

**CAPITAL UNIVERSITY OF SCIENCE AND
TECHNOLOGY, ISLAMABAD**



**Impact of Board Characteristics and Ownership
on Sustainable Growth of Pakistani Banks with
Moderating Role of Female Representation on
Board**

by

Zubaria Bashir

A thesis submitted in partial fulfillment for the
degree of Master of Science

in the

Faculty of Management & Social Sciences

Department of Management Sciences

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*I want to dedicate this achievement to my parents who always supported
encouraged and helped me through this crucial time.*



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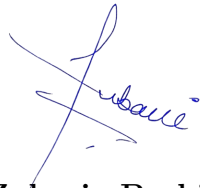
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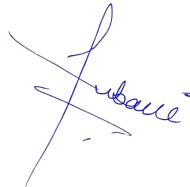
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(Zubaria Bashir)

Abstract

The growing integration of social concern into business operation is one of the major trend across the globe. This study examines the link between board characteristics, ownership and sustainable growth under the theoretical framework of stakeholder theory and agency theory. This study using sample of 13 commercial banks listed at the Pakistan stock exchange from 2014 to 2023. This study provides the insight into the moderating role of female representation on board. The code (Code of Corporate Governance) Regulation,2017 mandated the listed companies to have at least one female director on the corporate board. while the placement of female director on board and allocation of gender quota on board of listed firms across the globe gained significant attention of the research, the mandatory appointment of female on listed firms. The findings female representation on foreign ownership and deposit growth significant relationship higher female board representation experience stronger growth from foreign ownership due to better oversight and ethical practices. Presence of female representation on board influence the board structure of an organization and play a vital role and also this study shows a positive results of board size, independence board and foreign ownership on growth retention of profit. The findings indicate that board characteristics and ownership structures significantly impact on growth. Consequently, commercial banks should adopt a comprehensive, long-term approach to their operations, taking into account the interests of all stakeholders. This study provides valuable policy insights for regulators and other key stakeholders. The study further finds that the female representation on board achieve greater sustainable growth the results of the study suggest that the presence of female leader has significant and positive relationship between deposit growth.

Keywords: Board size, CEO, Foreign Ownership, Earning growth, Deposit Growth, Female Representation.

Contents

Author’s Declaration	iv
Plagiarism Undertaking	v
Acknowledgement	vi
Abstract	vii
List of Figures	xi
List of Tables	xii
Abbreviations	xiii
1 Introduction	1
1.1 Introduction	1
1.2 Theoretical Background	5
1.2.1 Agency Theory	5
1.2.2 Stakeholder Theory	6
1.3 Problem Statement	8
1.4 Research Question	10
1.5 Research Objective	10
1.6 Significance of the Study	10
1.7 Plan of Study	11
2 Literature Review	13
2.1 Board Size and Sustainable Growth	15
2.2 Independent Board and Sustainable Growth	16
2.3 CEO duality and Sustainable Growth	18
2.4 Foreign Ownership and Sustainable Growth	19
2.5 Female Representation Moderate the Relationship between Board Characteristics and Sustainable Growth	21
2.6 Female Representation Moderate the Relationship between Foreign Ownership Sustainable and Growth	23
2.7 Conceptual Framework	25

3	Data Description and Methodology	26
3.1	Population and Sample Size	26
3.2	Data Collection	27
3.3	Dependent Variable	27
3.3.1	Retain Earning Sustainable Growth	27
3.3.2	Earning Per Share Sustainable Growth	28
3.3.3	Deposit Sustainable Growth	28
3.4	Independent Variable	28
3.4.1	Board Size	28
3.4.2	Board Independence	29
3.4.3	CEO /Chair Duality	29
3.4.4	Foreign Ownership	30
3.5	Moderator Variable	30
3.5.1	Female Representation	30
3.6	Control Variable	30
3.6.1	Firm Size	30
3.6.2	Advance to Deposit Ratio (ADR)	31
3.7	Econometric Model	31
3.8	Measurement of Variables	32
3.9	Summary of Hypothesis	33
4	Result and Discussion	35
4.1	Descriptive Statistics	35
4.2	Panel Data Analysis	38
4.3	Impact of Board Characteristics and Ownership on Deposit Sustainable Growth	38
4.4	Moderating Role of Female Representation Amongst Board Size and Deposit Sustainable Growth	40
4.5	Moderating Role of Female Representation Amongst Independent Board and Deposit Sustainable Growth	41
4.6	Moderating Role of Female Representation Amongst Foreign Ownership and Deposit Sustainable Growth	43
4.7	Moderating Role of Female Representation Amongst Characteristics and Ownership with Deposit Sustainable Growth	45
4.8	Impact of Board Characteristics and Ownership on Earning Per Share Sustainable Growth	46
4.9	Moderating Role of Female Representation Amongst Board Size and Earning Per Share Sustainable Growth	48
4.10	Moderating Role of Female Representation Amongst Independence Board and Earning Per Share Sustainable Growth	49
4.11	Moderating Role of Female Representation Amongst Independence Board and Earning Per Share Sustainable Growth	51

4.12	Moderating Role of Female Representation Amongst Characteristics and Ownership with Earning Per Share Sustainable Growth	52
4.13	Impact of Board Characteristics and Ownership on Retain Earning Sustainable Growth	54
4.14	Moderating Role of Female Representation Amongst Board Size and Retained Earning Sustainable Growth	55
4.15	Moderating Role of Female Representation Amongst Board Size and Retained Earnings Sustainable Growth	56
4.16	Moderating Role of Female Representation Amongst Foreign Ownership and Sustainable Earning Growth	57
4.17	Moderating Role of Female Representation Amongst Characteristics and Ownership with Earning Per Share Sustainable Growth	59
5	Conclusion and Recommendation	61
5.1	Conclusion	61
5.2	Recommendation and Policy Implication	63
5.3	Limitation and Direction for Future Researchers	64
	Bibliography	65

List of Figures

2.1 Conceptual Framework	25
------------------------------------	----

List of Tables

3.1	Sample Size	27
3.2	Variable Definition and Measurement	32
4.1	Results of Descriptive Statistics	36
4.2	Results Board Characteristics and Ownership on Deposit Sustainable Growth	39
4.3	Results of Female Representation Amongst Board Size and Deposit Sustainable Growth	40
4.4	Results of Moderating Role of Female Representation Amongst Independent Board and Deposit Sustainable Growth	42
4.5	Results of Moderating Role of Female Representation Amongst Foreign Ownership and Deposit Sustainable Growth	44
4.6	Results of Moderating Role of Female Representation Amongst Characteristics and Ownership with Deposit Sustainable Growth	45
4.7	Results of Board Characteristics and Ownership on Earning Per Share Sustainable Growth	47
4.8	Results for EPS with Interaction Term (FR*BS)	48
4.9	Results for EPS with Interaction Term (FR*BI)	50
4.10	Results of Moderating Role of Female Representation Amongst Independence Board and Earning Per Share Sustainable Growth	51
4.11	Results of Moderating Role of Female Representation Amongst Characteristics and Ownership with Earning Per Share Sustainable Growth	53
4.12	Results of Board Characteristics and Ownership on Retain Earning Sustainable Growth	54
4.13	Results of Moderating Role of Female Representation Amongst Board Size And Retained Earnings Sustainable Growth	55
4.14	Results of Moderating Role of Female Representation Amongst Board Size And Retained Earnings Sustainable Growth	57
4.15	Results for ERG with Interaction Term (FR*FO)	58
4.16	Results of Moderating Role of Female Representation Amongst Characteristics and Ownership with Earning Per Share Sustainable Growth	59

Abbreviations

ADR	Advance To Deposit Ratio
BI	Board Independence
BOD	Board of Director
BS	Board Size
CEOD	CEO Duality
CG	Corporate Governance
DEPG	Deposit Growth
EPSG	Earning Per Share Growth
FO	Foreign Ownership
FR	Female Representation
FS	Firm Size
SECP	Security Exchange Commission
SG	Sustainable Growth

Chapter 1

Introduction

This chapter gave a brief introduction and background of the study and also clearly defined the problem statement of the study, research objective, research question and significance of the research.

1.1 Introduction

Corporate governance is establishing a framework that is essential for achieving organizational objectives through monitoring and control of firm performance. In the early 21st century, high-profile corporate scandals such as those involving Kobe Steel, Lehman Brothers, Equifax, and Enron, drew global attention, highlighting the critical importance of strong corporate governance. These cases report that how governance failures can severely impact share prices and stakeholder trust. Research indicates that effective corporate governance mechanisms enhance sustainable performance, optimize resource allocation, and foster stronger shareholder relationships compared to poorly governed organizations.

A key component of corporate governance is the board of directors, which plays a pivotal role in overseeing company leadership, ensuring accountability, and acting in the best interests of shareholders. By upholding strong governance practices, boards can mitigate risks, enhance transparency, and drive long term organizational success. (Zhu, Husnain, Ullah, Khan, & Ali, 2022).

Corporate governance CG is mechanism for enable the exanimating and monitoring of organization that allows them to keep away from big problem and failure. According to (CG code), directors BODS is responsible for organizing, managing, and controlling the firm's operation. Corporate governance consequences are not only significant for the corporation but also fulfilling its legal obligations in enlightening organization position and efficiency that outcome in positive organizational environment and good associations with for all type of investors. Corporate governance is vital element for brand image well being of the firms. (Alabdullah et al., 2022). CG structure is assembled on the values of 'transparency' of the actions, 'accountability' on the way to stockholders, and 'fairness' in businesses (Hidayat & Utama, 2015).

As an emerging economy, Pakistan faces unique challenges that necessitate a long term approach to sustainable development to enhance market competitiveness. The country' growing trade deficit and declining foreign direct investment (FDI) highlight the urgent need for regulatory reforms to strengthen investor confidence and attract both domestic and foreign investment.

In this context, understanding the role of corporate governance particularly the influence of board characteristics on sustainable growth becomes crucial. Effective governance mechanisms can enhance transparency, accountability, and strategic decision making, thereby fostering long term business resilience. By analyzing how board attributes contribute to sustainable performance, this research aims to provide insights that can help policymakers and corporate leaders improve governance frameworks, ultimately driving economic stability and growth in Pakistan. (Ikram, Zhou, Shah, & Liu, 2019). over the past decades, most important debate has emerged related to effectiveness of corporate governance and the role in mitigating agency issue between agent and principle. In this response the securities and exchange commission of Pakistan introduce the code of corporate governance in 2002. Over the past two decades, significant debate has emerged regarding the effectiveness of corporate governance systems and their role in mitigating agency conflicts between management and shareholders. In response to these discussions, the Securities and Exchange Commission of Pakistan (SECP) introduced the Code of Corporate Governance in 2002, establishing minimum governance standards.

This code aimed to standardize governance practices and enhance transparency through stricter disclosure requirements.

The regulatory frame work was further strengthened with the listed companies (code of corporate Governance) Regulations 2017, which is imposed several requirements for board to include at least two independent directors or one third independent membership and mandate for all listed companies to appoint at least one female director. (Amin, Rehman, Ali, & Mohd Said, 2022)

The governance code limits the number of executive directors, including the Chief Executive Officer, to no more than one-third of the board. It also requires listed firms to appoint at least one female director. In this regard, several studies (Ullah, Fang, & Jebran, 2019; Wang, Abbasi, Babajide, & Yekini, 2019) have explored the impact of gender-diverse boards on firm performance in Pakistan, but their findings have been inconsistent. For instance, Ullah et al. (2019), analyzing 220 Pakistani listed firms from 2010 to 2017, found that female directors positively influence firm value, with a more pronounced effect in non-state-owned enterprises. In contrast, Wang et al. (2019), focusing on PSX 100 index firms from 2011 to 2014, reported no significant impact of female directors on firm performance. These conflicting results underscore the need for further research on the role of female directors in shaping firm outcomes, which could inform future improvements in governance regulations.

Additionally, Pakistan's male dominated cultural environment often limits women's access to formal education and professional opportunities. Women also face systemic barriers that hinder their progression to boardrooms and restrict their involvement in corporate decision-making (Amin, Rehman, Ali, & Ntim, 2021). In such a context, female directors who overcome societal biases and ascend to leadership positions likely possess superior strategic planning and networking skills. This makes the effectiveness of women on corporate boards a critical area of investigation one that this study seeks to explore.

The sustainable growth of banks is vital for the overall economic stability and development of a country. In Pakistan, the banking sector faces unique challenges and opportunities that shape its governance structures and sustainability practices. Recent studies emphasize the importance of board characteristics such as size,

diversity, and independence as critical factors influencing a bank's performance and long-term viability (Mollah & Zaman, 2023; A. Khan, Ullah, & Rehman, 2023).

Furthermore, ownership structures, whether state-owned, private, or foreign, play a significant role in determining how banks operate and strategize for sustainable growth (Shahbaz, Ghafoor, & Awan, 2023).

The representation of women on corporate boards has emerged as a key factor in enhancing governance quality and fostering inclusive decision-making processes. Research indicates that female board members can bring diverse perspectives, leading to better risk management and more sustainable business practices (Baker, Anderson, & Yadav, 2022).

However, the specific impact of female representation in the context of Pakistani banks remains underexplored, particularly regarding its moderating role in the relationship between board characteristics, ownership structures, and sustainable growth.

This study aims to fill this gap by investigating how board characteristics and ownership influence the sustainable growth of Pakistani banks, with a particular focus on the moderating effect of female representation on boards.

By analyzing these dynamics, this research seeks to provide valuable insights into how enhanced governance through gender diversity can contribute to the sustainable development of the banking sector in Pakistan.

In recent years, the role of women in leadership positions has gained prominence in discussions surrounding corporate governance. Research suggests that diverse boards, particularly those that include female members, can enhance decision-making processes and lead to more innovative and sustainable practices.

Female representation on boards is not just a matter of equity; it also contributes to improved financial performance and better risk management.

By examining the moderating role of female representation, this study aims to highlight how gender diversity can influence the relationship between board characteristics, ownership structures, and sustainable growth.

1.2 Theoretical Background

This section discusses the main underpinning theories, including agency theory and stakeholder theory and its background.

1.2.1 Agency Theory

[Jensen and Meckling \(1976\)](#) developed the agency theory, discuss that posts the separation of ownership between principal and agent give rise the agency conflict. Manager act as a utility maximizer, the interest of the manager diverse from the interest of the shareholder giving rise to principal agent conflict. For example, shareholders typically prefer long term investments to maximize firm value, whereas managers may prioritize short-term projects to secure higher salaries and personal benefits ([Pucheta-Martínez, Bel-Oms, & Olcina-Sempere, 2016](#)). Agency theory also handled issue between owner and management as agency cost. So agency cost is based on shareholder and manger relationship and problems. Basically, cost is observing controlling directing and administrative expense acquired by the principal and manager in line directors interest to that of the business behalf.

Agency theory highlights the vital governance function of independent directors in monitoring and overseeing executive directors. Their independence from management ensures objective oversight, reducing agency conflicts between shareholders and executives. By providing unbiased scrutiny of strategic decisions and operational performance, independent directors enhance corporate governance quality, ultimately contributing to firm value creation ([Fama & Jensen, 1983](#)).

[Costa and Martins \(2019\)](#) CEO duality refers to a governance structure where the same individual holds both the positions of Chief Executive Officer (CEO) and Chairman of the board. According to Fama and Jensen (1983), this dual role creates a conflict of interest between ownership and management a key concern addressed by agency theory. When the CEO also serves as the board chairman, the board's ability to independently monitor and evaluate executive decisions is weakened. This lack of separation may grant the CEO excessive influence, increasing

the risk of self serving actions that prioritize personal interests over shareholder value. Consequently, CEO duality can lead to weaker corporate oversight, higher agency costs, and potential financial losses for shareholders.

Another debate about agency theory in the context of various multilateral boards, according to this theory that senior directors and the size of the board may also affect the firm performance and they have also become a reason for manipulation in financial reporting (Bonazzi & Islam, 2007; Vitolla, Raimo, & Rubino, 2020). This theory also stated that the BODs play an important role in managing and monitoring managers, as well as overseeing and monitoring manager's operations and resolving conflicts (e.g., compensation, CEO turnover) between principals and agents. When the board is diversified, it can better perform its monitoring tasks (Masulis & Mobbs, 2014). A more diverse board may be more effective in dealing with a variety of company concerns.

1.2.2 Stakeholder Theory

According to the stakeholder theory outlined by Freeman (1984), the BOD should strive to create policies that give equal consideration to the interests of all stakeholders. Customers, government communities, suppliers, shareholders, and employees are some of the stakeholder groups.

Freeman and Shipp (1984), defines the stakeholder theory as “any individuals or number of individuals who can affect or affected by the achievement of the organization's goals”

Stakeholder theory highlight that the board characteristics must use its network to protection company decisions remained beneficial to all the concerned business associates. (Abdullah & Valentine, 2009). Top management (dependent and independent directors) works for the betterment of all stakeholders.

Zhang, Zhu, and Ding (2013), this research investigate the large number female leader on boardroom to achieve goals along with the skill and knowledge even though the female's are less risk averse there are boost the sustainable growth of the organization.

When organizations allocate greater resources to meet the needs and demands of stakeholders, the stakeholders make more contributions to the organization for productive activities. (Harrison, Bosse, & Phillips, 2010).

According to Freeman, Dmytiryev, and Phillips (2021), modern corporations must balance the interests of shareholders, employees, customers, and communities to ensure long-term viability. Foreign investors, particularly institutional ones, are more likely to invest in companies that align with stakeholder theory, as these firms demonstrate resilience in volatile markets (Gillan, Koch, & Starks, 2021).

Board characteristics play a pivotal role in implementing stakeholder-oriented governance. Recent research highlights that gender-diverse and internationally experienced boards are more effective in addressing stakeholder concerns (Almazan, Cueto, & Garcia-Sanchez, 2023).

These governance enhancements make firms more attractive to foreign investors, who often prefer transparent and accountable leadership structures (Cuomo, Mallin, & Zattoni, 2023).

Foreign ownership has been a key driver of governance reforms, particularly in emerging markets. A 2022 study by Dharwadkar, Goranova, and Brandes (2022) revealed that foreign institutional investors push for greater board independence and ESG disclosures, aligning firms with global best practices. Additionally, cross-border investors tend to favor companies with strong stakeholder engagement, as these firms exhibit better long-term performance (Ferreira, Matos, & Prado, 2021).

However, cultural and regulatory differences can influence the extent to which foreign ownership translates into governance improvements (Kang & Kim, 2024).

For instance, in jurisdictions with weak legal enforcement, foreign investors may struggle to enforce stakeholder-friendly policies.

Recent studies (2021-2024) suggest that firms combining strong stakeholder engagement with robust board oversight achieve superior financial and non-financial outcomes. Future research should explore how digital transformation and AI-driven governance tools can further enhance stakeholder inclusivity. As global investment flows increase, the convergence of these factors will likely shape the next generation of sustainable business practices.

1.3 Problem Statement

Pakistan represents emerging economy within the globe. which often face challenges such as weak legal frameworks, low-quality institutional environments, and inadequate shareholder protection, these factors contribute to weak CG may lead to an unproductive board, which potentially, may contribute to organization failure. (Yehi, Melmusi, et al., 2019)

The emphasis on corporate governance gained following major global financial scandals, such as those involving Enron and WorldCom, which highlighted the need for stronger regulatory frameworks (Abu, Okpeh, & Okpe, 2016). In response, the Securities and Exchange Commission of Pakistan (SECP) introduced the Code of Corporate Governance in March 2002 to enhance regulatory oversight and enforcement (Letza, Kirkbride, Sun, & Smallman, 2008).

The female representation on board point of view, the code (Code of Corporate Governance) Regulation,2017 mandated that all listed companies appoint at least one female director, aligning with international efforts to enhance board diversity. While the effectiveness of gender quotas in improving governance and financial outcomes remains a subject of debate worldwide, this regulatory intervention in Pakistan presents a unique opportunity to examine its implications.

Given the mandatory nature of this provision, it is imperative to assess how female board representation influences firm performance among Pakistan Stock Exchange (PSX)-listed companies. This study seeks to investigate whether the enforced female director enhances corporate governance, decision-making quality, and overall firm outcomes, contributing to both academic discourse and policy evaluation in emerging markets.

The choice of the topic is explained by the important of the notion of sustainable development, which becomes a central element in political and economic debate, moreover the number of studies focusing on the impact of board characteristic and foreign ownership on sustainable growth of Pakistani firms is still in debate. The few available studies analyzed the results between board and foreign ownership and sustainable growth. Prior research presents mixed findings regarding the

relationship between board size and firm performance (FP). Some studies, such as those by (Aminu, Aisha, & Muhammad, 2015) and (Eisenberg, Sundgren, & Wells, 1998), suggest a negative association between board size and FP. Conversely, other research, including (Chen & Al-Najjar, 2012), supports or partially supports a link between board size and firm performance.

Additionally, board independence has been found to negatively correlate with board size, though Bhagat and Black (2001) observed no significant relationship between independent directors and FP. These varying results highlight the complexity of board structure's impact on firm performance.

when a manager holds a dual executive position, they tend to prioritize the business's profit, leading to a reduction in agency costs (Mubeen, Han, Abbas, Álvarez Otero, & Sial, 2021). Extensive research indicates that CEO duality negatively affects firm performance by intensifying agency conflicts (Wijethilake & Ekanayake, 2020).

The research try to fill gap by studying the effect of foreign ownership on the different aspects of sustainable development in Pakistani banks on a panel of 13 commercial banks over the period of 2013 to 2023. The results of the research corporate governance, board characteristics and foreign ownership in sustainable growth in discovered in established nations, like China and US with mixed conclusion, Subsequently, this investigate how these variables relate to each other from the Pakistani perspective of commercial banks.

In Pakistan, corporate ownership structures differ significantly from those in many other countries, with a majority of companies listed on the Pakistan Stock Exchange (PSX) being family controlled.

These families typically hold dominant shareholdings, allowing them to oversee and direct all financial and operational decisions. While board characteristics and foreign ownership can play a role in promoting sustainable growth, Pakistan faces persistent challenges due to its unstable democratic system, which has fostered widespread corruption and weak governance (Waheed & Malik, 2021). This environment undermines transparency, discourages foreign investment, and hampers long-term economic development.

1.4 Research Question

1. Do board characteristics (board size, board independence, CEO Duality) affect sustainable growth?
2. Does foreign ownership affect sustainable growth?
3. Does Female representation moderate the relationship between board characteristics and sustainable growth?
4. Does Female representation moderate the relationship between foreign ownership and sustainable growth?

1.5 Research Objective

1. To provide insight about the impact of board characteristics (board size, board independence, CEO Duality) on sustainable growth of bank in Pakistan.
2. To assess the influence of foreign ownership on sustainable growth of bank in Pakistan.
3. To investigate the moderating role of female representation in enhancing the effectiveness of board structures on sustainable growth.
4. To examine the moderating role of female representation in strengthening the relationship between foreign ownership and sustainable growth.

1.6 Significance of the Study

This study is significant in several ways. First, it contributes to the existing literature on corporate governance and sustainable development by providing empirical evidence from the context of Pakistan. Second, it offers practical insights for policymakers, banking executives, and regulatory bodies on the importance of fostering diversity within corporate governance structures. By emphasizing the role of female representation, this research advocates for more inclusive practices that can drive sustainable growth in the banking sector.

In conclusion, this thesis aims to provide a comprehensive analysis of how board characteristics and ownership structures influence the sustainable growth of Pakistani banks, with an emphasis on the crucial role that female representation can play in this dynamic. By addressing these relationships, this research aspires to contribute to the broader discourse on corporate governance and sustainability in emerging markets.

As an emerging market, Pakistan inherited its corporate system from the colonial era and has undergone significant transformations over the decades. The 1950s and 1960s were characterized by private sector dominance in business. However, in the early 1970s, Pakistan shifted toward nationalization, bringing most businesses under state control.

By the 1980s, discussions emerged about reducing the state's role in the economy. Over the past three decades, a clear paradigm shift has occurred, marked by liberalization and privatization policies that expanded the private sector's influence. This shift was supported by reforms in the corporate sector to enhance governance. Key milestones include the introduction of the Code of Corporate Governance in 2002. The code was later amended in 2012, making it mandatory for companies to appoint at least one independent director. In 2013, the Securities and Exchange Commission of Pakistan (SECP) introduced governance rules for public sector companies.

Further reforms in 2017 strengthened the corporate governance framework, including a landmark requirement for companies to appoint at least one female director. These initiatives reflect Pakistan's ongoing efforts to improve corporate governance and align with global best practices.

1.7 Plan of Study

This study is mainly divided into five chapters. The first chapter is to establish the foundation of research by providing the introduction and background information on the topic and overall theoretical review. It also identifies the research problem and the significance of the study along with the research aim, research question, and research objectives.

to guide the investigation. The chapter two present literature review also examines previous studies, compares their findings, and analyzes how they studied similar issues in different situations. This chapter also explains key concepts and provides a theoretical understanding of the topic.

The chapter three focuses on the research methodology, detailing the sample selection and the econometric model used for analysis. The chapter four presents the results and key findings derived from the sample data. These findings are thoroughly discussed and supported by existing literature, using both internal and external sources to validate the study's claims. This discussion helps achieve the research's main objectives. Finally, the chapter five serves as the conclusion, summarizing the entire research. It provides an overview of the findings, offers practical recommendations based on the results, and discusses their implications. The chapter also acknowledges the study's limitations and suggests potential directions for future research.

Chapter 2

Literature Review

The literature of this study discusses the various themes related to board Characteristics and ownership structure. First literature examines the empirical evidence in the perspective of board characteristics and ownership its consequences of it terms of change in corporate governance. It also discusses and formulates the hypotheses in context on Pakistani banks and sustainable growth with the moderating effect of female representation on board.

The Sustainable Growth (SG) refers to the maximum rate at which a company can grow its sales, earnings, and assets without increasing its leverage or facing liquidity issues by Gibson, 2000. Achieving a high sustainable growth rate is essential for firms that want to grow while maintaining financial stability and strategic alignment with long-term goals. SG can be used to indicate a company's ability to manage its investments and resources in order to maintain long-term viability. This relates to the business idea known as the "triple bottom line," which focusses not just financial results (earnings) but also social (people) and environmental (planet) effects. According to [Higgins \(1977\)](#) establishes a company's maximum growth without depleting its financial resources. Thus, it is anticipated that a company's capital structure specifically, its dividend policy and the issuing of new equity will be impacted by its sustained expansion.

According to [Ashta \(2008\)](#), SG is the growth rate that permits a company to grow without experiencing either too much or too little cash flow. Apart from [Higgins \(1977\)](#), Van Home's sustainable growth model looks at business growth from a

dynamic perspective (Fonseka, Ramos, & Tian, 2012) assess how important the distinctions between two rival SG models are. It was discovered that Higgins' SG is more susceptible to changes in financial parameters than Van Home's SG, and that the sample size loss from both models is about the same.

The SG, which shows the percentage of retained returns reinvested by equity holders, is a free way for a business to finance itself. Irredeemable equity capital, a key component in assessing a company's financial independence, makes it sustainable. Vuković, Tica, and Jakšić (2022) defined SG as a firm's ability to achieve sustainable and responsible market expansion while preserving competitiveness and ensuring survival in a volatile market environment. The SG in this study assesses a bank's ability to expand without outside funding support.

Higgins' Retained Sustainable Growth (SG)

$$SGR = \frac{RE_t - RE_{t-1}}{RE_{t-1}} \quad (2.1)$$

Where:

- RE_t = Retained Earnings at time t
- RE_{t-1} = Retained Earnings at time $t - 1$

Earnings Per share Sustainable Growth

$$\text{Earnings Growth} = \frac{EPS_t - EPS_{t-1}}{EPS_{t-1}} \quad (2.2)$$

Where:

- EPS_t = Earnings Per Share at time t
- EPS_{t-1} = Earnings Per Share at time $t - 1$

Deposit Sustainable Growth

$$\text{Deposit Growth} = \frac{Deposit_t - Deposit_{t-1}}{Deposit_{t-1}} \quad (2.3)$$

Where:

- $Deposit_t$ = Total Deposits at time t
- $Deposit_{t-1}$ = Total Deposits at time $t - 1$

2.1 Board Size and Sustainable Growth

The BODS is highest body of a company that is responsible for managing the firm and its operation. It plays vital role in strategic decisions regarding financial mix.

In the literature on corporate governance, the connection between board size and sustainable growth (SG) has drawn more and more attention. The greatest at which a business can increase sales, profits, and other important financial metrics without running into liquidity or financial difficulties is known as the "sustainable growth" (Higgins, 1977). Because it guarantees long-term profitability, resilience, and value creation, achieving a high and sustainable growth is a crucial goal for businesses. The size and makeup of a company's board of directors, in particular, have a significant impact on governance structures and a firm's capacity to sustain this trajectory of expansion.

According to agency theory Jensen and Meckling (1976), larger boards may reduce agency costs by enhancing managerial action monitoring and control. Larger boards are seen to have the ability to lower the danger of managerial opportunism, allowing businesses to implement more long-term growth plans. More varied experience from a larger board can assist businesses in recognizing sustainability-related long-term risks and possibilities, such as shifting consumer tastes, resource scarcity, and environmental restrictions (Post, Rahman, & Rubow, 2011).

Agency theory does, however, also caution against the possible inefficiencies that could arise in larger boards due to issues with coordination and a decrease in individual accountability (Lipton & Lorsch, 1992).

Some studies suggest that larger boards lead to greater governance, better decision making, and the capacity to acquire resources required for long-term growth, and that there is a positive association between board size and sustainable growth rate.

However, Johnson and Greening (2013) discovered that larger boards were positively associated with greater company growth, particularly for companies that

are subject to intense regulatory scrutiny or operate in fields that demand a high level of knowledge. They contend that larger boards enable businesses to better handle external obstacles and execute sustainable growth strategies because they contribute more networks, skills, and expertise.

In Previous research presents conflicting findings regarding the association between board size and firm. While [Florackis \(2005\)](#) shown larger boards enhance firm performance, other studies ([Eisenberg et al., 1998](#)) found no significant relationship between board size and financial performance.

H1: Board Size has a positive association with sustainable Growth

2.2 Independent Board and Sustainable Growth

Corporate governance is widely recognized by corporate peoples and companies as a critical factor effecting firm performance, underscoring its importance in ensuring corporate success. It comprises three key components: board characteristics, ownership structure, and internal control.

According to [Alabdullah \(2021\)](#), CG mechanisms act as a quality signal for stakeholders, shaping their financing decisions. Many stakeholders evaluate prospects based on a company's governance practices, with board independence being a particularly significant measure. A higher proportion of independent, non-executive directors signals strong governance, as these directors remain free from management influence and focus solely on strategic oversight and decision-making ([Bergh et al., 2016](#)).

Corporate boards typically consist of two executive and non-executive directors, each with distinct roles and levels of independence. Executive directors actively oversee daily management operations while simultaneously serving as company officers. In contrast, non-executive directors maintain independence from operational involvement, focusing instead on governance oversight. This structural separation enables non-executive directors to serve as effective monitors for shareholders, providing objective evaluation of management decisions and strategic direction.

The significance of independence directors in overseeing management and defending long term interests particularly with regard to sustainability has been underlined more and more by corporate governance changes. The function of independent directors in promoting a sustainable growth (SG) has emerged as a key research topic as businesses aim for long-term profitability, expansion.

Agency theory posits that greater board independence enhances firm performance through improved monitoring efficacy (Fama & Jensen, 1983). Independent directors, being external to management, provide more objective oversight compared to executive directors whose dual roles as decision-makers and monitors may create conflicts of interest. Their detachment from daily operations enables independent directors to prioritize shareholder interests rather than managerial self-interest (Fama & Jensen, 1983).

Existing literature shows that non-executive director play a crucial role in mitigating agency cost and enhancing corporate governance effectiveness. Empirical evidence suggests that board independence positively and significantly influence profitability as well as board independence contribute to improve the financial performance of the company.

While some studies confirm positive results of and growth (Alabdullah, 2021). These mixed results highlight the complexity of corporate governance dynamics and suggest that the effectiveness of independent directors may depend on contextual factors. Several studies found that independent directors have a positive impact on a company's ability to achieve a sustainable growth rate by improving governance quality, enhancing strategic decision-making, and ensuring long-term value creation. Empirical studies present mixed findings regarding the relationship between board independence and firm performance. While some scholars have identified a positive association between independent directors and firm performance (Coleman & Biekpe, 2006), others have found no significant relationship (Sanda, Mikailu, & Garba, 2010). Notably, Bhagat and Black (2001) comprehensive study concluded that the proportion of non-executive directors shows no systematic correlation with firm performance

H2: Independent Director has a positive association with sustainable Growth

2.3 CEO duality and Sustainable Growth

CEO duality occurs when the same individual holds both the chief executive officer (CEO) and board chairman positions. This governance structure, prevalent in modern corporations, consolidates leadership and decision making authority within a single person. Research suggests that CEO duality significantly influences a firm's financial performance, profitability, and long-term sustainability, making it a critical consideration in corporate governance analysis.

According to [Fama and Jensen \(1983\)](#), decision control and management should be kept apart in a company. The decision control role includes the authority to approve and oversee new proposals for the distribution of the company's resources, whereas the decision management function includes the authority to propose and carry out new suggestions. A series of internal checks and controls guarantee this separation. This system makes it easier to use the company's resources wisely.

CEO duality refers to a governance structure where a single individual serves at the same time as both chief executive officer (CEO) and board chairman. This concentration of leadership roles combines strategic decision making authority with board oversight functions within one executive. Academic research indicates this dual role has significant implications for organizational outcomes, affecting financial performance, operational efficiency, and sustainable growth potential, thereby making it a pivotal element in corporate governance evaluation ([Khan & Wang, 2021](#)).

Some scholar found that CEO duality and sustainable growth rate is positively affect the bank performance. According to [Almashhadani and Almashhadani \(2022\)](#), investors in Middel East capital markets actively seek out companies with well established corporate governance systems when making investment decisions. Stakeholders are ready to pay premium for share of firms that maintain robust governance practices. Consequently, there recognized connection between goverance mechanisms and firm performance. Researchers emphasize the importance of understanding board characteristics and their impact on organizational outcomes. They conclude that when the CEO also holds the position of Chair, it has a detrimental effect on firm survival, regardless of whether the firm is domestic or

foreign. [Hsu, Lin, Chen, and Huang \(2021\)](#) examined the impact of CEO-Chair duality on performance, taking into account the moderating role of information costs in Taiwan's capital market.

Previous studies investigated the relationship between CEO duality and firm performance in listed companies using the generalized method of GMM technique. Their findings revealed a insignificant effect of CEO duality on growth. Though, the results became more nuanced when firm size was introduced as a moderating variable. whereas small firms exhibited a negative and significant moderating effect. These findings suggest that the influence of CEO duality on growth varies depending on firm size ([Mubeen et al., 2021](#)).

H3: CEO Duality has a negative association with sustainable Growth

2.4 Foreign Ownership and Sustainable Growth

Foreign ownership can involve individual investors, institutional investors, or foreign corporations owning shares or stakes in a company, potentially influencing its operations, management, and financial performance.

Foreign ownership is becoming more prevalent in emerging nations' economy, there has been much discussion about the literature on corporate finance and governance as well as their potential impact on sustainable growth. The recent findings that are pertinent to this type of analysis will be highlighted in this review.

Another study examined the impact of foreign institutional investors on the long-term growth of Korean private companies ([Ahn, Choi, & Kwag, 2020](#)). The results of the study demonstrated that companies with a higher level of foreign ownership and those operating at a rapid pace of development outperform those with less foreign ownership in terms of realistic growth rates. The impact of ownership structure on firm performance remains a contested issue in corporate governance research. ownership concentration argue that it enhances monitoring capabilities, reduces owner-manager conflicts, and ultimately improves profitability. However, critics caution that concentrated ownership may lead to expropriation of firm resources by controlling shareholders, particularly in emerging countries where

stakeholder protections are weak and family owned businesses often operate under an owner manager model (Claessens & Yurtoglu, 2013).

The relationship between family ownership and profitability presents particularly mixed outcomes in emerging markets. Due to weaker institutional frameworks and market conditions, the effects of family ownership tend to be more pronounced in developing economies compared to developed ones.

In many emerging markets, family members frequently occupy organization situations in family owned firms (Lins, 2003), which can help align managerial incentives with ownership interests (Kho, Stulz, & Warnock, 2009).

This dynamic differs from developed markets, where ownership structures are typically more diluted, and family involvement in management is less common factors that may weaken the link between family ownership and profitability.

According to the research, foreign ownership and institutional presence together may contribute to the establishment of an environment that is conducive to the sustainability of businesses in Pakistan (Hamid, Ashraf, & Khalid, 2020).

The study's conclusions indicate that foreign institutional ownership leads to substantial and long-lasting growth by showing how international professional investors are crucial to the growth and development of business corporations.

Lin, Chen, and Chen (2020) concentrates on the relationships and connections between foreign institutional investors and companies' long-term success. Since businesses with higher FII ownership often grow faster than those with lesser FII ownership, study results show that FII ownership is a linear determinant for sustainable development.

According to Nguyen, Nguyen, and Nguyen (2020), international institutional investors may also be concerned about their capacity to maintain the expansion in businesses.

According to this study, FII ownership follows the pattern of sustainable growth, and growth will be faster when FII is larger than when it is lower.

H4: Foreign ownership has a positive association between sustainable Growth

2.5 Female Representation Moderate the Relationship between Board Characteristics and Sustainable Growth

In emerging countries, little research has been done on board characteristics and ownership on sustainable growth. This research concentrate on moderating role of female representation and board characteristics are related to sustainable growth.

Female representation on board of directors is a key aspect of board characteristics, according to surveys on report that female representation on board of companies, it is concluded under representation of female but many countries are now implementing initiatives to improve women in boardrooms. For the theoretical perspective, agency theory suggests a positive association with firm performance.

Agency theory, in particular, posits that women much like foreign directors, ethnic minorities, and independent shareholders help mitigate information biases, enhance problem-solving, and contribute to stronger strategic decision-making.

Pervious studies highlight that positive influence female directors is a key aspect in corporate decision making chen at al, 2018 argue that female directors are more inclined to implement performance-based incentive system and provide evidence of a positive relationship between female directors and subsumable growth.

The study indicates a positive and significant relationship between the presence of female directors on a board and firm performance. (R. B. Adams, 2016) and (Saleh, Latif, & Bakar, 2018) further support this finding, that greater board gender diversity is positively and significantly linked to improved performance. Their research suggests that firms with higher female representation on their boards tend to achieve better performance outcomes. In Pakistan, the majority of the top firms and publicly traded corporation are run by men (Siddiqui & Atique, 2020). Over the past few decades, researchers, policymakers, and investors have increasingly emphasized the importance of female participation in corporate leadership a discussion that has gained traction in emerging economies like Pakistan. Historically, Pakistan's cultural norms have restricted women's rights, resulting in male dominance in upper management positions. However, recent years have

witnessed a gradual shift, driven by improved access to education for women and regulatory reforms.

A key factor in this progress is Pakistan's corporate governance laws, which mandate gender diversity in leadership roles (Younis, Hashmi, Khalid, & Nazir, 2016). These regulations require a certain proportion of female representation on Boards of Directors (BODs).

The presence of women in executive leadership roles is gradually increasing in Pakistan's corporate landscape. However, female representation on Boards of Directors (BODs) and board characteristics remains an under researched area in the Pakistani context. Globally, various organizations monitor and advocate for gender diversity in corporate leadership (Velte, 2019). In Pakistan, regulatory bodies such as the Securities and Exchange Commission of Pakistan (SECP), along with other institutions, play a crucial role in promoting female inclusion in BODs and board characteristics. Their efforts are helping to reshape corporate governance norms, ensuring greater gender diversity in decision making positions.

Recent research highlights that female board representation significantly moderates the relationship between board characteristics particularly board size and CEO duality independent director dynamics growth. Larger boards often face coordination challenges, but studies suggest that gender diversity mitigates these issues by improving decision-making efficiency. García-Sánchez, Hussain, and Martínez-Ferrero (2021) found that female directors enhance deliberation quality in larger boards, fostering consensus and reducing conflicts, which positively impacts growth. Similarly, (Nguyen et al., 2020) demonstrated that women directors improve governance oversight in expansive boards, leading to more strategic resource allocation. However, the effectiveness of this moderating role depends on institutional and cultural contexts. For instance, (Ali, Hashmi, & Meo, 2023) noted that in emerging markets like Pakistan, female directors' influence on growth is stronger when supported by regulatory frameworks promoting gender equality. The interaction between female representation and independent director dynamics also plays a crucial role in sustainable growth. Independent directors are expected to provide unbiased oversight, but CEO dominance can weaken their effectiveness. Research by Jiang and Zhang (2024) revealed that female directors strengthen

board independence by challenging CEO hegemony and encouraging rigorous debate, which enhances long-term growth prospects. Post and Byron (2020) further argued that women directors improve stakeholder engagement, ensuring that independent directors consider diverse perspectives in strategic decisions. Conversely, K. Adams, Attah-Boakye, Yu, Johansson, and Njoya (2023) cautioned that in male-dominated corporate cultures, token female representation may not significantly alter power dynamics, limiting growth outcomes. Thus, the moderating effect of gender diversity depends on both the proportion of female directors and the broader governance environment. Sectoral differences further shape how female representation moderates board characteristics and growth. In innovation-driven industries, (R. B. Adams, 2016) found that gender-diverse boards optimize investments by balancing risk taking tendencies, leading to sustainable growth. Conversely, in traditional sectors, (A. W. Khan, Subhan, & Zhang, 2022) observed weaker moderating effects, as entrenched norms may restrict female directors' influence. Additionally, (Velte, 2019) highlighted that financial firms with gender diverse boards exhibit better risk management, linking board independence to stable growth.

Finally, the evolving regulatory landscape has intensified scrutiny on gender role in corporate governance. Studies like Yasser (2019) and Ashraf & Ghani (2020) emphasize that mandatory gender quotas such as those in Pakistan's corporate governance code have accelerated female inclusion, thereby strengthening the moderating effect on board effectiveness and growth.

H5: Female representation in strengthening the relationship between board characteristics board size , Independent Board, CEO duality and sustainable growth.

2.6 Female Representation Moderate the Relationship between Foreign Ownership Sustainable and Growth

The moderating role of female representation in the relationship between foreign ownership on growth has gained significant research attention in recent years.

Studies indicate that female representation enhances the positive effects of foreign investment through improved governance and strategic decision making. [García-Sánchez et al. \(2021\)](#) found that firms with higher female board representation experience stronger performance benefits from foreign ownership due to better oversight and ethical practices. Similarly, [Aluchna \(2023\)](#) demonstrated that female representation on boards help foreign owned firms achieve higher growth by fostering stakeholder trust and long term orientation.

Emerging research highlights how female facilitate the integration of foreign ownership advantages. [K. Adams et al. \(2023\)](#) showed that women leaders improve cross cultural management and operational alignment in internationally owned firms. [Chen et al. \(2022\)](#) further revealed that female on board reduce short termism, making firms more attractive to foreign investors seeking sustainable growth. These findings suggest that gender diversity acts as a crucial governance mechanism that amplifies the value of foreign investment, particularly in knowledge-intensive industries. [Aluchna \(2023\)](#) noted that the benefits are more pronounced in countries with stronger gender equality policies. These contingent factors underscore the importance of considering both organizational and national level characteristics when examining this relationship.

From a social sustainability perspective, foreign ownership has been linked to improved labor standards and human capital development in host countries. Recent empirical work shows that foreign-owned firms often provide better wages, training, and workplace safety measures compared to domestic counterparts ([Kim, 2024](#)). However, critiques highlight concerns over job displacement and cultural erosion, particularly in industries dominated by foreign entities ([Cuomo et al., 2023](#)). Policymakers must balance attracting foreign capital with safeguarding local employment and cultural integrity to ensure inclusive growth.

[Gull, Nekhili, Nagati, and Chtioui \(2023\)](#) argue that female director improve board effectiveness by strengthening oversight and reduce agency conflicts and their presence may be ensure that foreign investment are allocated more efficiency leading to better sustainable growth. Foreign ownership often drives innovation, but its success depends on effective governance. Female directors, associated with greater investments ([Chen & Al-Najjar, 2012](#)), may enhance a firm's ability to absorb foreign

knowledge and translate it into growth. [Zaefarian, Kadile, and Henneberg \(2023\)](#) demonstrated that gender-diverse boards improve market adaptation strategies in foreign-owned firms, particularly in technology-intensive industries.

H6: Female representation in strengthening the relationship between ownership and sustainable growth.

2.7 Conceptual Framework

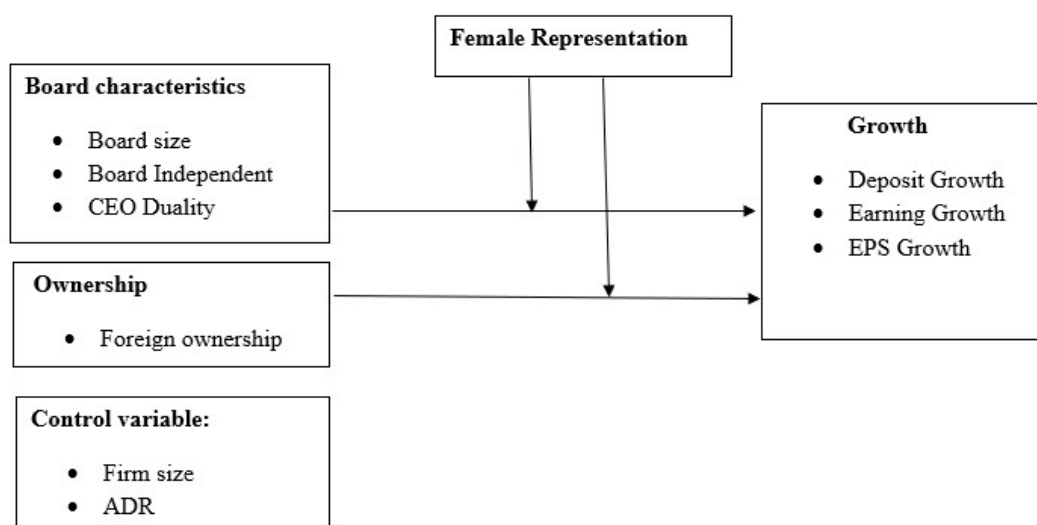


FIGURE 2.1: Conceptual Framework

Chapter 3

Data Description and Methodology

This chapter present the details regarding methodology techniques.

The first part of the section gives details of the population of the study, selection of the sample from the population, and data sources as well.

The next part relates to functional and empirical models and the last section is related to measurement.

3.1 Population and Sample Size

This chapter comes the sample and methodology and examines the link between board characteristics, ownership and sustainable growth with moderating role of female representation.

This research implements quantitative research by using a secondary data source and run panel data techniques.

The population of the study is commercial banks listed in PSX there are 20 listed banks in Pakistan Stock Exchange.

This research sample consists of 13 banks for the period of time of 2014-2023.

3.2 Data Collection

This study regulates the connection between the earning per share growth, deposit growth, Retained earning growth with explanatory variable board size, board independence, CEO duality, foreign ownership. Data of the research of all variable collected through secondary source for e.g. data collect from SECP website and company's official website.

TABLE 3.1: Sample Size

Commercial Banks	
1.	Allied Bank Limited
2.	Askari Bank Limited
3.	Bank Alfalah Limited
4.	Bank Al Habib Limited
5.	Punjab Bank Limited
6.	Faysal Bank limited
7.	Habib Bank Limited
8.	JS Bank Limited
9.	MCB Bank Limited
10.	Meezan Bank Limited
11.	National Bank Limited
12.	Standard Chartered Bank Limitd
13.	United Bank Limited

3.3 Dependent Variable

3.3.1 Retain Earning Sustainable Growth

The Sustainable Growth Rate (SG) refers to the maximum rate at which a company can grow its sales, earnings, and assets without increasing its leverage or facing liquidity issues (Gibson, 2000). Achieving a high sustainable growth is essential for firms that want to grow while maintaining financial stability and strategic alignment with long-term goals.

Retain Earning Sustainable Growth (SG)

$$SGR = \frac{RE_t - RE_{t-1}}{RE_{t-1}} \quad (3.1)$$

3.3.2 Earning Per Share Sustainable Growth

Earnings Per Share (EPS) serves as a fundamental financial ratio that quantifies the net income attributable to each outstanding common share.

As a critical profitability metric, EPS provides investors and analysts with a standardized measure to evaluate a firm's financial health and performance efficiency.

Earnings Per Share Sustainable Growth Formula

$$\text{Earnings Growth} = \frac{EPS_t - EPS_{t-1}}{EPS_{t-1}} \quad (3.2)$$

3.3.3 Deposit Sustainable Growth

Deposit Growth refers to the increase in the total value of deposits held by a financial institution, over a specific period.

This growth indicates the ability of the institution to attract savings and deposits from customers, reflecting financial stability, customer confidence, and the overall economic environment.

$$\text{Deposit Growth} = \frac{\text{Deposit}_t - \text{Deposit}_{t-1}}{\text{Deposit}_{t-1}}$$

3.4 Independent Variable

3.4.1 Board Size

The BODS is highest body of a company that is responsible for managing the firm and its operation. It plays vital role in strategic decisions regarding financial mix.

Board size is measured as the total number of directors serving on the board of

directors (BODs) during a given period (Nawaz Khan et al., 2019; Tarus, 2020). Family firms typically have smaller board sizes (Chen & Al-Najjar, 2012). Governance research suggests that boards with eight to ten members are considered effective, while larger boards may face inefficiencies.

BS = The number of directors on the board

3.4.2 Board Independence

Corporate boards typically consist of two executive and non-executive directors, each with distinct roles and levels of independence. Executive directors actively oversee daily management operations while simultaneously serving as company officers. In contrast, non-executive directors maintain independence from operational involvement, focusing instead on governance oversight.

A board consist of type directors the non- executive is not include in the organization activates and policymaking procedure restricting them as a watchdog for the owner on the other hand executive director are responsible to monitor the management. To determine the independent directors is the total number of effective directors (Ardillah, 2022)

BI= The numbers of independent non-executive directors

3.4.3 CEO /Chair Duality

CEO Duality refers to a corporate governance structure where the roles of the Chief Executive Officer (CEO) and the Chairperson of the Board of Directors are held by the same individual. This structure centralizes leadership and decision-making authority within one person, which can have both positive and negative implications for a company's performance and governance.

The decision control role includes the authority to approve and oversee new proposals for the distribution of the company's resources, whereas the decision management function includes the authority to propose and carry out new suggestions. A series of internal checks and controls guarantee this separation. This system makes it easier to use the company's resources wisely.

CEO/Chair Duality = 1, if chief executive officer and chairman are the same person = 0, Otherwise

3.4.4 Foreign Ownership

Foreign Ownership refers to a situation where individuals, companies, or entities from one country own assets, equity, or shares in a business or property located in another country. It represents cross-border investment and can occur through Foreign Direct Investment (FDI), portfolio investment, or acquisitions.

FO = Percentage of share held by the foreign institutional investors

3.5 Moderator Variable

3.5.1 Female Representation

Female on the board play a crucial role in decision making that enhance governance structure and also help to builds trust with stakeholder and improve organizational financial structure. Firms with higher female board representation experience stronger performance benefits from foreign ownership due to better oversight and ethical practices. Similarly, [Aluchna \(2023\)](#) demonstrated that female representation on boards help foreign owned firms achieve higher growth by fostering stakeholder trust and long-term orientation. Female representation consists of number of female members on the board. The approach used and measure the representation of women on the board ([Almazan et al., 2023](#)).

FR= Female members of the BOD/ Total numbers of board of directors

3.6 Control Variable

3.6.1 Firm Size

Board size measure the scale of the business determine through total assets and sale and number of workers multinational origination has more resources. It is

measured log of total assets over a specific period of time (Tarus, 2020). Total assets of the firm size defined through the natural logarithm of the total assets.

3.6.2 Advance to Deposit Ratio (ADR)

Advance to deposit ratio is key financial metric that use to indicate bank's deposit are being use for lending, offering insight into the liquidity. A higher ADR suggests he bank is using a larger portion of its deposits to fund loans. Advance to deposit ratio means proportion of funds a bank has loaned out (Advances) compared to the total amount of deposit it holds.

$$\text{ADR} = \text{Total Advances} / \text{Total Deposit}$$

3.7 Econometric Model

This section presents the economic models to analyze the relationship between board characteristics and sustainable growth. An econometric model is a statistical framework that combines economic theory, mathematics, and empirical data to analyze relationships between economic variables. It helps in testing hypotheses, forecasting trends, and quantifying the impact of different factors on economic outcomes. In the context of board characteristics, ownership structure, and sustainable growth, an econometric model examines how governance variables (such as board size, independence, director female representation, and ownership concentration) influence a firm's sustainability performance.

$$1. \text{GR}_{i,t} = \beta_0 + \beta_1 \text{BS}_{i,t} + \beta_2 \text{BI}_{i,t} + \beta_3 \text{CEOD}_{i,t} + \beta_4 \text{FR}_{i,t} + \beta_5 \text{FO}_{i,t} + \beta_6 \text{FS}_{i,t} + \beta_7 \text{ADR}_{i,t} + \mu_{i,t}$$

$$2. \text{GR}_{i,t} = \beta_0 + \beta_1 \text{BS}_{i,t} + \beta_2 \text{BI}_{i,t} + \beta_3 \text{CEOD}_{i,t} + \beta_4 \text{FR}_{i,t} + \beta_5 \text{FO}_{i,t} + \beta_6 \text{FS}_{i,t} + \beta_7 \text{ADR}_{i,t} + \beta_8 (\text{FR}_{i,t} \times \text{BS}_{i,t}) + \mu_{i,t}$$

$$3. \text{GR}_{i,t} = \beta_0 + \beta_1 \text{BS}_{i,t} + \beta_2 \text{BI}_{i,t} + \beta_3 \text{CEOD}_{i,t} + \beta_4 \text{FR}_{i,t} + \beta_5 \text{FO}_{i,t} + \beta_6 \text{FS}_{i,t} + \beta_7 \text{ADR}_{i,t} + \beta_8 (\text{FR}_{i,t} \times \text{BI}_{i,t}) + \mu_{i,t}$$

$$4. \text{GR}_{i,t} = \beta_0 + \beta_1 \text{BS}_{i,t} + \beta_2 \text{BI}_{i,t} + \beta_3 \text{CEOD}_{i,t} + \beta_4 \text{FR}_{i,t} + \beta_5 \text{FO}_{i,t} + \beta_6 \text{FS}_{i,t} + \beta_7 \text{ADR}_{i,t} + \beta_8 (\text{FR}_{i,t} \times \text{CEO}_{i,t}) + \mu_{i,t}$$

$$5. \text{GR}_{i,t} = \beta_0 + \beta_1 \text{BS}_{i,t} + \beta_2 \text{BI}_{i,t} + \beta_3 \text{CEOD}_{i,t} + \beta_4 \text{FR}_{i,t} + \beta_5 \text{FO}_{i,t} + \beta_6 \text{FS}_{i,t} + \beta_7 \text{ADR}_{i,t} + \beta_8 (\text{FR}_{i,t} \times \text{FO}_{i,t}) + \mu_{i,t}$$

$$6. \text{GR}_{i,t} = \beta_0 + \beta_1 \text{BS}_{i,t} + \beta_2 \text{BI}_{i,t} + \beta_3 \text{CEOD}_{i,t} + \beta_4 \text{FR}_{i,t} + \beta_5 \text{FO}_{i,t} + \beta_6 \text{FS}_{i,t} + \beta_7 \text{ADR}_{i,t} + \sum \gamma_i \text{FR}_{i,t} \times (\text{BC}_{i,t} \times \text{FO}_{i,t} + \mu_{i,t})$$

Where;

$\text{BS}_{i,t}$ = Board Size of bank 'i' at time 't'

$\text{BI}_{i,t}$ = Board Independence of bank 'i' at time 't'

$\text{CEOD}_{i,t}$ = CEO Duality of bank 'i' at time 't'

$\text{FO}_{i,t}$ = Foreign Ownership of bank 'i' at time 't'

$\text{FS}_{i,t}$ = Firm Size of bank 'i' at time 't'

ADR = Advance to deposit ratio of bank 'i' at time 't'

$\text{FRB}_{i,t}$ = Female Representation on board of bank 'i' at time 't'

$\text{GR}_{i,t}$ = Growth rate of bank 'i' at time 't'

3.8 Measurement of Variables

TABLE 3.2: Variable Definition and Measurement

Variable	Code	Measurement	References
Dependent Variables			
Sustainable Growth Rate	SG	SG1 = Profit margin * asset turnover ratio * asset to equity * retention rate	Minh and Bich (2023)
Earning Growth	SG	$\frac{\text{EPS}_t - \text{EPS}_{t-1}}{\text{EPS}_{t-1}}$	
Deposit Growth	SG	$\frac{\text{Deposit}_t - \text{Deposit}_{t-1}}{\text{Deposit}_{t-1}}$	
Independent Variables			

Table 3.2 (continued)

Variable	Code	Measurement	References
Board Size	BSIZE	The number of directors on the board	Johnson and Greening (2013)
Board Independence	BI	The number of non-executive or independent directors	Ardillah, 2022
CEO Duality	CEOD	1 if the CEO and the Chair are the same, otherwise 0	Amrani and Najab (2022)
Foreign Ownership	FO	Percentage of shares held by foreign institutional investors	Lin et al. (2020)
Moderator			
Variable			
Female Representation	FR	Female members on the board / Total number of directors	EmadEldeen, Elbayoumi, Basuony, and Mohamed (2021)
Control			
Variables			
Firm Size	FSIZE	Natural log of total assets	Kanakriyah (2021)
Advance Deposit Ratio	ADR	Total Advances / Total Deposits	Noor and Das (2020)

3.9 Summary of Hypothesis

H1: Board Size has a positive association with Sustainable Growth

H2: Independent Director has a positive association with Sustainable Growth

H3: CEO Duality has a negative association with Sustainable Growth

H4: Foreign ownership has a positive association between Sustainable Growth

H5: Female representation in strengthening the relationship between board characteristics board size , Independent Board, CEO duality and sustainable growth.

H6: Female representation in strengthening the relationship between ownership and sustainable growth.

Chapter 4

Result and Discussion

This chapter presents the descriptive statistics of the study variables, including their means, standard deviations, and minimum and maximum values. Subsequently, panel regression analysis is conducted using both fixed effects and random effects models. The Hausman test was then employed to determine the most suitable model. Finally, the results are evaluated to assess their alignment with the proposed hypotheses.

4.1 Descriptive Statistics

Descriptive statistics is used to examine the fundamental characteristics of the collected data, assessing its overall quality and distribution for each variable. It helps verify whether the data meets the necessary assumptions (such as normality) required for inferential statistical techniques, ensuring its suitability for further analysis.

Table 4.1 shows the results of, DEPG, EPSG and ERG, on explanatory variables are Board size, Board independence, foreign ownership and as on moderators are female representation on board and other control the variable advance to deposit ratio and firm size with their numbers of observation mean medians, minimum, maximum standard deviation, values. The 4.1 shows the consequences of the descriptive analysis of commercial banking sector in Pakistan involves 13 banks for the period from 2014 to 2023.

To estimate a bank sustainable growth, we analyze three key measures **Earnings Per Share sustainable growth, deposit sustainable growth and Earning Retention sustainable growth**. Deposits reflect the company's ability to attract and maintain capital, indicating financial stability and liquidity. EPSG measures effectiveness on a per-share basis, showing how effectively the firm generates earnings for shareholders. Retained earnings growth, the portion of net income reinvested in the business rather than distributed as dividends, highlight the firm's capacity for internal funding and long-term growth. Together, these metrics assess whether a company can sustain its expansion without excessive reliance on external financing, ensuring balanced and self-supported development.

TABLE 4.1: Results of Descriptive Statistics

Statistic	DEPG	EPSG	ERG	BS	BI	FR	FO	ADR	LTA
Mean	0.1467	0.1739	0.1383	9.1230	8.0384	0.6307	12.078	48.332	9.0463
Median	0.1294	0.1015	0.1038	9.0000	8.0000	1.0000	2.2000	47.070	9.0359
Maximum	0.5940	2.7162	2.5515	13.000	12.000	1.0000	90.000	78.400	9.8240
Minimum	-0.1169	-2.7654	-0.4157	6.0000	5.0000	0.0000	0.0000	0.5517	7.0526
Std. Dev.	0.0958	0.5792	0.2715	1.8087	1.7538	0.4844	21.520	10.502	0.4001
Skewness	1.0770	-0.2461	6.2273	0.5575	0.6508	-0.5419	2.0613	-0.3524	-1.6240
Kurtosis	6.1406	11.101	52.813	2.3538	2.6651	1.2936	5.9840	5.5602	9.7582
Jarque-Bera	78.565	356.80	14281	8.9961	9.7852	22.133	140.29	38.197	304.54
Probability	0.0000	0.0000	0.0000	0.0111	0.0075	0.0000	0.0000	0.0000	0.0000

This table presents a comprehensive statistical summary of nine financial variables

(DEPG, EPSG, ERG, BS, BI, FR, FO, ADR, LTA), offering insights into their distributional characteristics. The mean and median values reveal central tendencies, where variables like DEPG (Deposits growth, mean 0.1467, maximum of 0.594 minimum is -0.1168) and EPSG (Earnings Per Share growth, mean 0.1739, maximum of 2.716 minimum is -2.765) show positive averages, indicating general profitability. However, EPSG has a lower median (0.1015) than its mean suggesting that a few high-earning firms skew the average upward. Earning retention growth ERG indicate retain portion of earnings mean value 0.1383 and median value 0.1038, maximum of 2.551 minimum is -0.415 std. dev 0.2715 is shows variation in data.

Similarly, the standard deviation measures volatility, with EPSG (0.5792) and FO (21.520) showing the highest variability, while DEPG (0.0958) and LTA (Loan-to-Assets, 0.4001) are more stable. Skewness and kurtosis reveal distribution shapes: ERG (Earnings Retention Growth) has extreme positive skewness (6.2273) and kurtosis (52.813), indicating a heavy right tail with outliers, while LTA exhibits negative skewness (-1.6240), suggesting a left-tailed distribution. Most variables display high kurtosis (>3), signaling peaked distributions with fat tails, which is common in financial data. The Jarque-Bera test and its near-zero probabilities confirm that none of the variables follow a normal distribution, as seen in the exceptionally high-test statistics (e.g., ER: 14,281; LTA: 304.54).

Board size BS has a average number of member on boardroom shown average no of a directors on the boardroom is 10. Where the least range of BS is 5 and the max is 12 as the S.D is showed a outcome of 1.753. Non -executive director independent board IB mean value of 8.038 with a mini of value 5 and maxi 12 and S.D 1.7. FO foreign ownership mean value is 12 and minimum of 0 maximum 90 std,dev value 21 FO (0 to 90) has extreme variation, with some firms having no obligations and others very high.

As moderator variable, FR shows presence of female in the boardroom. FR average value is 1 where mini value 0 and maxi value 1 and the outcomes of S.D 0.48. [Kanakriyah \(2021\)](#) found that the means value is 0.63. Control variable, FIRM SIZE shown the subsequent results mean value of 9 whereas a minimum of 7 and a maximum of 9 presented and the results of a S.D standard deviation of 0.4. And

other variable ADR advance deposit ratio means value 48 whereas minimum 0.5 and maximum 78 whereas presented and the results of S.D 10.

4.2 Panel Data Analysis

Panel data refers to a dataset that combines **cross-sectional** (multiple entities, such as banks) and **time-series** (observations over multiple years) dimensions.

This explore to analysis the impact of board characteristics and ownership on sustainable growth of banking sector in Pakistan, data composed from various commercial banks over the period 2014 to 2023, making it a panel dataset. The dataset consists of panel data, which tracks multiple entities over time. To analyze this data, two standard econometric techniques were employed: the random effects model and the fixed effects model. To determine the most appropriate estimation method, a **Hausman** test was conducted. This statistical test evaluates whether the fixed effects or random effects model is more consistent and efficient for the given data.

4.3 Impact of Board Characteristics and Ownership on Deposit Sustainable Growth

The Equation are as follows:

$$DEPG_{i,t} = \beta_0 + \beta_1 BS_{i,t} + \beta_2 BI_{i,t} + \beta_3 CEO_{i,t} + \beta_4 FR_{i,t} + \beta_5 FO_{i,t} + \beta_6 FS_{i,t} + \beta_7 ADR_{i,t} + \mu_{i,t}$$

The results presented in the table examine the relationship between several independent variables (BS, BI, FR, FO, ADR, LTA) deposit growth

Board size has a positive coefficient of 0.020 with p-value 0.1817 and shown insignificant connection between deposit growth. Therefore, rejects the hypothesis that BS has a positive relation with growth. Independence board BI shows the negative coefficient of -0.0043 but an insignificant association with dependent variable. Consequently, rejects the hypothesis that IB has a positive relationship with growth.

TABLE 4.2: Results Board Characteristics and Ownership on Deposit Sustainable Growth

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.3202	0.2389	1.3406	0.1828
BS	0.0200	0.0151	1.3440	0.1817
BI	-0.0043	0.0152	-0.2833	0.7774
FR	0.0378	0.0079	4.7332	0.0000
FO	-0.0016	0.0008	-2.0046	0.0474
ADR	-0.0047	0.0000	-4.9640	0.0000
LTA	-0.0108	0.0231	-0.4668	0.6414
Adjusted R-squared	0.4969			
F-statistic	8.0788			
Prob(F-statistic)	0.0000			

Two variables emerge as significant predictors in the model. Female representation (FR) shows a positive coefficient of 0.0378 with a p-value of 0.0000, suggesting that higher female representation is associated with an increase in the sustainable growth. Therefore, accept the hypothesis that FR has a positive association with growth. FO foreign Ownership has a negative coefficient -0.0016 with p value 0.00474 has a significant association with Growth.

Advance to Deposit Ratio (ADR) has a negative coefficient of -0.0047 (also with $p=0.0000$), indicating that higher ADR correlate with lower values of the deposit growth. Similarly, Log of total assets (LTA) ha a negative coefficient -0.0108 with p value 0.6414. The insignificant results for these variables suggest they may not be relevant predictors in this particular model, or that their effects are too small to detect with the current sample size and model specification.

The model demonstrates moderate explanatory power, with an adjusted R-squared of 0.4969, indicating that approximately 49.7% of the variation in the dependent variable is explained by the included predictors. The F-statistic of 8.0788 with a probability value of 0.0000 confirms that the model is statistically significant overall, meaning the collective influence of the independent variables on the dependent variable is meaningful and not due to random chance.

4.4 Moderating Role of Female Representation Amongst Board Size and Deposit Sustainable Growth

The Equation are as follows:

$$\text{DEPG}_{i,t} = \beta_0 + \beta_1\text{BS}_{i,t} + \beta_2\text{BI}_{i,t} + \beta_3\text{CEOD}_{i,t} + \beta_4\text{FR}_{i,t} + \beta_5\text{FO}_{i,t} + \beta_6\text{FS}_{i,t} + \beta_7\text{ADR}_{i,t} + \beta_8(\text{FR}_{i,t} \times \text{BS}_{i,t}) + \mu_{i,t}$$

TABLE 4.3: Results of Female Representation Amongst Board Size and Deposit Sustainable Growth

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.3261	0.1912	1.7054	0.0909
BS	0.1931	0.0119	1.6097	0.1103
BI	-0.0036	0.0138	-0.2660	0.7907
FR	0.0260	0.0256	1.0159	0.3119
FO	-0.0016	0.0006	-2.7356	0.0073
ADR	-0.0047	0.0010	-4.5571	0.0000
LTA	-0.0110	0.0216	-0.5113	0.6101
FR*BS	0.0013	0.0035	0.3867	0.6997
Adjusted R-squared	0.4917			
F-statistic	7.5686			
Prob	0.0000			

This table shows the results of the given analysis; Independence variable Board size BS has a coefficient 0.1931 with p value 0.113 has a insignificant association between board size and growth. Therefore, hypothesis reject with BS and sustainable growth. Independence board IB shows the negative coefficient of -0.0036 with p value 0.7907 but an insignificant connection with dependent variable. Therefore, rejects the hypothesis that BI has a positive connection between growth.

Female representation (FR) shows a negative coefficient of 0.0260 with *ap* – value of 0.3119, insignificant relationship with deposit growth.

Similarly, in this table two variable FO and ADR has a significant predictor in the analysis, foreign ownership FO negative coefficient -0.0016 with p value 0.0073 has a significant association with growth. FO null hypothesis accepted with foreign ownership and sustainable growth. ADR shows a strong negative relationship (*coefficient* = -0.0047 , $p < 0.001$), indicating that each unit increase in ADR is associated with a 0.0047 unit decrease in the deposit growth.

LTA has a statistically significant relationships LTA ($p = 0.6101$) all had negligible effects on the deposit growth. FR*BS has a positive coefficient 0.0013 with p value 0.6997. The interaction term FR*BS ($p = 0.6997$) was also non-significant, indicating that the relationship between FR and the dependent variable does not vary significantly across different levels of BS.

These non-significant results suggest that these factors may not be important determinants of the growth in the current context, or that their effects may be high by other unmeasured variables.

Th analysis reveals several key insights about the relationship between the board characteristics with deposit growth. The model demonstrates moderate explanatory power, with an adjusted R-squared of 0.4917, indicating that approximately 49.2% of the variation in the deposit growth is explained by the included predictors.

The highly significant F-statistic (7.5686, $p = 0.0000$) confirms that the model as a whole is statistically significant, suggesting that the collective impact of the independent variables on the dependent variable is meaningful.

4.5 Moderating Role of Female Representation Amongst Independent Board and Deposit Sustainable Growth

The Equation are as follows:

$$DEP_{i,t} = \beta_0 + \beta_1 BS_{i,t} + \beta_2 BI_{i,t} + \beta_3 CEO_{i,t} + \beta_4 FR_{i,t} + \beta_5 FO_{i,t} + \beta_6 FS_{i,t} + \beta_7 ADR_{i,t} + \beta_8 (FR_{i,t} \times BI_{i,t}) + \mu_{i,t}$$

TABLE 4.4: Results of Moderating Role of Female Representation Amongst Independent Board and Deposit Sustainable Growth

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.3161	0.2157	1.4651	0.1457
BS	0.2047	0.0153	1.3349	0.1847
BI	-0.0041	0.0152	-0.2697	0.7879
FR	0.0433	0.0460	0.9426	0.3479
FO	-0.0017	0.0006	-2.7185	0.0076
ADR	-0.0047	0.0008	-5.7708	0.0000
LTA	-0.0106	0.0218	-0.4856	0.6282
FR*BI	-0.0007	0.0060	-0.1219	0.9032
Adjusted R-squared	0.4922			
F-statistic	7.5824			
Prob (F-statistic)	0.0000			

This table shows the results of the given analysis; Board size BS has a coefficient 0.2047 with p value 0.1847 has a insignificant association between board size and growth. Therefore, hypothesis reject with BS and sustainable growth. Independence board BI shows the negative coefficient of -0.0041 with p value 0.7879 but an insignificant relationship between deposit growth. Therefore, rejects the hypothesis that BI has a positive association with growth. Female representation (FR) shows a negative coefficient of 0.0433 with a p-value of 0.3479, insignificant relationship with Deposit growth. Similarly, in this table two variable FO and ADR has a significant predictor in the analysis, FO has a negative coefficient -0.0017 with p value 0.0076 has indicating association with sustainable growth. ADR has a negative coefficient -0.0047 with p value 0.001 indicating that higher compensation is associated with lower deposit growth.

Log of total asset LTA ($p = 0.6282$) all had negligible effects on the deposit growth. FR*BI has a negative coefficient - 0.0073 with p value 0.9032. The interaction term $FR * BS$ ($p = 0.9032$) also insignificant, indicating that the relationship between FR and the dependent variable does not vary significantly across different levels of BI.

These non-significant results suggest that these factors may not be important determinants of the deposit growth in the current context, or that their effects may be mediated by other unmeasured variables.

The analysis reveals several key insights about the relationship between the independent variables and the dependent variable. The model demonstrates moderate explanatory power, with an adjusted R-squared of 0.4922, indicating that approximately 49.2% of the variation in the dependent variable is explained by the included predictors.

The highly significant F-statistic (7.5824, $p = 0.0000$) confirms that the model as a whole is statistically significant, suggesting that the collective impact of the independent variables on the dependent variable is meaningful.

4.6 Moderating Role of Female Representation Amongst Foreign Ownership and Deposit Sustainable Growth

The Equation are as follows:

$$DEP_{i,t} = \beta_0 + \beta_1 BS_{i,t} + \beta_2 BI_{i,t} + \beta_3 CEOD_{i,t} + \beta_4 FR_{i,t} + \beta_5 FO_{i,t} + \beta_6 FS_{i,t} + \beta_7 ADR_{i,t} + \beta_8 (FR_{i,t} \times FO_{i,t}) + \mu_{i,t}$$

This table shows the results of the given analysis; Board size BS has a positive coefficient 0.0238 with p value 0.1142 has a insignificant association between board size and growth. Therefore, hypothesis reject with BS and sustainable growth. Independence board BI shows the negative coefficient of -0.0074 with p value 0.6309 but an insignificant association with dependent variable. BI has a positive association with growth. Female representation (FR) shows a positive coefficient

TABLE 4.5: Results of Moderating Role of Female Representation Amongst Foreign Ownership and Deposit Sustainable Growth

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.1117	0.2123	0.5265	0.5996
BS	0.0238	0.0149	1.5923	0.1142
BI	-0.0074	0.0155	-0.4817	0.6309
FR	0.0385	0.0119	3.2159	0.0017
FO	-0.0015	0.0007	-2.7356	0.0318
ADR	-0.0045	0.0007	-5.6653	0.0000
LTA	-0.0108	0.0211	-0.5112	0.6093
FR*FO	0.0012	0.0005	-2.0709	0.0398
Adjusted R-squared	0.5833			
F-statistic	8.1063			
Prob (F-statistic)	0.0000			

of 0.0385 with a p-value of 0.0017, significant relationship with deposit growth null hypothesis is accepted to relationship.

Similarly, in this tables FO and ADR has a significant predictor in the analysis, FO has a negative coefficient -0.0015 with p value 0.0318 has indicating association with deposit growth. ADR has a negative coefficient -0.0045 with p value 0.000 indicating that higher compensation is associated with lower deposit growth.

More than a few variables failed to show statistically significant relationships. LTA ($p = 0.6093$) all had negligible effects on the dependent variable. FR*FO has a positive coefficient 0.0012 with p value 0.0398. The interaction term $FR * BS$ ($p = 0.0398$) was also significant, indicating that the relationship between FR and FO.

The model demonstrates moderate explanatory power, with an adjusted R-squared of 0.5833, indicating that approximately 58% of the variation in the dependent variable is explained by the included predictors. The highly significant F-statistic (8.1063, $p = 0.0000$) confirms that the model as a whole is statistically significant, suggesting that the collective impact of the independent variables on the deposit growth is meaningful.

4.7 Moderating Role of Female Representation Amongst Characteristics and Ownership with Deposit Sustainable Growth

The Equation are as follows:

$$\text{DEP}_{i,t} = \beta_0 + \beta_1 \text{BS}_{i,t} + \beta_2 \text{BI}_{i,t} + \beta_3 \text{CEOD}_{i,t} + \beta_4 \text{FR}_{i,t} + \beta_5 \text{FO}_{i,t} + \beta_6 \text{FS}_{i,t} + \beta_7 \text{ADR}_{i,t} + \sum \gamma_i \text{FR}_{i,t} (\text{BC}_{i,t} \times \text{FO}_{i,t}) + \mu_{i,t}$$

TABLE 4.6: Results of Moderating Role of Female Representation Amongst Characteristics and Ownership with Deposit Sustainable Growth

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.1139	0.2169	0.5249	0.6007
BS	0.0014	0.0230	-0.0623	0.9504
BI	-0.0159	0.0233	0.6843	0.4952
FR	-0.0061	0.0467	-0.1320	0.8952
FO	-0.0016	0.0008	1.9813	0.0501
ADR	-0.0043	0.0009	-4.6375	0.0000
LTA	-0.0142	0.0208	-0.6836	0.4957
FR*BS	0.0431	0.0246	1.7525	0.0825
FR*BI	-0.0435	0.0264	-1.6474	0.1024
FR*FO	0.0011	0.0004	-2.7741	0.0065
Adjusted R-squared	0.5888			
F-statistic	7.3653			
Prob (F-statistic)	0.0000			

This table shows the results of the given analysis, Board size BS has a positive coefficient 0.0014 with p value 0.9504 has a insignificant association between board size and growth.

Therefore, hypothesis reject with BS and sustainable growth. Independence board BI shows the negative coefficient of -0.00159 with p value 0.4952 but an insignificant a relationship between deposit growth. Consequently, rejects the hypothesis that BI has a positive connection with growth. Female representation (FR) shows

has a negative coefficient of -0.0061 with a p-value of 0.8952, insignificant relationship with Deposit growth.

Similarly, in this table some variables FO and ADR has a significant predictor in the analysis, FO has a negative coefficient -0.0016 with p value 0.0501 has indicating significant association with deposit growth.

ADR has a negative coefficient -0.0142 with p value 0.000 indicating that higher compensation is significant associated with lower deposit growth. More than a few variables failed to show statistically significant relationships. LTA ($p = 0.4957$) all had negligible effects on the deposit growth.

As a Relationship with moderating variables, Female Representation $FR * BS$ has a positive coefficient 0.0431 with p value 0.0825. The interaction term $FR * BS$ ($p = 0.0825$) was also insignificant relationship between FR and BS.

Female representation and independent board $FR * BI$ has a negative coefficient -0.0435 with p value 0.1024 has a insignificant relationship between Growth. Female representation and foreign ownership $FR * FO$ has a positive coefficient 0.0011 with p value 0.0065 significant relationship with growth. The model demonstrates moderate explanatory power, with an adjusted R-squared of 0.5888, indicating that approximately 58% of the variation in the dependent variable is explained by the included predictors. The highly significant F-statistic (7.365., $p = 0.0000$) confirms that the model as a whole is statistically significant with deposit growth.

4.8 Impact of Board Characteristics and Ownership on Earning Per Share Sustainable Growth

The Equation are as follows:

$$EPS_{i,t} = \beta_0 + \beta_1 BS_{i,t} + \beta_2 BI_{i,t} + \beta_3 CEOD_{i,t} + \beta_4 FR_{i,t} + \beta_5 FO_{i,t} + \beta_6 FS_{i,t} + \beta_7 ADR_{i,t} + \mu_{i,t}$$

This table shows the results of the given analysis, which shows that there is impact of board characteristics on Earning per share growth. Board size BS has a negative coefficient -0.1395 with p value 0.0432 has a significant association between

TABLE 4.7: Results of Board Characteristics and Ownership on Earning Per Share Sustainable Growth

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.1.754	0.6364	2.7566	0.0060
BS	-0.1395	0.0682	-2.0454	0.0432
BI	0.0936	0.0671	1.3932	0.1663
FR	0.2892	0.0881	3.2828	0.0014
FO	0.0012	0.0015	0.8412	0.4018
ADR	-0.0212	0.0088	-2.4124	0.0175
LTA	-0.0255	0.0787	-0.3243	0.7460
Adjusted R-squared	0.2025			
F-statistic	2.8197			
Prob (F-statistic)	0.0000			

board size and earning per share growth. Therefore, null hypothesis accepted with BS and earning per share. Independence board BI shows the negative coefficient of 0.0936 with p value 0.1663 but an insignificant connection with EPSG. Consequently, null hypothesis not reject IB has a positive relationship between earning per share.

Female representation (FR) shows has a positive coefficient of 0.2892 with a p-value of 0.014, significant relationship with Dependent variable.FO has a positive coefficient 0.0012 with p value 0.04018 has indicating significant association with sustainable growth like earning per share. ADR has a negative coefficient -0.0212 with p value 0.0175 indicating insignificant association with earning per share.

LTA shows statistically significant relationships. LTA ($p = 0.746$) all had negligible effects on the earning per share growth. The model demonstrates moderate explanatory power, with an adjusted R-squared of 0.2025, indicating that approximately 20% of the variation in the earning per share growth is explained by the included predictors.

The highly significant F-statistic (2.819, $p = 0.0000$) confirms that the model as a whole is statistically significant, suggesting that the collective impact of the

independent variables on the dependent variable.

4.9 Moderating Role of Female Representation Amongst Board Size and Earning Per Share Sustainable Growth

The Equation are as follows:

$$\text{EPS}_{i,t} = \beta_0 + \beta_1 \text{BS}_{i,t} + \beta_2 \text{BI}_{i,t} + \beta_3 \text{CEOD}_{i,t} + \beta_4 \text{FR}_{i,t} + \beta_5 \text{FO}_{i,t} + \beta_6 \text{FS}_{i,t} + \beta_7 \text{ADR}_{i,t} + \beta_8 (\text{FR}_{i,t} \times \text{BS}_{i,t}) + \mu_{i,t}$$

TABLE 4.8: Results for EPS with Interaction Term (FR*BS)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.7465	0.6233	2.8020	0.0060
BS	-0.1302	0.0703	-1.8511	0.0668
BI	0.0923	0.0699	1.3203	0.1895
FR	0.4693	0.2564	1.8297	0.0700
FO	0.0009	0.0015	0.6053	0.5462
ADR	-0.0212	0.0088	-2.4169	0.0173
LTA	-0.0322	0.0777	-0.4150	0.6789
FR*BS	-0.0190	0.0203	-0.9401	0.3492
Adjusted R-squared	0.1989			
F-statistic	2.6865			
Prob (F-statistic)	0.0000			

This table shows the results of the given analysis, which shows that there is impact of various variable on Earning per share. Board size BS has a negative coefficient -0.1302 with p value 0.0668 has a insignificant association between board size and earning per share. Therefore, hypothesis not supported with BS and earning per share. Independence board BI shows the positive coefficient of 0.0923 with p value 0.1895 but an insignificant relationship between earning per share.

Female representation (FR) shows has a positive coefficient of 0.4693 with a p-value of 0.0700, insignificant relationship with earning per share growth. FO has a positive coefficient 0.0009 with p value 0.5462 has indicating significant association with sustainable growth like earning per share. ADR has a negative coefficient -0.0212 with p value 0.0173 indicating significant association with earning per share. More than a few variables failed to show statistically significant relationships. LTA ($p = 0.746$) all had negligible effects on the dependent variable.

As a Relationship with moderating variables, Female Representation FR*BS has a negative coefficient -0.0190 with p value 0.3492. The interaction term FR*BS ($p = 0.3492$) was also insignificant relationship between FR and BS.

The model demonstrates moderate explanatory power, with an adjusted R-squared of 0.1989, indicating that approximately 19% of the variation in the earning per share growth is explained by the included predictors. The highly significant F-statistic (2.685, $p = 0.0000$) confirms that the model as a whole is statistically significant, suggesting that the collective impact of the independent variables on the earning per share growth.

4.10 Moderating Role of Female Representation Amongst Independence Board and Earning Per Share Sustainable Growth

The Equation are as follows:

$$EPS_{i,t} = \beta_0 + \beta_1 BS_{i,t} + \beta_2 BI_{i,t} + \beta_3 CEOD_{i,t} + \beta_4 FR_{i,t} + \beta_5 FO_{i,t} + \beta_6 FS_{i,t} + \beta_7 ADR_{i,t} + \beta_8 (FR_{i,t} \times BI_{i,t}) + \mu_{i,t}$$

This table shows the results of the given analysis; Board size BS has a negative coefficient -0.1436 with p value 0.0393 has a significant association between board size and earning per share. Therefore, null hypothesis accepted with BS and earning per share. Independence board BI shows the positive coefficient of 0.1048 with p value 0.1297 but an insignificant association with dependent variable. Therefore, rejects the hypothesis that IB has a positive association with growth.

TABLE 4.9: Results for EPS with Interaction Term (FR*BI)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.1774	0.6249	2.8397	0.0054
BS	-0.1436	0.0688	-2.0861	0.0393
BI	0.1048	0.0686	1.5265	0.1297
FR	0.4363	0.2437	1.7904	0.0761
FO	0.0009	0.0015	0.6117	0.5420
ADR	-0.0213	0.0088	-2.4227	0.0170
LTA	-0.0325	0.0767	-0.4244	0.6720
FR*BI	-0.0175	0.0210	-0.8362	0.4049
Adjusted R-squared	0.1989			
F-statistic	2.6866			
Prob (F-statistic)	0.0000			

Female representation (FR) shows has a positive coefficient of 0.4363 with a p-value of 0.0761, insignificant relationship with earning per share growth. FO has a positive coefficient 0.0009 with p value 0.5462 has indicating insignificant association with sustainable growth like earning per share growth.

ADR has a negative coefficient -0.0213 with p value 0.0170 indicating significant association with earning per share growth. More than a few variables failed to show statistically significant relationships. LTA ($p = 0.6720$) all had negligible effects on the dependent variable.

As a Relationship with moderating variables, Female Representation FR*BI has a negative coefficient -0.0175 with p value 0.4049. The interaction term $FR * IB$ ($p = 0.4049$) was also insignificant relationship between FR and BS.

The regression analysis reveals several key insights about the relationship between the independent variables and the dependent variable. The model demonstrates moderate explanatory power, with an adjusted R-squared of 0.1989, indicating that approximately 19% of the variation in the dependent variable is explained by the included predictors.

The highly significant F-statistic (2.686, $p = 0.0000$) confirms that the model as a whole is statistically significant, suggesting that the collective impact of the independent variables on the dependent variable.

4.11 Moderating Role of Female Representation Amongst Independence Board and Earning Per Share Sustainable Growth

The Equation are as follows:

$$\text{EPSt}_{i,t} = \beta_0 + \beta_1\text{BS}_{i,t} + \beta_2\text{BI}_{i,t} + \beta_3\text{CEOD}_{i,t} + \beta_4\text{FR}_{i,t} + \beta_5\text{FO}_{i,t} + \beta_6\text{FS}_{i,t} + \beta_7\text{ADR}_{i,t} + \beta_8(\text{FR}_{i,t} \times \text{FO}_{i,t}) + \mu_{i,t}$$

TABLE 4.10: Results of Moderating Role of Female Representation Amongst Independence Board and Earning Per Share Sustainable Growth

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.1249	0.8878	1.2670	0.2078
BS	-0.1363	0.0833	-1.6361	0.1047
BI	0.0833	0.0834	0.9983	0.3203
FR	0.3376	0.0847	3.9839	0.0001
FO	0.0024	0.0027	0.9105	0.3645
ADR	-0.0197	0.0048	-4.1051	0.0001
LTA	0.0398	0.0856	0.4655	0.6425
FR*FO	-0.0046	0.0023	-1.9690	0.0515
Adjusted R-squared	0.2075			
F-statistic	2.7779			
Prob (F-statistic)	0.0000			

This table shows the results of the given analysis; Board size BS has a negative coefficient -0.1336 with p value 0.1047 has a insignificant association between board size and earning per share. Therefore, hypothesis not supported with BS and earning per share growth. Independence board BI shows the positive coefficient of 0.0833 with p value 0.3203 but an insignificant association with earning per share growth.

Female representation (FR) shows has a positive coefficient of 0.3376 with a p-value of 0.0001, significant relationship with Dependent variable. FO has a positive coefficient 0.0024 with p value 0.3645 has indicating insignificant association with sustainable growth like earning per share. ADR has a negative coefficient -0.0197 with p value 0.0001 indicating significant association with earning per share. More than a few variables failed to show statistically significant relationships. LTA ($p = 0.6425$) all had negligible effects on the earning per share growth.

As a Relationship with moderating variables, Female Representation FR*FO has a negative coefficient -0.0046 with p value 0.0515. The interaction term FR*FO ($p = 0.0515$) was also significant relationship between FR and FO.

The model demonstrates moderate explanatory power, with an adjusted R-squared of 0.2075, indicating that approximately 20% of the variation in the dependent variable is explained by the included predictors. The highly significant F-statistic (2.777, $p = 0.0000$) confirms that the model as a whole is statistically significant effect.

4.12 Moderating Role of Female Representation Amongst Characteristics and Ownership with Earning Per Share Sustainable Growth

The Equation are as follows:

$$EPSG_{i,t} = \beta_0 + \beta_1 BS_{i,t} + \beta_2 BI_{i,t} + \beta_3 CEOD_{i,t} + \beta_4 FR_{i,t} + \beta_5 FO_{i,t} + \beta_6 FS_{i,t} + \beta_7 ADR_{i,t} + \sum \gamma_i FR_{i,t} (BC_{i,t} \times FO_{i,t}) + \mu_{i,t}$$

This table shows the results of the given analysis; independent variable Board size BS has a coefficient negative -0.0355 with p value 0.7597 has a insignificant association between board size and growth. Therefore, hypothesis reject with BS and sustainable growth. Independence board BI shows the negative coefficient of -0.0076 with p value 0.9482 but an insignificant association with earning per share growth. Female representation (FR) shows has a positive coefficient of 0.6727 with a p-value of 0.0033, significant relationship with earning per share growth.

TABLE 4.11: Results of Moderating Role of Female Representation Amongst Characteristics and Ownership with Earning Per Share Sustainable Growth

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.0204	1.1884	0.8587	0.3924
BS	-0.0355	0.1159	-0.3066	0.7597
BI	-0.0076	0.1178	-0.0651	0.9482
FR	0.6727	0.2236	3.0083	0.0033
FO	0.0023	0.0010	2.3116	0.0227
ADR	-0.0197	0.0045	-4.3948	0.0000
LTA	0.0307	0.1139	0.2696	0.7879
FR*BS	-0.1388	0.1300	-1.0683	0.2878
FR*BI	0.1179	0.1278	0.9224	0.3584
FR*FO	-0.0049	0.0027	-1.8310	0.0699
Adjusted R-squared	0.1987			
F-statistic	2.5241			
Prob (F-statistic)	0.0000			

Correspondingly, in this table some variables FO and ADR has a significant predictor in the analysis, FO has a positive coefficient 0.0023 with p value 0.0227 has indicating significant association with earning per share. ADR has a negative coefficient -0.0197 with p value 0.000 indicating that higher compensation is significant associated with lower deposit growth.

As a Relationship with moderating variables, Female Representation FR*BS has a negative coefficient -0.1388 with p value 0.2878. The interaction term $FR * BS$ ($p = 0.2878$) was also insignificant relationship between FR and BS. Female representation and Independence board FR*BI has a positive coefficient 0.1179 with p value 0.3584 has a insignificant relationship between Growth. Female representation and foreign ownership $FR * FO$ has a negative coefficient -0.0049 with p value 0.0699 significant relationship with growth.

The regression analysis reveals several key insights about the relationship between the independent variables and the dependent variable. The model demonstrates moderate explanatory power, with an adjusted R-squared of 0.1987, indicating that approximately 19% of the variation in the dependent variable is explained by the included predictors. The highly significant F-statistic (2.5241., $p = 0.0000$) confirms that the model as a whole is statistically significant.

4.13 Impact of Board Characteristics and Ownership on Retain Earning Sustainable Growth

The Equation are as follows:

$$ERG_{i,t} = \beta_0 + \beta_1 BS_{i,t} + \beta_2 BI_{i,t} + \beta_3 CEOD_{i,t} + \beta_4 FR_{i,t} + \beta_5 FO_{i,t} + \beta_6 FS_{i,t} + \beta_7 ADR_{i,t} + \mu_{i,t}$$

TABLE 4.12: Results of Board Characteristics and Ownership on Retain Earning Sustainable Growth

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.1788	0.3535	0.5058	0.6140
BS	-0.0088	0.0219	-0.4011	0.6891
BI	-0.0113	0.0223	-0.5050	0.6144
FR	0.0150	0.0155	0.9660	0.3361
FO	0.0010	0.0004	2.3006	0.0233
ADR	-0.0016	0.0008	-1.8258	0.0706
LTA	0.0208	0.0370	0.5619	0.5753
Adjusted R-squared	0.2114			
F-statistic	2.9211			
Prob (F-statistic)	0.0000			

This table shows the results of the given analysis; Board size BS has a negative coefficient -0.0088 with p value 0.6891 has a insignificant association between board size and earning growth. Therefore, hypothesis not supported with BS and earning growth. Independence board BI shows the negative coefficient of -0.0113 with p value 0.6891 but an insignificant association with dependent variable.

Female representation (FR) shows has a positive coefficient of 0.0150 with a p-value of 0.3361, insignificant relationship with ER. FO has a positive coefficient 0.0010 with p value 0.0233 has indicating significant association with sustainable growth like earning per share. ADR has a negative coefficient -0.0016 with p value 0.0706 indicating insignificant association with earning growth. More than a few variables failed to show statistically significant relationships. LTA ($p = 0.0.5753$) all had negligible effects on the retained earning growth.

The model demonstrates moderate explanatory power, with an adjusted R-squared of 0.2114, indicating that approximately 21% of the variation in the dependent variable is explained by the included predictors. The highly significant F-statistic (2.92, $p = 0.0000$) confirms that the model as a whole is statistically significant.

4.14 Moderating Role of Female Representation Amongst Board Size and Retained Earning Sustainable Growth

The Equation are as follows:

$$ERG_{i,t} = \beta_0 + \beta_1 BS_{i,t} + \beta_2 BI_{i,t} + \beta_3 CEO_{i,t} + \beta_4 FR_{i,t} + \beta_5 FO_{i,t} + \beta_6 FS_{i,t} + \beta_7 ADR_{i,t} + \beta_8 (FR_{i,t} \times BS_{i,t}) + \mu_{i,t}$$

TABLE 4.13: Results of Moderating Role of Female Representation Amongst Board Size And Retained Earnings Sustainable Growth

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.1783	0.2994	0.5955	0.5527
BS	-0.0093	0.0268	-0.3477	0.7287
BI	-0.0115	0.0266	-0.4330	0.6659
FR	0.0083	0.0873	0.0951	0.9244
FO	0.0010	0.0004	2.0640	0.0414
ADR	-0.0016	0.0007	-2.3158	0.0224
LTA	0.0216	0.0307	0.7040	0.4829
FR*BS	0.0007	0.0101	0.0741	0.9410
Adjusted R-squared	0.2090			
F-statistic	2.7941			
Prob (F-statistic)	0.0004			

This table shows the results of the given analysis; Board size BS has a negative coefficient -0.0093 with p value 0.7287 has a insignificant association between board size and earning growth. Therefore, hypothesis not supported with BS and earning growth. Independence board BI shows the negative coefficient of -0.0115 with

p value 0.6659 but an insignificant association with earning growth. Female representation (FR) shows has a positive coefficient of 0.0083 with a p-value of 0.092, insignificant relationship with earning growth. FO has a positive coefficient 0.0010 with p value 0.0414 has indicating significant association with sustainable growth like ERG. ADR has a negative coefficient -0.0016 with p value 0.0224 indicating significant association with earning per share. More than a few variables failed to show statistically insignificant relationships. As a Relationship with moderating variables, Female Representation FR*BS has a positive coefficient 0.0007 with p value 0.9410. The interaction term FR*FO (p = 0.9410) was also insignificant relationship between FR and BS. The model demonstrates moderate explanatory power, with an adjusted R-squared of 0.2090, indicating that approximately 20% of the variation in the dependent variable is explained by the included predictors. The highly significant F-statistic (2.7941 p = 0.0004) confirms that the model as a whole is statistically significant.

4.15 Moderating Role of Female Representation Amongst Board Size and Retained Earnings Sustainable Growth

The Equation are as follows:

$$ERG_{i,t} = \beta_0 + \beta_1 BS_{i,t} + \beta_2 BI_{i,t} + \beta_3 CEO_{i,t} + \beta_4 FR_{i,t} + \beta_5 FO_{i,t} + \beta_6 FS_{i,t} + \beta_7 ADR_{i,t} + \beta_8 (FR_{i,t} \times BI_{i,t}) + \mu_{i,t}$$

This table shows the results of the given analysis Board size BS has a negative coefficient -0.0095 with p value 0.4596 has a insignificant association between board size and earning growth. Independence board BI shows the negative coefficient of -0.0127 with p value 0.4350 but an insignificant association with earning growth. Female representation (FR) shows has a negative coefficient of -0.0043 with a p-value of 0.9401, insignificant relationship with earning growth. FO has a positive coefficient 0.0010 with p value 0.0020 has indicating significant association with sustainable growth like earning growth. ADR has a negative coefficient -0.0016

TABLE 4.14: Results of Moderating Role of Female Representation Amongst Board Size And Retained Earnings Sustainable Growth

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.1756	0.4787	0.3669	0.7144
BS	-0.0095	0.0128	-0.7421	0.4596
BI	-0.0127	0.0160	-0.7836	0.4350
FR	-0.0043	0.0570	-0.0753	0.9401
FO	0.0010	0.0003	3.1656	0.0020
ADR	-0.0016	0.0009	-1.8100	0.0730
LTA	0.0230	0.0513	0.4499	0.6537
FR*BI	0.0025	0.0082	0.3030	0.7624
Adjusted R-squared	0.2170			
F-statistic	2.8821			
Prob (F-statistic)	0.0002			

with p value 0.0730 indicating insignificant association with earning growth. More than a few variables failed to show statistically insignificant relationships. LTA ($p = 0.7624$) all had negligible effects on the earning growth.

As a Relationship with moderating variables, Female Representation FR*BI has a positive coefficient 0.0025 with p value 0.7624. The interaction term $FR * BI$ ($p = 0.7624$) also insignificant relationship between FR and BI.

The model demonstrates moderate explanatory power, with an adjusted R-squared of 0.2270, indicating that approximately 22% of the variation in the earning growth is explained by the included predictors. The highly significant F-statistic ($2.8821p = 0.0002$) confirms that the model as a whole is statistically significant, suggesting that the collective impact of the independent variables on the dependent variable.

4.16 Moderating Role of Female Representation Amongst Foreign Ownership and Sustainable Earning Growth

The Equation are as follows:

TABLE 4.15: Results for ERG with Interaction Term (FR*FO)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.1249	0.8878	1.2670	0.2078
BS	-0.1363	0.0833	-1.6361	0.1047
BI	0.0833	0.0834	0.9983	0.3203
FR	0.3376	0.0847	3.9839	0.0001
FO	0.0024	0.0027	0.9105	0.3645
ADR	-0.0197	0.0048	-4.1051	0.0001
LTA	0.0398	0.0856	0.4655	0.6625
FR*FO	-0.0046	0.0023	-1.9690	0.0515
Adjusted R-squared	0.2075			
F-statistic	2.7771			
Prob (F-statistic)	0.0004			

$$ERG_{i,t} = \beta_0 + \beta_1 BS_{i,t} + \beta_2 BI_{i,t} + \beta_3 CEOD_{i,t} + \beta_4 FR_{i,t} + \beta_5 FO_{i,t} + \beta_6 FS_{i,t} + \beta_7 (FR_{i,t} \times FO_{i,t}) + \mu_{i,t}$$

This table shows the results of the given analysis Board size BS has a negative coefficient- 0.1363 with p value 0.1047 has a insignificant association between board size and earning growth. Therefore, hypothesis not supported with BS and earning growth. Independence board BI shows the positive coefficient of 0.0833 with p value 0.3203 but an insignificant association with earning growth.

Female representation (FR) shows has a positive coefficient of 0.3376 with a p-value of 0.0001, significant relationship with earning growth. FO has a positive coefficient 0.0024 with p value 0.3645 has indicating insignificant association with sustainable growth like earning growth. ADR has a negative coefficient -0.0197 with p value 0.0001 indicating significant association with earning growth. More than a few variables failed to show statistically insignificant relationships. LTA ($p = 0.6625$) all had negligible effects on the earning growth.

As a Relationship with moderating variables, Female Representation FR*FO has a negative coefficient -0.0046 with p value 0.0515. The interaction term $FR * FO$ ($p = 0.0515$) was also significant relationship between FR and FO.

The model demonstrates moderate explanatory power, with an adjusted R-squared of 0.2075 indicating that approximately 20% of the variation in the dependent variable is explained by the included predictors. The highly significant F-statistic (2.7771 p = 0.0004) confirms that the model as a whole is statistically significant.

4.17 Moderating Role of Female Representation Amongst Characteristics and Ownership with Earning Per Share Sustainable Growth

The Equation are as follows:

$$ERG_{i,t} = \beta_0 + \beta_1 BS_{i,t} + \beta_2 BI_{i,t} + \beta_3 CEO_{i,t} + \beta_4 FR_{i,t} + \beta_5 FO_{i,t} + \beta_6 FS_{i,t} + \beta_7 ADR_{i,t} + \sum^{\gamma_i} FR_{i,t}(BC_{i,t} \times FO_{i,t}) + \mu_{i,t}$$

TABLE 4.16: Results of Moderating Role of Female Representation Amongst Characteristics and Ownership with Earning Per Share Sustainable Growth

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.1756	0.3254	0.2325	0.8166
BS	0.0430	0.0235	1.8269	0.0705
BI	-0.0582	0.0213	-2.7276	0.0074
FR	0.1031	0.0985	1.0467	0.2975
FO	0.0014	0.0005	2.7134	0.0078
ADR	-0.0016	0.0009	-1.7461	0.0836
LTA	0.0203	0.0334	0.6089	0.5438
FR*BS	-0.0902	0.0399	-2.2583	0.0259
FR*BI	0.0942	0.0390	2.4103	0.0176
FR*FO	-0.0011	0.0005	-2.2497	0.0265
Adjusted R-squared	0.2431			
F-statistic	2.9730			
Prob (F-statistic)	0.0001			

This table shows the results of the given analysis Board size BS has a positive coefficient 0.0430 with p value 0.0705 has a significant association between board

size and growth. Independence board BI shows the negative coefficient of -0.0582 with p value 0.0074 but an significant association with earning growth. Therefore, accept the hypothesis that BI has a positive association with growth. Female representation (FR) shows has a positive coefficient of 0.1031 with a p-value of 0.2975, insignificant relationship with earning growth.

In the analysis, FO has a positive coefficient 0.004 with p value 0.0078 has indicating significant association with earning growth. ADR has a negative coefficient -0.0016 with p value 0.0836 indicating that higher compensation is insignificant associated with lower deposit growth. More than a few variables failed to show statistically significant relationships.

As a Relationship with moderating variables, Female Representation $FR*BS$ has a negative coefficient -0.0902 with p value 0.0259. The interaction term $FR*BS$ ($p = 0.0259$) was also significant relationship between FR and BS. Female representation and Independence board $FR*BI$ has a positive coefficient 0.0942 with p value 0.0176 has a significant relationship between Growth. Female representation and foreign ownership $FR*FO$ have a negative coefficient -0.0011 with p value 0.0265 significant relationship with growth.

The model demonstrates moderate explanatory power, with an adjusted R-squared of 0.2431, indicating that approximately 24% of the variation in the dependent variable is explained by the included predictors. The highly significant F-statistic (2.973., $p = 0.0001$) confirms that the model as a whole is statistically significant.

Chapter 5

Conclusion and Recommendation

This chapter brief the summary of research finding of the results and how its relate to pervious literature and also gave recommendation, suggestion for researchers, limitation of the study.

5.1 Conclusion

The study examines the link between board characteristics and ownership on sustainable growth with moderating role of female representation on board. This research employs panel data analysis to examine the influence of board characteristics, board size, independence board, CEO duality and foreign ownership.

This study studies the moderating effect of female presence on board with sustainable growth deposit growth, earning per share, retain earning also this research review two theories agency theory and stakeholder theory.

While previous studies corporate governance have primarily focused on traditional variable, CEO duality and number of board of directors on boardroom, institutional ownership. In contrast, this research extends the existing literature by investigating a broader set of innovative determinants, including the proportion of independent directors, foreign ownership stakes, deposit growth, earnings per share (EPS) growth, and the advances-to-deposits ratio.

By incorporating these less explored variables, the study provides fresh insights into how modern governance structures and financial metrics influence organizational outcomes, thereby offering a more comprehensive understanding of corporate performance drivers in today's dynamic business environment. This expanded approach not only bridges gaps in traditional governance research but also yields practical implications for firms seeking to optimize their board composition and financial strategies.

The finding of the study highlights the consequences of board characteristics are usually reliable and can be brief as board size have a insignificant positive impact on deposit growth. growing number of members on board signifies the variation of viewpoint in banking deposit growth that results in agency cost reduction and an rise sustainable growth. However also caution that excessively large boards typically those exceeding seven to eight members tend to suffer from inefficiencies in coordination, communication, and decision-making, ultimately diminishing their effectiveness.

Board independence generally exhibits a negative and insignificant impact on deposit growth. This suggests that while independent directors are expected to improve monitoring and reduce agency problems, excessive independence may hinder efficiency, causing delays in decision-making or conflicts with management. The results of foreign ownership on deposit growth and a negative and significant relationship with deposit growth.

The study further finds that the female representation on board achieve greater sustainable growth the results of the study suggest that the presence of female leader has significant and positive relationship between deposit growth.

The moderating effect of female representation on board characteristics and foreign ownership on deposit growth highlight positive and significant connection of presence of female leader on board size and foreign ownership on deposit growth. This study provides empirical support to the mandatory requirement of female director on the corporate board of listed firms (COG).

The interaction between foreign ownership and earning per share growth negative and significant association shows the larger ownership increase the capabilities to

monitors managers, leads to decrease of agent and principle conflict, and improve the productivity, the reason in emerging economics investors protection are weak, because mostly family owned business. The presence of female representation on board size and foreign ownership has a negative and significant connection between earning growth results shows that female leader influences the sustainable growth. This study further reveals that foreign ownership has positive and significant influence on retained earning growth the increase in ownership is lead to strong linkage between foreign ownership and retained earning growth.

This study also examine the relationship between advance to deposit ratio and retained earing growth show significant association. Women representation shows signification relationship much like foreign directors, ethnic minorities, and independent shareholders help mitigate information biases, enhance problem-solving, and contribute to stronger strategic decision-making.

The moderating effect of female representation on board has negative and significant association between board size and retained earning growth. Board independence has positive and significant relationship with retained earning growth.

The significance of independence directors in overseeing management and defending long term interests particularly with regard to sustainability has been underlined more and more by corporate governance changes.

The function of independent directors in promoting a sustainable growth (SG) has emerged as a key research topic as businesses aim for long-term profitability, expansion.

5.2 Recommendation and Policy Implication

- Female representation on boardroom should be encouraged. Primarily, the current must of the female member presence of the board of directors may be increase.
- Board size may be improved as higher board has negative effect on deposit growth and earning growth.
- The role of foreign ownership low growth association is observed so investors should consider the ownership pattern while investing resource.

5.3 Limitation and Direction for Future Researchers

- The research was confined to the banking sector from 2014 to 2023, which may limit the generalizability of the results to our all-financial sector.
- The accuracy and transparency of the study depend on the reliability of financial data, which was challenging to obtain due to limited access to complete datasets from Pakistani sources.
- The study found that women's representation had a more positive impact in smaller boards than in larger ones.
- Future studies could extend this research by incorporating non-financial sectors, such as service, manufacturing, and construction industries, to enhance the generalizability of the findings.

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