness and efficiency. The study conducted by Fiordelisi et al. (2011) presents empirical evidence that suggests that improvements in bank efficiency reduce the probability of default, which ultimately leads to an increase in marginal profit. Consequently, because operational effectiveness has an impact on how well a bank performs. According to the agency cost hypothesis, a higher overall ratio of loan boosts the profit margins of bank, demonstrating that loan financing can help to boost the firm's profitability.

Additionally, by cutting operating cost and efficiently controlling costs can help to increase a profitability of a bank. Furthermore, when policy rates are lower, it is quite important to invest in non-interest income. Investments in this field have the potential to boost earnings and boost the banking industry's profit margin (Mehzabin et al, 2023). In addition, when a bank's interest rate is reduced, non-interest income is essential. Because a bank can seldom make money at such a low interest rate, banks typically have to rely on non-interest revenue in order to turn a profit. Moreover, banks may be able to make money via non-interest income (Shahriar et al., 2023). Antunes et al. (2024) found that international banks have lower levels of strictly technical, cost, and revenue efficiencies, but higher levels of technical and scale efficiency. The following hypotheses, formulated and stated in their null forms provide a basis for deriving testable arguments:

*H4: OPEXP has a negative effect on banks FS*

### 2.3.5 Macroeconomic Factors

Numerous elements might affect a bank's efficiency; these elements can be divided into two groups: unfavorable circumstances (bad luck) and poor management (bad management) (Sari et al., 2022). The term bad luck refers to outside variables that are not in control of banks, such as the nation's economic circumstances, which may impact by variables like GDP, governmental actions and inflation (Messai & Jouini, 2013). However, poor management describes issues that exist inside the bank, such as poor decision-making, ineffective marketing tactics, production inefficiencies, and other internal factors that have a significant influence on the firm's financial ratio, such as loan-to-deposit ratio, as well as external factors like economic growth (Nugroho & Endri, 2022).

External or macroeconomic elements are those that are beyond of management's control and are associated with the industry and macroeconomic issues. These variables include, among other things, the money supply, interest rates, real GDP growth, bank concentration, and inflation. The FS of the bank is significantly impacted by key macroeconomic parameters including inflation and per capita growth (Kiganda, 2014). Additionally, Rahman et al. (2021) evaluated the effects of significant macroeconomic variables on the financial sector of Pakistan's banking business, such as GDP growth and interest rate rates. Similar to this, Al Sharif (2023) investigated how inflation affected banks' FS, the price of bank shares and the rate of inflation are significantly correlated in the contrary direction. According to Akbar et al. (2018), capital structure, liquidity, and macroeconomic variables all have a major impact on a bank's soundness.

According to Zhang and Daly (2014) one of the most widely used macroeconomic variables to measure the influence of cyclical macroeconomic performance on the banking sector, particularly



on the supply and demand for loans and deposits, is GDP. Neely and Wheelock (1997) and Sufian and Habibullah (2009) have also confirmed that, in a favorable economic environment, the yearly GDP growth rate and gross national product (GNP) per capita positively impact the soundness of the banking industry' earnings. It is argued that when the economy improves, so the demand for bank services increase, which lowers the risk of credit default and improve banks' asset quality (Laker, 1999; Bikker & Hu, 2002; Ishioro, 2023).

Moreover, Clair (2004) pointed out that there was no doubt about the GDP's influence on bank's FS. According to the study, commercial banks in Singapore are incentivized to engage in riskier sectors as the country's GDP grows. This leads to increased earnings and improved performance. On the other hand, when the GDP grows, commercial banks' overall expenses will climb faster than their revenue. Thus, it has been said that there is a two-part relationship between GDP and banks' FS (Bikker & Hu, 2002). Macroeconomic variables have an impact on the performance of CBs in a particular nation in addition to the influence banks have on economic activity. The operational settings of banks have the potential to effect both their strategic posture and performance. Macroeconomic determinants are those elements that impact every aspect of a nation's business operation. The following were chosen and utilized in this study from the previously covered elements in the literature review (Fareso, 2023).

One of the earliest studies that first look into the nature of the connection between inflation and bank performance was Revell (1979). Assuming that the macroeconomic impact of inflation on banks' performance depends on whether the wages they pay and their operating costs increase more quickly than inflation. Moreover, author also examined the macroeconomic attraction between banks' FS and the inflation rate (Jamel & Mansour, 2018). The main issue with this premise is that it is extremely difficult, if not impossible, for banks and supervisory bodies to aim

or forecast inflation in the economy where there is political interferences and numerous institutional problems. According to Perry (1992), who agreed with Bourke (1989), the macroeconomic effect of inflation on banks' performance is conditional upon whether the inflation was foreseen, spontaneous, or expected. The banking sector's revenues can expand faster than its operating costs and result in higher economic profits if management and regulatory bodies of banks appropriately forecast the rate of inflation (Sufian & Habibullah, 2009; Jamel & Mansour, 2018).

Nonetheless, a number of researches, including those by Zhang and Daly (2014), Molyneux and Thornton (1992), and Bourke (1989), have shown a sustained positive correlation between the rate of inflation and bank performance (financial soundness). Research on the banks' FS level was first conducted by Haron (1996), further similar research was done by Akhtar et al. (2011); Gul et al. (2023). This study illustrates the two factors, namely external and internal effects on the FS of banks. External factors are GDP, interest rates and inflation and internal factors includes bank's specific variables (Istan and Fahlevi, 2020).

Mirović et al, 2024 found that GDP and the inflation rate had a significant influence on the banks' profitability. Meanwhile, a study on the factors that influence the liquidity of IBs in Indonesia found that the rate of economic growth has a significant influence on asset liquidity (Prastiwi & Anik, 2021). Therefore, it can be concluded that GDP can influence the liquidity of IBs indirectly through its impact. on profitability, while inflation can directly affect the liquidity of IBs (Ibrahim, 2023). Previous research conducted by Adelopo et al. (2022) conclude that GDP growth had a positive impact on banks' liquidity levels. In contrast to these findings, research conducted by Dinger (2009) and Singh and Sharma. (2016) stated the opposite, even with the assumption that GDP growth occurs in developing countries. Another difference emerges from Moussa (2015) research which states that a decline in GDP triggers the implementation of expansionary economic

policies by the government, which actually provides an opportunity for banks to earn more income and reduce liquidity risk. Specific research on IBs by Abdul-Rahman et al. (2018) shows that there is negative correlation between GDP growth and liquidity risk. Moreover, results with the findings of Mohamad et al. (2013) and Aldeen et al. (2020) which states that the relationship between GDP growth and IBs liquidity is positive.

Inflation, which is an indicator of a country's general price level that is negatively affected by the purchasing power of the national currency. Previous research shows varying results, such as Vodova (2011) who investigated the liquidity of Czech Republic banks and concluded that inflation has a positive effect on soundness of banks. In contrast, Horvath et al. (2014) found that the inflation rate does not impacted on bank liquid assets. Moussa (2015) examined the explanatory factors of risk of Tunisian banks and concludes that the impact of the inflation rate on risk is negative and significant. Finally, Waemustafa and Sukri (2016) investigated performance between IBs and CBs in Malaysia, stating that the relationship between inflation rate and risk is positive for IBs, while it was not significant for CBs (Hidayat, 2024).

Theoretically, inflation is considered to have a positive effect on liquidity, especially because banking liquidity positions are very responsive to inflation fluctuations. High inflation can reduce the ability of borrowers or financing customers to fulfill their obligations, resulting in a decrease in their real income. Therefore, rising inflation rates and unexpected fluctuations can result in problematic level of loans for banks. Therefore, theoretically, the relationship between inflation and liquidity should be positive (Nkusu, 2011).

GDP is one of the main metrics used to assess how well the economy of a nation is doing. The entire worth of all goods and services generated in a nation is its GDP. According to Kozak and

Wierzbowska (2021), banks' performance is positively impacted by the GDP growth rate. Similarly, Berhe and Kaur (2017) discovered that the money supply and GDP growth rate are the primary elements that considerably and favorably influence the financial enterprises' profitability. Additionally, Shawar and Siddiqui (2019) found a small but favorable correlation between the GDP and the financial firms' profitability. Furthermore, Meher and Zewudu (2020) showed a significant correlation between bank profitability and GDP.

GDP, inflation, and interest rates have a statistically significant negative association with banks' profitability (Abate & Mesfin, 2019). Phan et al. (2020) examined the variables influencing banks' profitability. The findings demonstrated that the elements that positively affect profitability are state ownership, GDP growth, operating efficiency, loan size, retail loans ratio, and inflation rate. According to Athanasoglou et al. (2008), concentration and bank profitability are positively connected, and inflation has a significant impact on profitability. However, variations in real GDP per capita have little effect on bank profitability. The GDP and the profitability of FI are positively correlated. According to Ngure (2014), interest rates have a big influence on bank profitability. A positive link between the two parameters is also shown by the correlation coefficient results. Athanasoglou et al. (2006) examined the effect of inflation and interest rate on banks' FS, and the capacity of monetary and supervisory authorities over banks to predict future inflation, suggesting that interest rates were suitably modified to align with the general rate of inflation in order to attain improved performance.

To sum up based on above existing relevant literature on gender diversity the findings are inconclusive. Further, there are limited studies on the gender diversity specially in case of banking sector in Pakistan and also one more objective added to it is the percentage of women and its impact on FS of IBs and CBs. Further we have provided the two categories of banking sector one

is IBs and other is CBs. The effect of gender diversity in the boardroom on the FS of the IBs and CBs, especially for the banking sector in Pakistan, is not entirely clear from the outset. Furthermore, the relevant literature mentioned above reveals that factors unique to a board, bank, or nation may have an impact on this relationship. Therefore, this study intends to examine the following hypothesis in order to close this gap in the literature:

*H5: The presence of women improves the FS of the IB and CBs.*

*H6: Greater representation of women in the board room improves the FS of the banking system.*

*H7: Real interest rate does have impact on banks FS.*

*H8: Inflation have positive impact on the FS of bank.*

*H9: GDP is expected to show a positive association with banks' FS*

# Chapter 3

## Theoretical Framework

### 3.1 Background

In this chapter, we discuss the social role theory and agency theory, which are fundamental to comprehending the WPBOD and board size as well as women percentage in the BOD, to lay the theoretical groundwork and provide a logical explanation for the dependent variable (financial soundness) in our research. These theories also consider the favorable and unfavorable effects of women's presence in the boardroom and women percentage in the BOD on financial performance. Understanding how WPBOD and WPPBOD affect FS helps to explain why FS vary between across banks.

#### 3.1.1 Social Role Theory

The theoretical foundations for both the agency theory and the social role theory were first presented by Jensen and Meckling (1976) and Eagly (1987), respectively. The connection between the shareholders and the BOD is the main subject of theory. It suggests that when ownership and control are separated, there may be a conflict interests between the shareholders and management, which leads to agency costs (Jensen & Meckling, 2019). Agency theory provide insight into managers' propensity to reveal company information in the absence of policies and procedures. The core idea of agency theory is that managers' control over the organization is granted by shareholders, which results in agency costs, which in turn causes them to lessen their level of oversight because management is concentrated while shareholders are scattered.

In order to reduce information gaps and risk-related costs, the principal-agent relationship should make optimal use of information within the business (Nahar et al., 2016). Keeping an eye on managers' actions is another way to fill in these knowledge gaps (Vitolla et al., 2020). Agency theory states that the main duty of board is to protect shareholders' interests by supervising managerial decisions, such as risk management and disclosure (Al-Yahyaee & Al-Hadi, 2016). It is believed that board busyness has a detrimental effect on the board's ability to monitor managerial actions, which is what determines how effective the board's oversight is (Core et al., 1999).

### 3.1.2 Agency Theory

According to Saleh et al. (2020), the agency cost view of numerous board memberships, being a member of a board comes with certain benefits and payments that might be seen as a way to obtain advantages. However, the busyness hypothesis contends that holding several board positions could be a sign of excessive free time for directors, which could result in a conflict of interest. Directors may decrease their supervision responsibilities and allow management to charge shareholders more because they place a higher priority on obtaining the status and other benefits that come with serving on multiple boards (Ferris et al., 2003; Chee & Tham, 2021).

In accordance to the study large size of the BODs are often to be more productive than the smaller BODs (Ntim et al., 2013; Hady, 2019). Almunawwaroh and Setiawan (2023) point out that there is potential impact of size of the board on the FS of the bank. In contrast to earlier research, their findings examined financial risk disclosure in interim reports, showed no discernible impact on risk (Elzahar & Hussainey, 2012; Zango et al., 2016). Moreover, according to Sila et al. (2016), the psychological-economic theory approach distinguishes between men and women based on their varying propensities for taking risks. Furthermore, women's boards are superior to men's in terms of their ability to oversee directors' performance in a meaningful way (Jabari & Muhammad,

2021a). According to Byrnes et al. (1999), FIs with female boards would be protected against insolvency since women steer clear of hazardous experimentation, reckless policymaking, and risk-taking. Women hence tend not to choose risky policies (Abou-el-sood, 2021; Fehr-duda, 2006).

Moreover, Cardillo et al. (2021) disclose that the women's presence on boards increase the FS of the banks, BOD gender diversity has a positive effect on FS. Social role theory also says that the theory of leadership, task leadership is associated with stereotypically masculine duties. Examples of this include defining clear expectations for performance, making sure subordinates understand their roles, and enforcing rules and procedures. Conversely, interpersonal leadership aligns with stereotypically feminine responsibilities by involving actions like assisting and demonstrating concern for subordinates, watching out for their well-being, and being approachable and accessible (Eagly & Carli, 2009).

### 3.1.3 Resource Dependence Theory

One prominent management theory that addresses strategy and organization is resource dependence theory (Rashid et al., 2024). The notion states that a corporation is an open system that is impacted by external events. Previous research on the BOD suggests that resource dependence theory is a valuable paradigm for understanding and analyzing boards (Mansour et al., 2024). In addition, organizations benefit from the information that directors provide for counselling and advice, preferential access to resources, information that connect the company for emergencies, and legitimacy (Reddy & Jadhav, 2019; Aly et al., 2024; Hurtado & Herrero, 2024).

Despite laws pertaining to equal pay and opportunities, the percentage of women directors in corporations is extremely low (Babafemi, 2023; Mazza et al., 2024). The bank's FS is significantly improved by board size (Salim et al., 2016; Gafoor et al., 2018; Almoneef & Samontaray, 2019).



Contrary studies explore a negative relationship between board size and banks' FS (Goel & Sharma, 2017; Aminu et al., 2015; Bansal, 2023). According to Mohsni et al. (2021), there is a positive association between firm risk and the ratio of women directors on corporate boards. Bekiaris (2021); Gwaison and Maimako (2021); Aernan et al., (2023), examined the influence of board size on banks' FS, illustrated that board size, women directors and independent directors were positive and had a significant impact on the FS of bank. Khan et al. (2023) examine board size are positively connected to liquidity and credit risk in IB. This suggests that larger boards and the presence of a Shariah board may contribute to increased risk-taking behavior in IB.

### 3.2 Theoretical Framework of the Study

The following equation (1) can also express the theoretical discussion about the gender diversity on boardroom and FS of bank.

$$Z - score_{i,t} = \beta_0 + \beta_1 WPBOD_{i,t} + \beta_2 WPPBOD_{i,t} + \beta_3 BODSIZE_{i,t} + \beta_4 LR_{i,t} + \beta_5 R_{INTERESTRATE_{i,t}} + \beta_6 NPL_{i,t} + \beta_7 OEXP_{i,t} + \beta_8 INF_{i,t} + \beta_9 GDP_{PC_{i,t}} + \varepsilon_t \dots\dots\dots eq 3.1$$

Where, equation 1 illustrates, WPBOD is women's presence, WPPBOD is ratio of women, BODSIZE is the size of a board, loan ratio is represented as LR, macroeconomics factor is real interest rate as R\_INTEREST RATE, further NPL is non-performing loans, OEXP as operating expenses and INF as inflation and GDP\_PC as gross domestic product per capita.

Following Čihák and Hesse (2010), Karkowska and Acedanski (2020), Qasim (2020), and Khalil and Slimene (2021), the FS of banks is measured by the z-score.

Moreover, according to Abrar et al. (2018) and Khalil and Slimene (2021), the Z-score quantifies and contrasts the volatility of returns and capitalization in ROA. Furthermore, the Z-score ratio calculates the number of standard deviations ( $\sigma$ ) of returns that achievement must decrease to deplete equity under the hypothesis of normality of banks' returns, as shown by Bourkhis and

Nabi (2013) and Amine (2018). Banks with a higher Z-score are thought to be more financially healthy, while those with a lower Z-score are thought to be less (Abrar et al., 2018).

Our first independent variable is the women's presence on the BOD. Following Yang et al. (2018), Jabari and Muhamad (2021a), we capture the presence of women if it takes a value of 1 when at least one woman sits on the BOD and 0 otherwise. Following Loukil and Yousfi (2016), Khan et al. (2020), and Mukhibad et al. (2022), our second independent variable is the proportion of women sitting on the BOD. In order to measure the ratio of women sitting on the BOD, we used the following formula to measure the women's presence in the boardroom, numbers of women by total number of women.

The motivation for selecting these control variables is primarily based on variables that are expected to influence banks' FS. Furthermore, this study used the different bank level as well as country specific control variables motivated by the existing literature (Farg & Mallin, 2017; Li & Chen, 2018; Khalil & Slimene, 2021; Jabari & Muhamad, 2022b; Yitayaw et al., 2023). The following variables are used in the empirical analysis: size of BOD, NPL, income diversity, loan, GDP per capita growth, inflation rate, liquidity ratio, and exchange rate.

We represent our empirical models, where the z-score measures the FS of IB and CB.  $WPBOD_{1,t}$  represents the presence of women sitting in the boardroom and its impact on the FS of the IB and CB. Similarly,  $WPPBOD_{1,t}$  representing the percentage of women sitting in the boardroom and its effect on the FS of the IB and CB. In addition, the following control variables are used in the empirical analysis as suggested by the existing literature: size of BOD, NPL, income diversity, loan, GDP per capita growth, inflation rate, liquidity ratio and exchange rate. The theoretical background and channels through which explanatory variables effects the dependent variable are presented below.

### 3.2.1 Presence of Women and Financial Soundness

From the independent variables, our first independent variable is the presence of women on the BOD. Following Yang et al. (2018), Jabari and Muhamad (2021a), we capture the women's presence if it takes a value of 1 when at least one woman sits on the BOD and 0 otherwise. Following Loukil and Yousfi (2016), Khan et al. (2020), and Mukhibad et al. (2022).

Numerous studies investigate the role of women in different aspects of banks, e.g., the role of women as a director in financial operations (Loy & Rupertus, 2018; Birindelli et al., 2020), the women's presence on the board and its impact on stock market returns (Greene et al., 2020), and the role of women on the board to overcome financial loopholes (Li & Li, 2020). We formulate a hypothesis that women presence may increase banks' FS.

### 3.2.2 Percentage of Women and Financial Soundness

Ratio of women is represented by our second independent variable, which explains the ratio of women sitting on the boardroom. In order to measure the ratio of women sitting on the BOD, we used the following formula to measure the presence of women in the boardroom:

$$\text{Women Ratio in the BOD} = \frac{\text{Number of women}}{\text{Total number of members}}$$

By giving a large number of proportions to women on the board, as long as the presence of women can positively enhance the FS of the banks, it also enhances creativity, innovation, and productivity (Simionescu et al., 2021). Woman presence is important to enhance the bank FS and reputation (Bear et al., 2010). In addition to that, diversity on BODs likely to improve the quality of board decisions, and rise the ability of a board to deliver better transparency. Other way around previous studies show that the ratio of women (women ratio) on the BODs has no impact on the z-score (Mukhibad et al., 2022).

According to Chen et al. (2019) and Lu and Boateng (2018) in the FIs gender diverse in boards are more risk averse than male boards, women on the BODs have a negative influence on credit risk. The presence of women on the BODs hinders managers from taking on reputational risk, which may lower the firm's worth, and promotes management to take financing risks that could raise the bank's value. According to research by Cho et al. (2021), the ratio of women as a chief executive officer (CEO) and a firm's risk of bankruptcy are adversely correlated. Additionally, Datta et al. (2021) demonstrate that compared to men, women directors chose debt maturity structures that are noticeably shorter. On the other hand, a positive correlation has been observed by Berger et al. (2014) and Díez-Esteban et al. (2022) between the ratio of women on BODs and bank risk. El-Sood (2021) draws the conclusion that when a bank has high regulatory capital, women invest in riskier assets. This is especially true for those banks with women directors on the board. However, there is no impact between ratio of women and FIs risk (Sila et al., 2016; Teodósio et al., 2021).

Overall, the empirical research on impact of gender diversity has produced contradictory findings, which may be because the studies were conducted in various circumstances. However, from the standpoint of resource dependence theory (Pfeffer & Salancik, 2015), organization needs to be able to sustain and acquire human capital, relational capital, and resources in order to thrive. Rose (2007) suggests that a company's decision-making process can be enhanced by having a women's presence in the boardroom due to the fresh perspectives that come from board members with varying life experiences and backgrounds.

### 3.2.3 Board Size and Financial Soundness

Besides, many defined theories it is well known that the board size is a dynamic core structure of board and plays a main role in the FS of the banking system (Majeed et al., 2020; Gyamerah et al., 2020). For this purpose, the most discussed topic in board structure is the effect of board size on a bank's FS (Nomran & Haron, 2020). Smaller boards may have an impact on the agency theory and improve the FS of banks (Agoraki et al., 2010; Majeed et al., 2020). In essence, agency theory contends that in every situation in which ownership and management are divided inside a company, the agent always wants to act in his or her own best interest, which frequently conflicts with the primary goal of maximizing shareholder value. This is referred to as the "agency problem," and it can take two different forms: moral hazard and adverse selection (Eisenhardt, 1989; Stoelhorst & Vishwanathan, 2024; Bouteska et al., 2024).

The agency theory states that a larger BOD makes it more difficult for directors to coordinate their work and raises communication problems (Ahern & Dittmar, 2012; Musallam, 2024; Bahari, 2024). Furthermore, a smaller board appears to make management decisions more effective, making it more difficult for banks to stimulate the bank's financial presentation (Ruigrok et al., 2006; Scafarto et al., 2021; Muhammad et al., 2023; Al-Matari & Alosaimi, 2022). The resource dependence theories suggest that a larger BODs may have a positive financial effect on the company. Larger boards may also present more opportunities than smaller ones (Adams & Mehran, 2012; Khan et al., 2023).

### 3.2.4 Loan Ratio and Financial Soundness

In the literature, loans are termed differently in IB and CB. Therefore, according to Nabella et al. (2023), NPF and NPL are the same; it's just that NPF is a term for Islamic banking and NPL is a term for conventional banking. The existing literature also discusses factor relate to the banks'

perception and behavior. Guttentag and Herring (1986); Odekunle et al. (2023); Hakimi et al. (2023) assert that banks could increase soundness by thoroughly comprehending the markets, economic sectors, and borrower information, but that they are limited in their ability to do so due to their subjective psychology and orientation when underestimating the probability of low-probability events occurring.

Examine the impact of growth in loan has also been employed by empirical studies. Keeton (1999) is one of the pioneers studying this issue, author discovers that growth in loan causes to more loan loss provisions afterwards. Some factors support the finding are a shift in loan supply such as a reducing in interest rates on loan or loosened lending standards (Dang, 2019). Loan growth of banks is significantly correlated with loan loss provisions in the next four years, implying a positive association between lending expansion and banks' credit risk (Salas & Saurina, 2002; Islam, 2023; Chamberlain et al., 2020). Another study conducted in Australia by Hess et al. (2009) that in current rapid loan growth results in more losses for banks after four years. These authors also illustrated that this result get worse or increase when there is macroeconomic instability.

Thiong and Kiama (2018) explains that the increase in the loan of banks had an insignificantly positive effect on the FS of banks, conversely had a significantly negative impact on subsequent year. According to Fahlenbrach et al. (2016) banks have high loan growth in a certain year will be ineffective, observed through a decline in bank performance. More generally, literature focusing on the impact of rapid increase in profits indicates that more growing FIs have less profits in the future (Hou et al., 2014; Dang, 2019). NPL can also strain a bank's liquidity position. As NPLs accumulate, banks may face liquidity challenges, especially if they are unable to recover funds from delinquent borrowers. This can necessitate additional funding to meet liquidity requirements, leading to increased borrowing costs and potentially impacting net interest margins. Furthermore,

NPL can negatively affect investor confidence and market perception of a bank's risk management practices and asset quality. A high level of NPLs may signal underlying weaknesses in a bank's lending practices, credit risk assessment, or exposure to economic downturns or adverse events in specific sectors (Abolladaka et al., 2023).

One of the primary channels through which NPLs affect the FS of banks is through provisioning expenses. Banks' bottom line is directly impacted by the provisions they must set aside to cover potential losses from NPL. Higher provisioning expenses reduce the net income of banks, thereby lowering ROA and ROE. Moreover, increased provisioning can also erode the capital base of banks, affecting their capital adequacy ratios (CAR) and potentially limiting their ability to lend and support economic growth (Laeven & Valencia, 2020).

### 3.2.5 Real Interest Rate and Financial Soundness

Important ramifications for monetary policy, risk-return analysis, financial securities valuation, and government policy toward financial markets flow from the interest rate's effect on bank returns. One of the key macroeconomic factors that is directly tied to the nation's economic growth is the interest rate. Since interest rates represent the cost of using money for a specific amount of time, they are typically thought of as the cost of capital (Tripathi & Ghosh, 2012). Interest rates are viewed by both the borrower as the expense of borrowing money and the lender as the price for granting a loan. Thus, if the interest rate that banks offer to depositors rises, people shift their money from the capital market to banks. As a result, an economy's desire for shares and capital investments will decline. Thus, in theory, the interest rate and bank returns are inversely related.

Inflation has a negative effect on bank profitability, whereas loans, interest rate and liquidity had a positive effect on ROA. Additionally, Gikombo and Mbugua (2018) looked at how 44 listed commercial banks performed in relation to macroeconomic variables. Although interest rates have

a significant impact on ROA and other profitability metrics, the GDP has the greatest effect on profitability of banks (Kanwal & Nadeem, 2013; Abbas et al., 2023).

The real interest rate affects how much interest is paid on deposits and how much interest is generated on loans. It's possible that banks can make more money on interest on loans than from interest paid on deposits. When the real interest rate is high, which would result in a larger net interest margin. On the other hand, a low real interest rate may cause the net interest margin to contract, which would affect profitability. Moreover, real interest rate affects borrowing and saving patterns. Borrowing typically rises when real interest rate is low because people and businesses are encouraged to take out loans for investments or purchases. Higher real interest rates, on the other hand, might discourage borrowing and promote saving. To keep a balance between loan demand and deposit growth, banks must modify their lending and deposit policies accordingly.

According to Ngure (2014), interest rates have a big influence on bank profitability. A positive association between the two parameters was also shown by the correlation coefficient data. The interest rate and bank profitability shown to positively and statistically significantly correlate (Molyneux & Thornton, 1992). External economic variables influence the behavior and working of a bank, thereby impacting a soundness of banks.

### 3.2.6 Non-Performing Loans and Financial Soundness

Bank credit risk is reflected in NPL; the lower the NPL, the lower the bank credit risk. When granting credit, banks have to assess a borrower's capacity to pay back their debts. Banks are obligated to keep an eye on how credit is used as well as debtors' compliance and ability to fulfill their commitments once credit has been issued. To reduce credit risk, the bank reviews, evaluates, and binds collateral (Sukmadewi, 2020). Banks with the high NPF, if the number of problematic



loans is greater than the amount of credit given to debtors. In research conducted by Haq (2023); stated that NPF has a positive impact on banks value.

Positive and significant influence on company value, which means that if the value of NPL increases, the value of the company also increases and vice versa. The ratio of NPL demonstrates how well bank management is able to handle troubled loans that the bank provides. The poorer the credit quality, the higher the NPL ratio, which leads to more problematic loans and losses or difficulties for the bank. However, each increase in NPL is in line with the increase in company value (share price) so that investors remain to be interested in bank investments as long as the bank turns a profit, regardless of the quality of the credit, which is reflected in the size of the NPL, this shows that investors do not see the risk of bad credit that will occur. Banks as the main concern, investors tend to look more at the profits they will receive from their share investments as well as external factors that can influence the condition of the company (Nugroho & Rachmaniyah, 2020; Hidayat et al., 2021; Haq, 2023; Rokhimah et al., 2024).

### 3.2.7 Operating Expenses and Financial Soundness

Operational efficiency is the capacity of a financing strategy to provide a particular service at the lowest possible cost (Adhikary, 2014). Operational efficiency is an indicator of performance that indicates how successfully FIs are optimizing their processes while accounting for input or output costs (Ongore & Gemechu, 2013). Effective expense management should guarantee a more efficient use of FIs loanable resources, potentially increasing the profitability of FI. One of the major risk factors for sustainable finance is inefficiency because many institutions still lack the necessary scale or efficiency needed to pay costs. Typically, the operating efficiency ratio is used to gauge operational efficiency; a lower ratio is preferable over a greater ratio because it shows that OEXP are less than operating revenues. Similarly, Okombo (2015) examined the impact of

low transactional costs on the FS of deposit taking FI. Results of the study illustrates a statistically significant and favorable correlation between financial performance and reduced transaction costs. Agola (2014) investigated the connection between Kenyan FIs' FS and credit policies. The study's conclusions showed that FS, credit policy, credit risk controls, credit evaluation, and collection policy all have good relationships with one another. Khalaf et al., (2023) investigated the elements that affect the FIs' operational sustainability in Kenya. The study's conclusions proved that the asset ratio and OEXP portfolio have an impact on both operations and financial sustainability. Baraza (2014) also looked on the connection between FS of FI and finance structure. The study discovered a negative association between the debt to equity ratio and FS, implying that a company's FS is lower the more debt it uses to finance its operations. The study also discovered a positive association between FS and the deposits to assets ratio, suggesting that the higher the FS, the more deposits a FI takes in (Ngumo et al., 2017; Shrestha, 2023).

However, excessive OEXP can hinder a bank's ability to generate revenue effectively. If operating costs are not managed efficiently, they can erode the margins on banking products and services, thereby limiting revenue growth. Inefficient operations may also lead to suboptimal customer service and retention, further impeding revenue generation potential. Additionally, OEXP can indirectly affect a bank's FS by influencing its ability to invest in growth initiatives and innovation. Banks that allocate a significant portion of their budget to OEXP may have fewer resources available for strategic investments in technology, product development, or expansion into new markets. This could hamper their competitiveness and long-term growth prospects (Evans & Haq, 2022).

There can also be a positive relationship between OEXP and the FS of banks under certain circumstances. For instance, investments in technology and infrastructure can enhance operational

efficiency, reduce costs, and improve service delivery. Automation of routine tasks, implementation of digital banking platforms, and streamlining of processes can lead to cost savings and productivity gains, ultimately bolstering profitability (Dadhich et al., 2020).

Compliance with regulatory requirements represents a significant component of OEXP for banks. Heightened regulatory scrutiny in the result of the global financial crisis has led to increased compliance costs related to risk management, anti-money laundering measures, consumer protection, and data privacy. Managing regulatory compliance costs while maintaining regulatory compliance is essential for sustainable financial performance. OEXP directly impact a bank's profitability metrics, such as net income, ROA and ROE. Controlling OEXP is critical for improving profitability and enhancing shareholder value. Banks must strike a balance between investing in growth initiatives and managing OEXP to achieve optimal FS (Adhikari et al., 2023). OEXP are a crucial component of a bank's financial performance, encompassing various costs associated with day-to-day operations. These expenses typically include salaries, administrative costs, technology investments, marketing expenditures, and regulatory compliance costs. Analyzing the composition of OEXP provides insights into areas where cost-saving measures or efficiency improvements may be implemented. Efficiency ratios, such as the efficiency ratio and cost-to-income ratio, are commonly used metrics to assess the relationship between OEXP and financial performance. Lower values for these ratios indicate higher efficiency and better financial performance. Banks often engage in benchmarking exercises to compare their OEXP and FS with industry peers or best practices. Benchmarking allows banks to identify areas of inefficiency and implement strategies to improve cost management and enhance profitability relative to competitors (Chiaromonte et al., 2023).

### 3.2.8 Inflation and Financial Soundness

A bank's efficiency can be impacted by a number of things. These elements fall into two categories: misfortune and poor management. The term misfortune refers to outside variables that are out of the bank's control, such as the nation's economic circumstances, which can be impacted by variables like GDP, inflation, and governmental actions (Messai & Jouini, 2013). Conversely, bad management describes issues that exist within the bank, such as poor decision-making, misguided marketing tactics, production inefficiencies, and other internal factors that have a significant impact on the company's ratios, including the CAR, loan to deposit ratio (LDR), bank size, and external factors like economic growth (Nugroho & Endri, 2022; Sari et al., 2022).

In principal key macroeconomic variables such as inflation and per capita growth have a significant impact on the FS of the banks (Muriuki, 2019). Further, Rahman et al. (2021) evaluated the effects of significant macroeconomic variables on the financial sector of Pakistan's banking business, such as GDP growth and interest rate rates. Similar to this, Al Sharif (2023) investigated how inflation affected bank's FS. The author reports that there is a significant and inverse relationship between the inflation rate and bank's FS. Akbar et al. (2018) shows that macroeconomic factors, capital structure, and liquidity significantly influence the soundness of banks.

There are multiple macroeconomic variables that can influence the liquidity of IBs, including GDP and inflation rates. A study on the influence of macroeconomic factors on the profitability of IBs found that GDP and the inflation rate had a significant influence on the profitability of IBs (Hidayat, 2024). Meanwhile, a study on the factors that influence the liquidity of IBs in Indonesia found that the rate of economic growth has a significant influence on asset liquidity (Prastiwi & Anik, 2021). Therefore, it can be concluded that GDP can influence the liquidity of IBs indirectly

through its impact on profitability, while inflation can directly affect the liquidity of IBs (Ibrahim, 2023).

### 3.2.9 GDP Per Capita Growth and Financial Soundness

GDP calculates the monetary value of finished goods and services produced in a nation within a specific time period and purchased by end customers. It is one of the main metrics used to assess how well the economy of a nation is doing. The entire worth of all goods and services generated in a nation is its GDP. Hong and Razak (2015) and Olokoyo et al. (2019) discovered that banks' performance is positively impacted by the GDP growth rate. Similarly, Berhe and Kaur (2017) discovered that the money supply and GDP growth rate were the primary variables that strongly and favorably impacted the financial enterprises' profitability. Similarly, Quoc et al. (2024) found that the GDP growth rate, had a statistically significant beneficial influence on bank performance. Additionally, Shawar and Siddiqui (2019) discovered a small but favorable correlation between the GDP and the financial firms' profitability. Furthermore, Meher and Zewudu (2020) discovered a favorable correlation between bank profitability and GDP.

According to Abate and Mesfin (2019) GDP, inflation, and interest rates have a statistically significant negative association with banks' profitability. Phan et al. (2020) examined the variables influencing listed commercial banks' profitability. The findings demonstrated that the elements that positively affect profitability are state ownership, GDP growth, operating efficiency, loan size, retail loans ratio, and inflation rate. According to Athanasoglou et al. (2008) study on banks, concentration and profitability are positively connected, and inflation has a significant impact on profitability. However, variations in real GDP per capita have little effect on bank profitability.

# Chapter 4

## Data and Research Methodology

This chapter is based on details regarding methodology techniques. Section 4.1 of this chapter gives details of the construction of the variables of the study. Section 4.2 relates to functional and empirical models. Section 4.3 is about empirical and the estimation technique. And finally, the last section 4.4 discuss the collection of data selection of the variables, and data sources such as Pakistan Stock Exchange (PSX), WDI, bank’s annual reports etc. The aim of the study is to empirically investigate the impact of the women’s presence on the FS of the IB and CB. In this study, we use a sample of full-fledged IBs and CBs in case of Pakistan over the period 2010–2022.

### 4.1 Construction of the Variables

#### 4.1.1 Dependent Variable

Following Karkowska and Acedanski (2020), Qasim (2020), and Khalil & Slimene (2021), the FS of banks is measured by the z-score.

$$Z - score = \frac{ROA+KA}{\sigma (ROA)} \dots\dots\dots (4.1)$$

With,

ROA = return on asset = net income/total asset.

KA = total equity/total assets.

$\sigma$  ROA = standard deviation of ROA

Moreover, according to Abrar et al. (2018) and Khalil & Slimene (2021), The Z-score evaluates and contrasts the volatility and returns on capitalization in ROA. Furthermore, according to Amine (2018) and Bourkhis and Nabi (2013), under the assumption that bank returns are normally

distributed, the Z-score ratio—which estimates the number of standard deviations of return achievement—must decline in order to deplete equity. A higher Z-score suggests greater FS for the banks, whereas a lower Z-score suggests less FS for the banks (Abrar et al., 2018; Khalil & Taktak, 2020).

#### 4.1.2 Independent Variable

Our first independent variable is the presence of women on the BOD. Following Yang et al. (2018), Jabari and Muhamad (2021a), we capture the presence of women if it takes a value of 1 when at least one woman sits on the BOD and 0 otherwise. Following Loukil and Yousfi (2016), Khan et al. (2020), and Mukhibad et al. (2022), our second independent variable is the proportion of women sitting on the BOD. In order to measure the ratio of women sitting on the BOD, we use the following formula to measure the presence of women in the boardroom:

$$\text{Women Ratio in the BOD} = \frac{\text{Number of women}}{\text{Total number of members}} \dots\dots\dots (4.2)$$

#### 4.1.3 Control Variables

The motivation for choosing these control variables is primarily based on variables that are likely to affect banks’ FS. Furthermore, this study uses the different bank level as well as country level control variables motivated by the existing literature (Farak et al., 2018; Li & Chen, 2018; Khalil & Slimene, 2021; Jabari & Muhamad, 2022b; Yitayaw et al., 2023). The following variables are used in the empirical analysis: size of BOD, LR, real interest rate, NPLs, OEXP, inflation rate and GDP per capita growth.

Table 4.1: List of Variables		
Variables	Definition	Measurement
Dependent Variable		

Z-Score (Financial Soundness)	The Z-score indicator measures the number of the standard deviations of return achievement that must decrease to reduce equity, assuming that the bank's returns are normal.	$\frac{ROA + KA}{\partial (ROA)}$ <p>A higher Z-score indicates that the banks have higher financial soundness.</p>
Independent Variables		
WPBOD	The presence of women on the BOD.	It takes the value of 1 when at least one woman sits on the BOD and 0 otherwise (Dummy).
WPPBOD	The percentage of women on the BOD.	$\text{Women Ratio in the BOD} = \frac{\text{Number of women}}{\text{Total number of members}}$
Control Variables		
BODSIZE	The number of BOD members	The total number of members on the BOD
LOAN	Loan ratio to assets	$\text{LOAN} = \frac{\text{Loan}}{\text{Asset}}$
Real Interest rate	Real interest rate	the lending interest rate adjusted for inflation as measured by the GDP deflator
NPL	Non-Performing Loans	$\text{NPL} = \frac{\text{Badloan}}{\text{Loan}}$
Operating Expenses	OEXP	an expense that a business incurs through its normal business operations.
INF	Inflation	The annual inflation in percentage.
GDP_PC	Growth in GDP per capita	The annual growth rate of per capita GDP in percentages.

## 4.2 Empirical Model

The research plans to investigate the relationship between the presence of women and the performance of banks. Following Khan et al. (2020) and Mukhibad et al. (2022) we provided the general form of our model is as follows:

$$Z - score_{i,t} = \beta_0 + \beta_1 \text{WPBOD}_{i,t} + \beta_2 \text{control}_{i,t} + \varepsilon_t \quad (4.3)$$

$$Z - score_{i,t} = \alpha_0 + \alpha_1 \text{WPPBOD}_{i,t} + \alpha_2 \text{control}_{i,t} + \varepsilon_t \quad (4.4)$$



In equations 1 and 2 we represent our empirical models, where the Z-score measures the FS of IB and CB.  $WPBOD_{i,t}$  represents the presence of women sitting in the boardroom and its impact on the FS of the IB and CB. Similarly,  $WPPBOD_{i,t}$  representing the percentage of women sitting in the boardroom and its effect on the FS of the IB and CB. In addition, the following control variables are used in the empirical analysis as suggested by the existing literature: size of BOD, LR, real interest rate, NPLs, OEXP, inflation rate and GDP per capita growth.

### 4.3 Estimation Technique

The aim of this study is to empirically investigate the impact of women presence on the boardroom and FS for IB and CB. Following (Rashid et al., 2017; Lee-Kuen et al., 2017; Sen & Mukherjee., 2019; Farhana, 2020; Kinateder et al., 2021). We applied the panel data technique such as common, fixed and random effect models. The selection between the fixed effects model and the random effects model based on Hausman test. The Hausman test is also required to determine whether a fixed effects or random effects would be employed (Farag & Malin, 2017). To identify whether the fixed or random effects estimator should be used in these panel data set (Farhana, 2020). Additionally, the Hausman test determines whether there is a relationship between the explanatory factors and unobservable heterogeneity. The purpose of this test is to evaluate the relationship between the regressors and the unique mistakes. Furthermore, the fixed effects model is used for empirical analysis since the null hypothesis is rejected when the random effects model and the fixed effects model are compared using the Hausman test (Lee-Kuen et al., 2017).

#### 4.3.1 Hausman Test

The Hausman test's premise is that if there is no association between the explanatory variables and the estimators of random and fixed effects, then both estimators are consistent. The estimates of

the fixed effects and random effects should be comparable in large samples if both estimators are consistent. The efficient random effects are listed second and the consistent fixed effects estimator is listed first when using the Hausman command in Stata. The fixed effect model is kept if the H statistic is significant and is rejected, decision between the fixed effects model and the random effects model by using Hausman's test. For the best appropriate model selection in panel data analysis, this study has applied the Hausman test between fixed effects and random effects. This Hausman test tells us about that which is the best suitable model for study. Then the hypothesis is

***H<sub>0</sub>***: Random-effect (RE) is preferred.

***H<sub>1</sub>***: Fixed-effect (FE) is preferred.

Table 4.2: Hausman Test Criterion		
	$H_0$ is true	$H_1$ is true
$\beta_1$ (RE estimator)	Consistent Efficient	Inconsistent
$\beta_0$ (FE estimator)	Consistent Inefficient	Consistent
If results show; $H_0$ : Select RE ( $p > 0.05$ ) $H_1$ : Select FE ( $p < 0.05$ )		

Any assumptions on the distribution of the model's data variables were examined for normality, and the regression results for the fixed- and random-effects models are shown. The Hausman test was used in the study to determine whether effect—the fixed or random—is more appropriate. The Hausman test statistic is not significant, suggesting that random effect estimation is a better option than fixed effects.

#### 4.3.1.1 Fixed Effects Model

In fixed effects model the value of intercept is not similar to cross-section. A dummy is separated and integrated with this method to indicate the magnitude of the differences amid the correlations for every cross-section. Such variables are also known as “least square variables”. e.g., if there are data differences, the intercept for each unit will be different, which is why the best panel data evaluation model be the fixed effects model. The assumption of a similar intercept will not be accepted while the standard F-statistics is significant and thus used fixed-effect model test, if not then the common effect model will be applied. In the fixed-effects model, slope coefficients are constant but intercepts vary from bank to bank.

#### 4.3.1.2 Random Effects Model

The random effects model is somehow related to the fixed-effects model. This model is applied when the value of the intercept is not similar for all cross-sections and time. But the important assumption in this is whether or not they can follow the criteria or not. Assuming Beta means nothing here for the reason that it follows a random path. To decide between the random effects model and the fixed-effects model, the Hausman test can be used to decide regarding which model is appropriate between these two models. If the value from the Hausman test is significant that fixed effect will be selected. Otherwise, if the value from the Hausman test is not significant then the random effects model will be applied for evaluation.

### 4.4 Data Collection

This study combines data from several sources, such as bank-level data obtained from financial statements and annual reports. Similarly, country-specific data are obtained from the International Monetary Funds (IMF) International Financial Statistics (IFS) and the World Bank's World

Development Indicators (WDI). The sample period of this study comprises 13 years, from 2010 to 2022. Further, we choose those banks that are full-fledged IBs and CBs. Corporate governance-related data is gathered via the web page of the bank, the banks' governance reports, and director biographies. Financial data for the study is gathered from the financial statement section of annual reports. Secondary sources are used to gather data on required variables. Sources of data collection are mainly from the State Bank of Pakistan (SBP), annual balance sheet and income statement analysis, profiles of the bank, official websites of the company and the PSX web site. According to the new regulations of the Securities and Exchange Commission of Pakistan (SECP), all Pakistan's listed companies must disclose their information regarding their financial positions, annual reports, and governance structure. Moreover, we select the 6 IBs and 16 CBs on the basis of full-fledged IBs and CBs. The list of selected banks is provided in Table 4.3.

Table 4.3: List of Banks		
Islamic Banks		
Meezan Bank Limited	Al-Baraka Bank (Pakistan) Limited	Bank Islami Pakistan Limited
MCB Islamic Bank Limited	Dubai Islamic Bank Pakistan	Faysal Bank Limited
Conventional Banks		
Bank AL Habib Limited	Summitbank	Bank of Khyber
Askaribank	National bank of Pakistan (NBP)	HabibMetro
The bank of Punjab	AlliedBank	Silkbank
Standard Chartered	Unit ed Bank Limited (UBL)	Bank Alfalah
JS bank	Habib Bank Limited (HBL)	Samba Bank Limited
Soneri Bank		

# Chapter 5

## Empirical Results

### 5.1 Introduction

We present the results of the empirical study on the impact of women presence in boardroom on FS of banks and also to examine the greater representation of women (Percentage) in the boardroom of banks in the context of Pakistan. The Section 5.2 of this Chapter discuss descriptive statistics of all the variables used in the study are discussed. Furthermore, the next Section 5.3 discuss about correlation matrix, which illustrates the correlation of variables used in this study; to investigate the well-known problem of multicollinearity between the variables. In the last Section 5.4, we discuss the empirical findings-based on regression analysis particularly for the impact of women presence and women percentage on the financial soundness of the IBs and CBs.

### 5.2 Descriptive Statistics for Full Sample Period

The descriptive statistics gives the summary statistics which includes the observations, mean, standard deviation, minimum and maximum of the dependent variables and independent variables and those variables are further divided into country specific and bank specific variables.

**Table 5.1: Descriptive Statistics for Full Sample**

Variable	Obs	Mean	Std. Dev.	Min	Max
Z-Score	192	3.092	2.38	-2.65	15.821
Presence Women (Dummy)	191	0.377	0.486	0	1
Women ratio	191	0.044	0.058	0	0.17
<b>Bank Specific Variables</b>					
Return on Asset (ROA)	192	0.835	1.357	-8.39	3.18
Board Size (Total Members)	191	9.162	2.152	5	14
Loans ratio	141	5.759	20.49	1.637	246.908
Non-Performing Loans (NPL)	124	271461.35	195346.13	14501	849824
Log Operating Expenses (LOEXP)	130	12.755	0.735	11.088	14.375
<b>Country Specific Variables</b>					
Real Interest rate	175	2.246	3.417	-4.37	7.13

Inflation (INF)	147	7.511	3.316	2.53	12.94
GDP Per Capita	192	2.339	2.26	-2.97	4.55

Table 5.1 illustrates the descriptive statistics of the full sample period. Starting from the dependent variables, we use the Z-score as an indicator of the FS of banks, which shows our mean is 3.092 on the other extreme the standard deviation is proving a value greater than 1. We can clearly observe that on minimum value we have negative sign and maximum value touches to 15.821. Further, presence of women presence (dummy) capture the presence of a woman in board equal to 1 and if not then equal to 0 otherwise. Second variable from the independent variables is percentage of women (women ratio) or greater representation of women in the boardroom, mean of 0.044 ranging from 0 to 0.17, having a standard deviation of 0.058. Furthermore, independent variables used in this study are divided into two sub categories, bank specific variables and country specific variables. In the bank specific variables, ROA with the mean of 0.835, ranging from -8.39 to 3.18. Another variable is board size with the mean of 9.162 with the min value of 5 to the max of 14. Furthermore, average of the NPL is higher and on the other hand the standard deviation is also higher compared to LR of bank specific variable. The mean of the Log OEXP variable is 12.755, which ranges from 11.088 to 14.375. Moreover, the country specific variables include as follows, average of the real interest rate with the mean of 2.246 ranging min negative value to max 7.13. Table 5.1 also indicates that the (INF) variable ranges from 2.53 to 12.94 with an average of 7.511. The mean of the GDP per capita variable is estimated at 2.339 while its minimum and maximum values are -2.97 and 4.55, respectively.

### 5.2.1 Summary Statistics of Islamic Banks

In Table 5.2 we present the descriptive statistics of the IBs. The descriptive statistics on the basis of 65 observations of the data indicates that the minimum Z-score during the period of time is -0.239 and the maximum Z-score is 5.505 and the average is 3.389%.

**Table 5.2: Descriptive Statistics for Islamic Banks**

Variable	Obs	Mean	Std. Dev.	Min	Max
Z-Score	65	3.389	1.365	-.239	5.505
Presence Women (Dummy)	65	0.323	0.471	0	1
Women ratio	65	0.028	0.04	0	0.1
<b>Bank Specific Variables</b>					
Return on Asset (ROA)	65	1.18	.734	-.14	3.18
Board Size (Total Members)	65	10.862	2.364	7	14
Loans ratio	44	4.204	1.132	1.833	6.102
Non-Performing Loans (NPL)	40	189176.58	117241.92	14501	465092
Log Operating Expenses (LOEXP)	41	12.57	0.636	11.088	13.7
<b>Country Specific Variables</b>					
Real Interest rate	60	2.267	3.569	-4.37	7.13
Inflation (INF)	55	7.746	3.388	2.53	12.94
GDP Per Capita	65	2.267	2.204	-2.97	4.55

Further from the independent variable women percentage shows the minimum and maximum of 0 to 0.1 with the standard deviation of 0.04 and also with the mean 0.028. ROA indicates that the IBs are making less ROA as compared to the CBs. The maximum number of women on board is 1 and the mean is 1.18. It reflects that in case of Pakistan, the ratio of women board members on IBs is also very low. There is no women CEO nor women member on supervisory board in this regard and the women role duality is also absent. On the basis of 65 observations for the IBs' board size with the minimum and maximum of 7 to 14 along with the standard deviation of 2.364 with the average of 10.862. From the table we can clearly illustrate that the NPL has a greater mean 189176.58 compared to LR 4.204 along with the minimum and maximum of 14501 and 465092. Here minimum and maximum value is also higher than the LR of 1.833 and 6.102. Further the macroeconomic variable in which inflation mean is greater than the GDP Per Capita of 7.746 and 2.267.

## 5.2.2 Summary Statistics of Conventional banks

Table 5.3 we have provided summary statistics based of the CBs. The first independent variable is presence of women presence (dummy) capture the presence of a woman in board will be given the value 1 if not then equal to 0 otherwise. The descriptive statistics on the basis of 127 observations

of the data indicates that the minimum z-score during the period of time is -2.65 and the maximum z-score is 15.821 and the average z-score is 2.94. The minimum real interest rate is -4.37 times and the maximum are 7.13 along with the average being 2.236. Similarly, the country level variable inflation maximum value is 12.94, minimum value is 2.53 along with average value is 7.371.

**Table 5.3: Descriptive Statistics for Conventional Banks**

Variable	Obs	Mean	Std. Dev.	Min	Max
Z-Score	127	2.94	2.752	-2.65	15.821
Presence Women (Dummy)	126	0.405	0.493	0	1
Women ratio	126	0.052	0.064	0	0.17
<b>Bank Specific Variables</b>					
Return on Asset (ROA)	127	0.658	1.557	-8.39	2.7
Board Size (Total Members)	126	8.286	1.379	5	12
Loans ratio	97	6.464	24.7	1.637	246.908
Non-Performing Loans (NPL)	84	310644.57	212778.91	55609	849824
Log Operating Expenses (LOPEX)	89	12.84	0.765	11.438	14.375
<b>Country Specific Variables</b>					
Real Interest rate	115	2.236	3.351	-4.37	7.13
Inflation (INF)	92	7.371	3.283	2.53	12.94
GDP Per Capita	127	2.376	2.295	-2.97	4.55

### 5.3 Correlation Matrix of IBs and CBs

The matrix of correlation examines the correlation of variables by observing relationship between the variables and also indicates the problem of multicollinearity (Gujarati & Porter, 2009; Allison, 2012). Thereby, looking into the first research problem is focus on the correlation between the variables used in this study of empirical investigation. By providing the reasoning from the Gujarati et al. (2012), the correlation matrix states that the existence no longer lead to be concern regarding possible multicollinearity between the variables.

It is determined by looking at the correlation between the variables whether there is a problem with multicollinearity between the independent variables. As we can see from the Table 5.4 above demonstrates that there is less correlation between the variables to determine whether there is a multicollinearity problem. When there is 90% connection across variables or a correlation



coefficient of 0.9, most scholars consider that there is a multicollinearity problem (Shrestha, 2020). In these circumstances, the variable needs to be modified or eliminated in order to address the multicollinearity issue. Because there is no variable in the table 5.4 with a correlation of greater than 90%, multicollinearity is not an issue.

**Table 5.4 Correlation Matrix**

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) Z-Score	1.000										
(2) Return on Assets	0.571 (0.000)	1.000									
(3) Presence Women	0.019 (0.794)	-0.084 (0.249)	1.000								
(4) Women ratio	-0.030 (0.684)	-0.210 (0.004)	0.962 (0.000)	1.000							
(5) Board Size	0.138 (0.057)	0.330 (0.000)	0.017 (0.819)	-0.141 (0.051)	1.000						
(6) Loans ratio	0.436 (0.000)	-0.077 (0.367)	-0.080 (0.350)	-0.078 (0.357)	-0.002 (0.985)	1.000					
(7) Real Interest rate	-0.032 (0.672)	-0.053 (0.483)	-0.221 (0.003)	-0.203 (0.007)	-0.034 (0.653)	0.008 (0.925)	1.000				
(8) NPL	0.033 (0.716)	0.157 (0.081)	-0.062 (0.492)	-0.046 (0.614)	-0.140 (0.122)	0.260 (0.004)	0.017 (0.854)	1.000			
(9) LOPEX	0.203 (0.021)	0.453 (0.000)	0.287 (0.001)	0.270 (0.002)	0.133 (0.132)	-0.135 (0.125)	0.010 (0.913)	0.641 (0.000)	1.000		
(10) Inflation	0.092 (0.266)	0.002 (0.980)	0.102 (0.220)	0.105 (0.208)	0.069 (0.406)	0.153 (0.082)	-0.200 (0.015)	-0.009 (0.923)	0.108 (0.243)	1.000	
(11) GDP Per Capita	-0.060 (0.408)	0.014 (0.845)	-0.048 (0.513)	-0.035 (0.628)	-0.061 (0.400)	-0.089 (0.295)	0.068 (0.371)	0.041 (0.649)	-0.113 (0.202)	-0.751 (0.000)	1.000

The correlation between independent variables of the model is found to be poor. The fact that every coefficients of variable is less than the 0.5 (Ayed & Zouari, 2014), demonstrating that there is no issue with the existence of multicollinearity. All values are less than 0.5 except the two variables (presence and percentage) that are separately measured; therefore, the outcome shows that there is no such existence of a multicollinearity problem in our data set. Based on the Woolridge (2000) as far as correlation may not always imply causation, as the causal relationship is examining by the regression analysis. Therefore, panel regression is applied.

## 5.4 Empirical Findings

This study investigates the presence of women and also the role of gender diversity in BOD and how it affects the FS of IB and CB in Pakistan. Further, we also divide our estimation in to two parts. First part investigates the impact of women presence (women dummy in BOD) on the full sample period, IBs and also for CBs. The second part investigates the impact of percentage of women (women ratio in BOD) on the FS of the full sample, IB and CB in Pakistan respectively. We employ the random effect models. The Hausman test is used to choose between the random effects model and the fixed effects model (Frag & Malin, 2017). In order to determine whether the fixed or random effects estimator should be applied in these panel data set (Farhana, 2020).

## 5.5 Women Presence in the Boardroom

As discussed earlier we present our empirical results for full sample period, IB and also for the CBs. Therefore, in the following subsections we discuss the findings based on full sample period.

Table 5.5: Women Presence in the Boardroom and Financial Soundness

	Col (1) Full Sample zscore	Col (2) Islamic Banks zscore	Col (3) Conventional Banks zscore
Women Presence (Dummy)	0.842 (0.556)	-0.961* (0.538)	2.058** (0.825)
Board Size	-0.289*** (0.099)	0.100 (0.171)	-0.726*** (0.185)
Loan Ratio	0.088*** (0.01)	-0.384 (0.283)	0.097*** (0.011)
Real Interest rate	2.173 (1.956)	2.253 (2.276)	0.891 (2.606)
Non-Performing Loans	0.103*** (0.001)	0.027 (0.001)	0.109*** (0.018)
Operating Expenses	2.690*** (0.407)	1.285** (0.597)	2.510*** (0.514)
Inflation	-0.224 (0.33)	-0.196 (0.343)	-0.078 (0.417)
GDP per capita growth	1.11 (1.152)	1.288 (1.274)	0.300 (1.519)
Constant	-30.607*** (5.714)	-15.674** (7.302)	-23.757*** (8.105)
Observations	111	40	71
Year Dummy	Yes	Yes	Yes

Within R <sup>2</sup>	0.406	0.331	0.54
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This table illustrates about the estimation of the over-all performance of models. We use dependent variable Z-score proxy for the FS, which is measured by the soundness of the banks. Year fixed effects are included in all regressions, but their coefficients are not reported. We applied random effect technique with robust standard errors for our estimations. Robust standard-errors are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at 1%, 5%, and 10%, respectively.

### 5.5.1 Full Sample Period

In Table 5.5 we depict the impact of women presence on bank's FS for full sample period, IB and CB respectively. Gender diversity is itself considered as most effective board's characteristics due to the positive effects it has on the firm's outcomes such as FS, social responsibility and disclosure of financial firms (Jouber, 2024). In terms of corporate governance, banks with better FS are those in which women representation is higher (Mirza et al, 2012). However, in case of full sample period we find insignificant positive effect of women presence on FS. Having women on the BOD does represent either a valuable resource for banks. Following most studies on board gender diversity and corporate governance, we have applied critical assumptions of the various types of diversity to explain how board gender diversity adds to FS (Aljughaiman et al., 2023). Further, gender diversity does guarantee an increased FS of the BOD, studies that shows the presence of women on board on FS aspects of non-financial firms (Poletti-Hughes & Briano-Turrent, 2019; Trinh et al., 2020; Brahma et al., 2021; Carbonero et al., 2021). Nevertheless, the culture of the board can be the aspect that may influence that how a well diverse board performs its obligations and manages the banks' matters. In this connection, the women as a member of BOD affect as much as whether the board's management lets them to be combined actively into the making strategies for the banks. Women directors contribute a diversified set of functional skills and information resources to the board. Notably, women directors possess more expertise than male

directors, and hence newly appointed women directors also add to the board more skills than newly appointed men directors (Kim & Starks, 2016; Aljughaiman et al., 2023).

Besides, many defined theories it is widely known the board size is a dynamic core structure of board and plays a main role in the FS of the banking system (Majeed et al., 2020; Gyamerah et al., 2020). We find that board size has a negative and significant impact on the FS, which means that a large number of board members has a negative impact on the FS of banks. These results are in line with the agency theory, for example; a larger BOD increases communication problems and presents difficulties in coordinating efforts between directors (Jensen, 1993; Khalil & Slimene, 2021).

Further, the agency problem can manifest in two different forms: moral hazard and adverse selection (Stoelhorst & Vishwanathan, 2024). Adverse selection occurs when agents bias their ability to perform assigned tasks and moral hazard happens when agents evade their duties or responsibilities or when they simply underperform due to a lack of commitments. These issues arise due to the large number of members making the directors role passive (Bouteska et al., 2024). Some of the metrics used to quantify the richness of board information are number of board subcommittees, number of board members with managerial and industry experience, number of board members with long tenure, frequency of board meetings, and number of board members representing specific ownership groups.

However, in Table 5.5 we find that LR, NPL and OPEX have a positive and significant impacts on FS for the banks (full sample). Loans typically generate interest income for banks, which contributes to their revenue and profitability (Laeven & Majnoni, 2003; Nugroho & Rachmaniyah, 2020). A higher LR indicates that a larger portion of the bank's assets is invested in loans, potentially leading to higher interest income if those loans are performing well borrowers or

shareholders may take more involvement in the respected banks. These findings are consistent with the following studies (Islam et al., 2022; Rokhimah et al., 2024). Further, the LR can also impact a bank's net interest margin, which is the difference between the interest income earned on loans and investments and the interest expenses paid on deposits and other liabilities (Haq, 2023). In addition to that, a higher LR may lead to a higher net interest margin if the interest income generated from loans exceeds the interest expenses see for instance (Laeven & Majnoni, 2003). Each increase in NPL is in line with the increase in company value (share price) so that investors remain interested in investing in a bank as long as the bank makes a profit without considering the level of credit quality which is reflected in the size of the NPL, this shows that investors do not see the risk of bad credit that will occur. However, excessive OEXP can hinder a bank's ability to generate revenue effectively. If operating costs are not managed efficiently, they can erode the margins on banking products and services, thereby limiting revenue growth.

### 5.5.2 Islamic Banks

BOD has the same legal responsibilities as an IB's board (Abdeljawad & Masri, 2020). More than that, the principles of Islamic finance add expectations and responsibilities to the board of an IB (Rehman & Hashim, 2020). In principal several board attributes can play a crucial role in managing FS of the companies e.g. expertise, independence and education. Among the many board attributes, board diversity is a major issue in the corporate governance literature (Jabari & Muhamad, 2021a). Moreover, in the oppose of agency theory, resource dependence notion states that a board with more directors may have a positive financial impact on the company. Larger boards may also present more opportunities than smaller ones (Agoraki, 2010). The size of the BODs has a detrimental effect on the FS of IBs, as demonstrated by Bukair and Rahman (2015); Buallay (2019). In Table 5.5 (column 2) we present the impact of women presence on FS for the IBs over

the period of 2010 to 2022 for Pakistan. We find a significant negative association between women presence in boardroom and FS for the IB in Pakistan.

The possible explanation of the negative association between the women presence and FS is because the larger number of women are less efficient for the IBs. One possible explanation of the negative association between women presence and FS of IBs is that the social role theory (Eagly, 1987) and the importance of social norms and religious values in either discouraging or upholding gender stereotypes, to the debate by studying women board participation in IBs on religious doctrine. Due to religion matters for women appointments in the bank board due to gender stereotypes which is the main reason for the participation or presence of women in boardroom (Khan et al., 2020). These empirical findings are consistent with (Almutairi & Quttainah, 2019; Bitar & Tarazi, 2019) who reported a significant negative effect of women presence on bank performance. Another reason of the negative relationship can be that women as a board member may be viewed more contentious for IB than CB. Due to the lower acceptance of women in positions of leadership in companies with a strong religious component (Alazzani et al., 2019). This cautious approach could make it more difficult to allocate human resources effectively, which would impair performance (Khan et al., 2020). However, we contradict (Jabari & Muhamad, 2021a) who reports a significant positive effect of women presence on boardroom.

Similarly, OEXP is highly significant and positively associated with FS of the IBs. Findings are consistent with (Ngumo et al, 2017; Khalaf et al., 2023; Shrestha, 2023). The operating ratio, also known as the efficiency ratio, is a measure used to assess how well bank management is able to manage OEXP in relation to operating income (Syafriзал et al., 2023; Ongore & Gemechu, 2013).

### 5.5.3 Conventional Banks

The BOD is a corporate body that is responsible for the management, direction, and operation of the bank, and its members are chosen by the shareholders (Martinez-Jimenez et al., 2020). In principal the board's decision-making quality may depend not only on the director's attributes and talent but also on the characteristics of the directors (Giannetti & Zhao, 2019).

Table 5.5 illustrates case of CBs, in which we represent significant and a positive impact of women presence on FS of CBs in Pakistan. A possible explanation can be that, as long as the presence of women can positively enhance the FS of the CBs, it also enhances creativity, innovation, and productivity. These findings are consistent with the Cardillo et al. (2021) and Simionescu et al. (2021). Moreover, according to the psychological-economic theory approach, women tend to avoid risk as compared to men because men take risk more frequently (Sila et al., 2016). Furthermore, women's boards are superior to men's in terms of their ability to oversee directors' performance in a manner that is significant (Jabari & Muhamad, 2021a). Likewise, Byrnes et al. (1999) report that organizations with women boards are less likely to face bankruptcy because women typically stay away from daring experiments, reckless behavior, and gambling-prone policies. Consequently, women are less sensitive to choose hazardous modes of action (Fehr-duda, 2006; Abou-el-sood, 2021). Additionally, it is also observed that a company's financial success is enhanced when there are women on its boards (Cardillo et al., 2021).

Consequently, a diverse board is able to consider more creative ideas and contribute a wide range of viewpoints to the banks' decision-making process, enhancing the banks' FS, than a board without gender diversity, which may constrain different thinking due to a higher level of consistency and pressure towards customs. In addition to that, the amount and quality of comprehensive information provided to decision-makers influences their creativity (Vairavan & Zhang, 2020),

and that gender diversity fosters higher levels of innovation by improving idea quality, creativity, and inventiveness (Cox, 1994; Bennouri et al., 2018; Bansal et al., 2023). The financial health of banks is favorably correlated with innovative ideas and wise decision-making (Zhang & Aboud, 2019).

In addition, we find significantly negative impact of board size on FS of the CBs. However, there is neither direct effect of board racial diversity on CBs performance nor is there an indirect effect through either employee productivity. It is commonly recognized that the board size is an important system of board structure and plays vital role in the administration of the banks. For this purpose, the FS of CBs influence by board size, so that board size is most deliberated issue in board structure. Smaller boards may have an impact on the agency theory and improve the FS of CBs. Additionally, a smaller board appears to be more effective in managing the company's financial presentation than the CEO (Jensen, 1993; Goodstein et al., 1994; Ruigrok et al., 2006).

The agency theory states that there are more communication issues and coordination challenges when there is a larger BODs (Jensen, 1993). In addition, a high number of directors pushes board members to follow their own agendas, which leads to issues with agencies (Lipton & Lorsh, 1992; Jensen, 1993). According to Prowses (1997), a big board results in more information asymmetry and possible conflicts of interest between management and directors.

According to Amine (2018), there may be a greater financial risk associated with a board that has a big number of directors. On the other hand, a larger board is said to have a wider range of expertise and experience by proponents of the resource reliance theory (Rositha et al., 2019; Rashid et al., 2020). Additionally, a large board serves the demands of stakeholders, enhances control, and makes successful decisions also sizable board can better manage risk to prevent bankruptcy and is favorably correlated with FS (Hakimi et al., 2018; Ulussever, 2018; Naveed & Abdin, 2020).



Positive and substantial impact on the value of the firm; that is, if the value of the NPF rises, the company's value rises as well, and vice versa. The NPF ratio demonstrates the bank management's capacity to oversee its issue loans. According to Haq (2023) the higher the NPF ratio, the worse the credit quality, which leads to more problematic loans and losses or difficulties for the bank. We find a significant and positive impact of LR on FS of the CBs. Similarly, NPL is also a significant and positive impact on the FS of the CBs. However, an increase in NPL corresponds with a rise in the bank's value, meaning that shareholders continue to invest in a bank as long as it generates profits, regardless of the quality of the bank's credit (Nugroho & Rachmaniyah, 2020). Additionally, the scale of the NPL reflects this, meaning that stakeholders do not view the danger of bad credit that may arise as the primary source of worry from banks. Nonetheless, investors frequently focus more on the returns on their share investments than on other outside factors that can have an impact on the CBs' ability to make money (Marwansyah, 2016; Rokhimah et al., 2024).

Similarly, OEXP is highly significant and positively associated with FS of the CBs. Furthermore, a bank's ability to generate revenue can be directly impacted by its operating costs. Investments in customer service, marketing, and technology, for example, can increase customer's retention and satisfaction, which in turn promotes revenue development. On the other hand, some costs are incurred in order to guarantee risk management and regulatory compliance, both of which are essential to the bank's long-term stability and viability. These findings are consistent with the (Tuškan & Stojanović, 2016; Ferreira, 2020).

Bigger banks frequently gain from economies of scale, which allow them to spread fixed costs over a bigger asset base and achieve lower OEXP as a percentage of revenue. Scale of operations also plays a key influence. Smaller banks can still compete, though, if they concentrate on

specialized markets or prioritize providing individualized care. Investors evaluate a bank's financial stability and managerial effectiveness in part by carefully examining its operating costs. Unexpectedly large costs could make people wonder if the bank can properly control costs and remain competitive. Innovations in technology are changing the way that banks incur operating costs. Initial investments in automation and digital banking platforms may result in higher costs, but over time, they can save costs by increasing efficiency and decreasing the need for manual operations. For banks to experience long-term financial success in a market that is becoming more and more competitive, finding the ideal balance between funding expansion efforts, controlling expenses, and preserving operational effectiveness is crucial.

The BOD's legal obligations are equivalent to those of a traditional bank's board. In general, a number of board characteristics board diversity is one of the numerous characteristics of a board and a significant concern in the literature on corporate governance (Jabari & Muhamad, 2021a). Furthermore, Operational efficiency is a performance metric that evaluates how successfully banks are simplifying their operations while accounting for input and output costs. The study also discovered a positive association between FS and the deposits to assets ratio, indicating that a bank's FS increases with the amount of deposits it accepts.

## 5.6 Women Percentage in the Boardroom

Banks with a more gender-diverse BOD are expected to have better FS as measured by the Z-Score. Regarding gender diversity among the board members, the results show that women's proportion on the BOD positively affect FS for the full sample period as well as for the CBs. On contrary we find a negative and significant effect of women percentage for the IBs. These findings are discussed in detail in the following subsections.

Table 5.6: Women Percentage in the Boardroom and Financial Soundness

	Col (1) Full Sample zscore	Col (2) Islamic Banks zscore	Col (3) Conventional Banks zscore
Women Percentage	8.092* (4.873)	-10.70* (6.151)	13.967** (6.430)
Board Size	-0.263*** (0.098)	0.083 (0.171)	-0.705*** (0.192)
Loan Ratio	0.088*** (0.010)	-0.397 (0.283)	0.098*** (0.011)
Real Interest rate	2.158 (1.944)	2.472 (2.263)	0.731 (2.639)
Non-Performing Loans	0.103*** (0.002)	0.029 (0.001)	0.111*** (0.018)
Operating Expenses	2.681*** (0.404)	1.313** (0.604)	2.593*** (0.516)
Inflation	-0.218 (0.330)	-0.221 (0.343)	-0.092 (0.422)
GDP per capita growth	1.102 (1.146)	1.402 (1.269)	0.247 (1.539)
Constant	-30.802*** (5.686)	-16.083** (7.371)	-24.252*** (8.239)
Observations	111	40	71
Within R <sup>2</sup>	0.406	0.328	0.528

### 5.6.3 Full Sample Period

Since women place a high importance on upholding their own reputations in the directorship market, the agency theory states that having them on the board should enable greater oversight of managers and curtail their opportunism (Pathan & Faff, 2013). In Table 5.6 column 1 we present the empirical findings based on full sample period. We find that the coefficient of women percentage is a significant and positively related with FS of the banks for the full sample period. This finding is consistent with the Khan et al. (2020), Arnaboldi et al. (2021), Karavitis et al. (2021), and Jabari and Muhamad (2021a). This positive linked between women percentage and FS of the banks can be explained as that increased gender diversity in the boardroom reduces risk taking (Gulamhussen & Santa, 2015) reduces institutions' leverage and susceptibility to bankruptcy risk (Adusei & Obeng, 2019), reduces the cost of lending (Karavitis et al., 2021).

In addition, in Table 5.6 column (1) the board size coefficient clearly indicates that a board size is a factor having a negative and significant impact on the bank performance. This could be considered as an evidence of either low economic results that call for constant and active board involvement or of challenges reaching broad director agreement on objectives and carrying out the bank's strategy, which impairs performance. Alternatively, it could be seen as a correlation between smaller board sizes and lower margins. These empirical results are in line with (Amine, 2018; Nastiti & Kasri, 2019; Skvarciany et al., 2019). Further, group size literature supports that as group size increases, members' liking for each other decreases (Salas et al., 2008), leading to low social integration and low perceived attachment (Smith et al., 1994). Thus, they are likely to seek out similar group members resulting in subgroup formation (Hamilton et al., 2010).

In the banking sector, performance of banks depends on especially the provision of loans, the transmission of monetary policy, the system of payments and also the preservation of financial stability. In the FIs particularly for the banking sector, the market power surges banks' average incomes but infers huge costs to banks deposit holders due to lower deposit-rates and higher loan-rates, with unfavorable effects on economic growth and investments in the economy. However, in case of boom in the economy particularly with higher expected returns banking sector may be interested to tend to take more risk and accordingly charge higher loan interest rates. In other words, since the demand for commercial loans and other banking products and services upsurges during periods of strong economic growth, banking industry's revenues rises faster than costs.

This study also finds a significant and positive association between LR and NPL with the FS for a full sample period. Banks possess substantial market dominance into the manner of a higher concentration in the finance and saving market because of tight entry as well as exit boundaries, which helps in decrease in competition and lead it to the profits that are monopolistic. In order to

help their managers and shareholders through taking advantage of their opportunities for growth prospects. Banks might choose additionally risky investment and financing decisions. In doing so, institution might risk not just their own long term continued existence along with making their financial circumstances more uncertain overall. In this respect it is important to recognized the roles of members of the board with the aim to sustain systemic and sectoral sustainability. Nevertheless, an increase in deposits to assets ratio ought to cause greater expenses for promoting capital thus, reducing markups particularly during steady economy certain points. On the contrary a higher loan to assets ratio suggests that FIs focus on the traditional credit business, which results in greater risk of default other than generally delivers higher profitability margin (Deli et al., 2016).

Concerning the presence of women on the BOD, the estimation of variable, OEXP shows that the presence of expenses affects the FS of banks positively with statistical significance. OEXP include a wide range of costs associated with daily expenses, that is why it is an essential component for a bank's FS. Costs that are associated with regulatory compliance that are typically included in expenses such as administration charges, marketing costs, technologies and investments. Considering the framework of OEXP allows for identifying areas that might gain profit from the reducing expenses or improving efficiency. Banks might utilize the benchmarking to identify in efficiency and set strategies in place to regulate costs more effectively and earn greater profits compared to their competitors with the goal to assess their expenses and FS against their competitors, banks often take part in the benchmarking projects. (Chiaramonte et al., 2023).

#### 5.6.4 Islamic Banks

The results in Table 5.6 column (2) show that the coefficient of women percentage is significant and negative. This negative association means that IBs have lower profitability which can be due to their higher inefficiency, which is similar to the findings of the Khan et al. (2020). This finding

can be view as women as a board member may be viewed more controversial for IBs. Because there is less acceptance of women in the leadership position of religiously conscious firms (Alazzani et al., 2019). This conservative behavior may hinder efficient allocation of human capital, and thereby impede performance (Khan et al., 2020).

Similarly, OEXP is highly significant and positively associated with FS of the IBs. Following regulatory obligations signifies a component of OEXP for banks. After the global financial crisis (2007-08) oversight by regulators has led to increase in operational costs related to management of risk, laundering measures of anti-money, protection of consumers, and privacy of data. For the effective FS bank should manage the regulatory compliance costs by maintaining cost of regulatory compliance. The FS of banks is affected directly by the OEXP. It is critical for banks to control the OEXP for the better performance, profitability and also enhancing the value for shareholder. To achieve the better FS of banks must attract a balance between investing in management of OEXP and initiatives for to attain optimal FS (Adhikari et al., 2023).

### 5.6.5 Conventional Banks

In table 5.6 column (3) we document that the women ratio in boardroom is positively and significantly associated with the bank FS of the CBs. This empirical finding is consistent with (Khan et al., 2020; Alharbi, 2022). The can be due to that, woman directors may improve a bank's FS as woman directors carry various new practices, financial and managerial skills, and expertise to the board (Frag & Mallin, 2017). Another possible explanation of the positive association can be that racial diversity brings to the board a new perception, new ideas, unique set of product knowledge, values, and a mixture of these different perspectives influences the board's working in effective ways. However, it is observed that women are more risk averse as compared to that of

men (Berger et al., 2014; Loy & Rupertus, 2018) further, this statement does not be generalized for the professionals or decision-making level (Croson & Gneezy, 2009).

Further, the performance of board may be affected by inequality in gender. In order to achieve the optimal performance of board, it must fulfill certain criterion. For instance, increase in gender diversity may well effective for the decision-making (Jabari & Muhamad, 2022b), new experience on different subjects (Srivastav & Hagendorff, 2016). And also, with mutual thoughts of ideas coming from members of boardroom with different backgrounds and different life experiences. Furthermore, the presence of women on the board might facilitate FIs to access to a vast range of consumers.

We find a negative and significant influence of board size on the FS of the CBs. One of reason of this negative association can be that the more members in the board room, in general, can give rise to more coordination glitches in exchanging information and in designing strategy (Cheng, 2008; Amine, 2018; Bansal, 2023). In the same vein, it takes more compromises for a large board to reach consensus (Priharta & Gani, 2024). Thus, increased board size negatively impacts the ability of board members to make strategic decisions because of a lack of cohesion (see for instance Nastiti & Kasri, 2019). Further, these highlighted coordination problem among the board members might be attributed to stronger fault lines in these boardrooms. However, “small- and large-sized” boards face strong fault-lines, while a “medium-sized” board faces weak fault-line. Nevertheless, according to Ali and Ayoko (2020), the ideal board size seems to be ten. Furthermore, it is very important to note that the nomination committees need to consider the trade-off between adding new value and low-quality decisions before increasing a board’s size (Cheng, 2008; Badu & Appiah, 2017).

The association of NPL and the FS of banks is not that simple as it seems, frequently marked by unfavorable impact on financial sector for example profitability, liquidity and CAR (Islam et al., 2022). In this empirical analysis we find that FS of a bank is positively and significantly correlated with each of the LR and NPL. The main channels through which NPL is connected with the FS of banks is by setting up expenses' usage. These findings are consistent with the following studies (Nugroho & Rachmaniyah, 2020). In order to overcome the losses that are arising from the NPL, provisions are essential to manage potential losses from NPLs, which may directly affect the profitability of a bank. A bank's exposure to economic crises or adverse events occurs in specific sectors, evaluation of credit risk or lending procedures might be affected by a high substantial number of NPLs.

However, there is a positive relationship between NPL and the FS of banks under certain conditions. For instance, effective management and handling NPL can lead to reduced credit risk over time and better asset quality (Marwansyah, 2016; Rokhimah et al., 2024). Furthermore, banks and FIs are likely to improve their balance sheets and raise confidence level of investor if they implement effective NPL resolution initiatives including loan deductions or restructuring of loan (Thiong & Kiama, 2018; Sukmadewi, 2020; Setiawan & Tobing, 2024).

In Table 5.6 column (3) we report that OEXP highly significant and positively associated with FS of the CBs for the selected sample period. The possible explanation can be that, for example, investment in skills, new technologies (application of the Artificial-intelligence, software or application installation) and trainings can enhance operational efficiency, advance service delivery according to the demand of customers and it can also decrease the cost of the banks. Moreover, applications of new digital banking channels, the mechanization of routine tasks, and reforms for



the processes can also lead to cost effective and enhancing the productivity, eventually it improves the profitability of the banking sector (Dadhich et al., 2020).

To sum up, while dealing OEXP it is indispensable, particularly, for strategic investments in research and development, new technologies, increasing the customer satisfaction and loyalty, and maintaining profitability and thus contribute to the long-term FS of the CB. Therefore, finding the accurate balance between cost control and investment in growth initiatives is very crucial for attaining sustainable financial achievement in the banking sector of Pakistan.

# Chapter 6

## Conclusions and Policy Recommendations

This study makes two contributions to the understanding of the impact of women's presence in IB and CB on their FS. First, to investigate the presence of women in BOD and its impact on FS of IB and CB. Second, to examine how the role of gender in BODs affects FS of IB and CB banks. We select only the full-fledged IB and CB banking sector of Pakistan. We use a sample of full-fledged IBs and CBs in case of Pakistan over the period 2010–2022. Moreover, we select the 6 IBs and 16 CBs on the basis of full-fledged Islamic and conventional working. This study combines data from several sources, such as bank-level data obtained from financial statements, annual reports, and the BankScope data sets. Similarly, country-specific data is obtained from the IMF and the WDI. The sample period of this study comprises 13 years, from 2010 to 2022.

To capture the presence of women if it takes a value of 1 when at least one woman sits on the BOD and 0 otherwise. Ratio of women which explains the proportion of women sitting on the BOD. We have applied the panel data technique such as common, fixed and random effect models. The selection between the fixed effects model and the random effects model based on Hausman test. The Hausman test is also required to determine whether a fixed effects or random effects be employed. To identify whether the fixed or random effect estimator should be used in these panel data set. In addition to that, when the random effects model is compared to the fixed effects model using the Hausman test, the null hypothesis is accepted; the random effects model is thus employed for empirical analysis.

We depict the impact of women presence on bank performance for full sample period, IB and CB. However, in case of full sample period we find insignificant effect of women presence on FS. In

this connection, the women as a member of BOD affect as much as whether the board's management lets them to be combined actively into the making strategies for the banks. Women directors contribute a diversified set of functional skills and information resources to the board. Notably, women directors possess more expertise than male directors, and hence newly appointed women directors also add to the board more skills than newly appointed men directors.

We find a significant negative association between women presence in boardroom and FS for the IB in Pakistan. The possible explanation of the negative association between the women presence and FS is because the larger number of women are less efficient for the IBs. One possible explanation of the negative association between women presence and FS of IBs is that the social role theory and the importance of social norms and religious values in either discouraging or upholding gender stereotypes, to the debate by studying women board participation in IBs on religious doctrine.

In terms of corporate governance, banks with better FS are those in which women representation is higher. Higher women representation in banks correlates with stronger corporate governance and FS. However, one factor that could affect how a balanced board fulfills its duties and handles the banks' affairs is the board culture. In this regard, the presence of women on the BOD has less of an impact than does the management of the board allowing their active integration into the formulation of bank strategies. Since women place a high importance on upholding their own reputations in the directorship market, the agency theory states that having them on the board should enable greater oversight of managers and curtail their opportunism. the coefficient of women percentage is significant and negative. This negative association means that IBs have lower profitability which can be due to their higher inefficiency. This cautious approach could make it more difficult to allocate human resources effectively, which would hinder performance.

In case of CBs, we find significantly positive impact of women presence on FS of CBs in Pakistan. A possible explanation can be that by giving a large number of proportions to women on the board, as long as the presence of women can positively enhance the FS of the banks, it also enhances creativity, innovation, and productivity presence of women. The percentage of women in boardroom is positively and significantly associated with the bank FS of the CBs. The can be due to that, woman directors may improve a bank's FS as woman directors carry various new practices, financial and managerial skills, and expertise to the board. This positive linked between women percentage and FS of the banks can be explained as that increased gender diversity in the boardroom reduces risk taking reduces institutions' leverage and susceptibility to bankruptcy risk, reduces the cost of lending.

The findings indicate that having more women in BODs has a major positive influence on FS. Representation of women on boards is purely symbolic and has no bearing on Pakistan's effective governance. But in Pakistani public firms, having women on BODs does not translate into improved FS. Although the business environment in Pakistan is different from that in Europe, women's dispositions toward their jobs are universal. Reasons are as follows for the results that are negative; It is possible that women board members lack financial expertise and are thus unable to make a meaningful contribution to enhancing FS. This is especially true when a woman is nominated to the board only because of her familial control rather than because of any specific competence.

Women board members can find it difficult to establish a work-life balance and thus be unable to devote much attention to financial reporting. This insight is especially pertinent given the social and cultural context in Pakistan, where women are expected to prioritize household responsibilities above their roles as board members of their companies. Women directors are typically not given

any direct connection or interaction with those who are seated in account departments for the creation of accounts and financial reports, unless they possess particular understanding in finance. In Pakistan, the proportion of women directors is still quite near to the required minimum of one per board. This is not enough to provide women board members any meaningful control over the caliber of financial reporting. This justifies women presence in BODs solely to satisfy regulatory requirements.

These suggested reasons have detrimental effects of women in BODs on FS. To determine the genuine relationship between the presence of women directors and FS, perhaps further in-depth research in this area can be conducted in the future. The prevalent opinion that women board presence enhances the soundness of the banks on the board of IBs is not supported by the findings of this study, which advise banks and regulators to disregard our findings. On the other hand, women representation on the BOD is necessary to streamline the boards' operations. Because BODs have distinct responsibilities, they collaborate and support one another's work to enhance bank soundness.

However, we do not detect a negative correlation between CB's performance and the number of women on their boards. Therefore, the performance of women who are promoted to leadership positions in companies like CBs is not negatively impacted. Because we add to the understanding of representation of women in corporate leadership in several nations with a specific institutional setting—that is, firms with a religious conscience—this study has significant implications for investors and policy makers. With this kind of understanding, legislators can better create programs and regulations that effectively address gender equality for women's participation in corporate affairs in particular, as well as for the entire society. This study will have some important implications for higher management of the banking sector, government officials and also for the

policy makers because this study will contribute to an understanding of women participation in boardroom in banking sector of Pakistan. Hence, such understanding will contribute to craft the prudent policies that will effectively address the role of gender diversity for the society in general and women participation in banking sector specifically in Pakistan.

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