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Exploring the Influence of Corporate and Shariah Governance on the Profitability of Banks and their Islamic Windows: A Comprehensive Study of Pakistan

Muhammad Daniyal Imran[1], Uzair Hassan Khan[2]

Abstract
The main purpose of our study is to take a look at how it impacts corporate governance and shariah governance on the profitability of conventional banks of Pakistan and their Islamic windows, one more objective of this study is to investigate whether there is any significant difference in the profitability of conventional banks after opening of Islamic windows. Our research study's theoretical basis draws from corporate governance theories, agency theory, resource dependence theory, and Islamic finance principles. By examining the relationships between these independent variables and the dependent variables (ROA and ROE) our study aims to provide insights into the factors influencing the financial performance of Shariah-compliant banks. Our study is based on 10 conventional banks which also provide Islamic windows. For our analysis in the current study, we will use annual data that covers the period from 2013 to 2022. To achieve these objectives we are using a linear regression model and paired sample t-test. Our findings conclude that bank age and board size have a significant positive impact on corporate governance in contrast, board diversity has a significant but negative impact on the ROA of conventional banks on the other hand bank size and board independence do not have any impact on ROA and if we talk about ROE board size and board independence had a helpful important impact on ROE while bank size bank age and board diversity doesn't have any significant impact on ROE of conventional banks of Pakistan. In the case of Shariah governance, only the Shariah board has a significant positive effect on ROA and ROE ratio on the other hand remuneration and charities don't have any effect on the Islamic windows of conventional banks. We further discover no substantial variation in the ROA & ROE of Pakistani conventional banks following the establishment of Islamic windows. The findings of this study suggest that the government of Pakistan should focus on promoting good corporate governance practices in banks, especially regarding board size, bank age, board diversity, and shariah board because these factors increase the profitability of conventional banks.
Keywords: Shariah Governance, Islamic Windows, Pakistan, Corporate Governance, Profitability

1. Introduction

Conventional banking and Islamic banking are two distinct systems that cater to the financial needs of individuals and businesses, albeit with different underlying principles and practices. Conventional banking operates based on interest-based transactions and profit-maximization whilst Islamic banking conforms to Shariah law principles that forbid interest (Riba) and encourage ethical and socially accountable financial practices. In conventional banking customers deposit their funds, and the bank uses those deposits to offer loans and other financial services. In contrast, Sharing of profits and risk-sharing are fundamental principles in Islamic banking, where customers and banks enter into partnerships to conduct mutually beneficial transactions. Despite their differences, both systems serve critical roles in global finance, servicing a wide range of client demands and adding to the economy's ultimate stability and growth. The traditional financial system is based on focused on interest transactions and is referred to as conventional banking. It follows a profit-maximization approach and aims to generate returns for its shareholders. Conventional banks offer a range of financial products and services such as loans, savings accounts, and investments. Their operations are governed by regulatory bodies and standard corporate governance practices to ensure transparency, accountability, and risk management. These banks rely on interest income, fees, and other revenue sources to generate profits. Commercial banks fulfill their intermediary function by accepting deposits from individuals and channeling them toward investment opportunities for borrowers. However, this investment process is not without risks and challenges as banks strive to maximize their potential profits from these investments. Alshatti (2015) and Alim, Ali and Farid (2021) corporate governance in the banking environment refers to the systems and processes that govern the relationships between a bank's management, shareholders, and stakeholders. It aims to ensure effective oversight, accountability, and the protection of stakeholders' interests. Corporate governance frameworks include mechanisms such as a board of directors, committees, internal controls, risk management practices, and disclosure requirements. These frameworks promote transparency, integrity, and responsible decision-making within the bank. Corporate governance refers to a system of laws and effective approaches that oversee and control corporations. It focuses on both the internal and external structures of the organization, aiming to monitor the actions of management and directors and mitigate risks that may arise from their misconduct. Corporate governance also includes the regulatory standards described in the Securities and Exchange Commission (SEC) Code of Governance for Corporations, which was issued in 2011. These provisions include aspects such as Board Composition (BCOMP), Directors' Remunerations (DRM), Board Committees (BCOMPT), and Audit Composition (ADCOMP), Demaki(2018), Audi, Sadiq and Ali (2021). Islamic banking, on the other hand, operates following the principles of Shariah law. It prohibits the charging or paying of interest (Riba) and engages in ethical and socially responsible financial practices. Islamic banks follow the principles of risk-sharing and profit-sharing, promoting fairness and economic justice. They offer products and services such as Islamic financing, profit-sharing investment accounts, and Islamic insurance (Takaful). These banks are governed not only by standard corporate governance practices but also by Shariah governance. Shariah governance ensures compliance with Islamic principles through the guidance of a Shariah board comprising Islamic scholars who provide expert advice on the compatibility of financial products and transactions with Shariah law.

[1]MS Scholar, Department of Banking and Finance HSM, University of Management and Technology Lahore, Pakistan, danial.imran12345@gmail.com
[2]MS Scholar, Department of Banking and Finance HSM, University of Management and Technology Lahore, Pakistan, hssnuzair@icloud.com

According to Hamza(2013)Islamic financial organizations have a responsibility to guarantee Shariah compliance by establishing a solid Shariah governing system. Shariah supervision is an essential component of the whole structure and plays a crucial role in managing those organizations. The Shariah supervisory board advises Islamic financial institutions on matters related to Shariah, ensuring conformity with Shariah rules and endorsing relevant documentation. Similarly, Hasan(2011)highlights that Shariah supervision encompasses both proactive and reactive elements, including pronouncements, supervision, and review, to ensure continuous adherence to Shariah principles. The first important step for institutions offering Islamic products is to establish a Shariah board or, at the minimum, appoint a Shariah counselor. This step is crucial in minimizing Shariah risk, which refers to the risk of contractual terms not complying with Islamic jurisprudence and being invalid under Islamic law. Such non-compliant contracts may be deemed void (partially or entirely) in a Shariah court. Additionally, financial regulators should have their own Shariah experts who can guide the instruments and services offered by institutions within their jurisdiction. Sole(2007) Consultation with these experts is essential to ensure that regulations and licensing requirements align with Islamic principles.

The banking industry is crucial to the economy's growth, and bank profitability is an important sign of its success and sustainability. Islamic banks follow Shariah governance principles in the banking industry, whereas conventional banks use corporate governance standards. However, limited research has been conducted to explore the specific impact of Shariah governance on the profitability of Islamic windows of conventional banks and the effect of corporate governance on traditional bank profitability. Understanding these dynamics is essential for policymakers, regulators, and bank stakeholders in formulating effective strategies to enhance the financial performance of banks. Therefore, the goal of this study is to investigate the impact of Shariah governance on the profitability of Islamic windows, as well as the impact of corporate governance on the profitability of conventional banks, contributing to the existing knowledge and providing valuable insights for the banking industry as a whole.

Firstly, the study seeks to scrutinize the impact of corporate governance practices on the financial performance of these conventional banks. Secondly, the research endeavors to ascertain the influence of Shariah governance on the profitability of the Islamic windows within the same Pakistani conventional banks. Lastly, the investigation intends to discern any noteworthy differentials in the profitability levels of conventional banks subsequent to the introduction of Islamic Windows. The pursuit of these objectives is expected to yield comprehensive insights into the multifaceted relationships existing within the realm of banking governance and financial outcomes, contributing to the existing body of knowledge in this domain.

1.1. Research Question

- Does corporate governance impact the profitability of conventional banks in Pakistan?
- Does Shariah governance impact the profitability of Islamic Windows of conventional Banks in Pakistan?
- Does there is a substantial difference in the profitability of Conventional Banks after the establishment of Islamic Windows?

2. Literature Review

Imran Khan & Zahid (2020) study tries to ascertain how corporate governance and Shari'ah have an impact on the financial performance of Islamic banks in Asian countries. The outcomes of the baseline model show that factors connected to Shari'ah governance have a greater impact on determining the financial performance of Islamic banks. Ben Abdallah & Bahloul(2021) attempts to look into how Shariah governance and transparency affect the Financial Performance of Islamic banks in the MENASA (Middle East, North Africa, and Southeast Asia) Region. This study explores the relationship between IBs' financial success in the MENASA area and transparency, Shariah governance, and financial performance. As a result, this section is dedicated to formulating hypotheses on the relationship between disclosure, Shariah corporate governance, and financial performance indicators (ROA and ROE).Ismail Khan, Khan, Uddin, Khan, & Marwat(2023)aims to examine how Socially Sustainable Behavior (SSB) diversity impacts the performance of Islamic Banks (IBs) in Pakistan, from the perspective of stakeholders. The findings indicate a positive correlation between IB success and SSB size, SSB-relevant educational background diversity, bank size, and stability. Taufik, Muhammad, & Nugraheni(2023) aim to examine the connection between the shariah supervisory boards (SSB) features and Islamic banks' (IBs') maqashid shariah performance (MSP), as well as the consequences of MSP for both financial performance and profit-sharing investment account holders (PSIAHs). However, MSPs in Malaysia can increase profitability due to more transparent Shariah assurance; in contrast, MSPs in Indonesia cannot increase profitability due to less transparent Shariah certification.(Mutamimah & Saputri, 2023) the objective is to look into how corporate Governance impacts the consequences of financing through murabahah, Mudarabah, and Musharakah on the risk of financing and the Financial performance of Islamic Banks. The findings revealed that financing through murabahah has a favorable impact on financing risk, whereas financing through Mudarabah has a detrimental impact. Contrarily, Musharakah financing has no impact on the risk of the investment. Corporate Governance strengthens the impact of Mudarabah financing on financing risk while weakening the impact of Murabahah financing. Corporate governance also cannot lessen the impact of Musharakah finance on the risk of financing. Financial performance is also lowered by financing risk. Iryani & Wahyudiono(2020) purpose was to conduct a hands-on study into how Indonesian Shariah law was impacted by the Performance of Islamic banks. The test result was significant for the direct impact of SG on performance since it had a value of t count of 11.96 or a value of 0.323.Muhamad & Sulong(2019)goal is to analyze and assesses previous material on the rules that govern the Shariah government. According to factors such as the status of the economy, the regulations and laws of Shariah, and the Board of Directors (BOD), the study discovered that numerous Shariah Governance Regulatory Frameworks have been established in Islamic banking-operating nations.(Mansoor et al., 2020) purpose was to look at the connection between corporate governance, Shariah governance, and Asian Islamic banks' credit ratings. We discovered that the CEO duality, board independence, board interlock, and board foreign directorship all had a detrimental impact on credit ratings. Nawaz & Ohlrogge(2022) examines the relationship between corporate governance, intangible assets, CEO

traits, and financial performance. It finds that a larger board size reduces the impact of intangible resources on financial success when the previous CEO serves as the board chairman. Safiullah & Shamsuddin(2019) a stronger Shariah supervisory board helps increase the profitability of Islamic institutions (Almoneef & Samontaray, 2019). The current study intends to investigate how corporate governance has affected Saudi banking performance between 2014 and 2017. The empirical results show that board independence has a negative effect on ROE, but board size, audit committee meetings, and bank size have beneficial effects. The size and independence of the audit committee as well as the presence of foreign directors on the board have no bearing on the performance of the bank. Boachie (2023) examines how ownership influences the relationship between governance practices and profitability in Ghanaian banks. According to the findings, bank size, non-executive directors, and audit independence are all characteristics that enhance performance. Aslam & Haron(2020) looks at how commercial governance practices affect Islamic banks' (IBs') profitability. Findings indicate that the return on assets and equity for IBs is significantly impacted by inspection panels and Shariah boards. Orazalin & Mahmood(2019) study the effect of commercial governance (CG) practices is examined about bank efficiency before, during, and after the budgetary extreme. The study established that after financial extreme ages, improved CG practices resulted in greater operating performance. The competencies of board members, changes to board structures, exposure circumstances, and CG canons all had a substantial impact on CG practices, which improved bank performance. Buallay(2019) study the performance of conventional and Islamic banks is compared in terms of governance. It is discovered that whereas corporate governance strongly affects TQ, Shari'ah governing considerably affects ROA and ROE. Safiullah, Hassan, & Kabir(2022) study the effect of Shariah governance structures and conventional boards of directors on Islamic banks' ability to provide liquidity is examined. The findings demonstrate that improved Shariah regulation of boards boosts the development of on-balance distance liquidation while lowering the formation of imbalance distance liquidity. Jabari & Muhamad(2021)examine the financial results of Indonesian and Malaysian Islamic banks regarding gender diversification. The findings suggest that adding a more diverse board of directors (duck) and Shariah administrative board (SSB) members would likely result in improved financial performance. However, growth in size could negate the advantages of gender diversity among SSB members. Lassoued(2018)investigates the correlation between corporate governance and financial stability in Malaysia's Islamic banking institutions. The research reveals that the presence of independent board members significantly influences the financial stability of these organizations. Nevertheless, the proportion of independent members and the board's size exhibit minimal impact on the financial health of the institutions.

The conclusions of past studies on the relationship between corporate governance and shariah governance and profitability were opposed. While some studies have identified a correlation between corporate governance and profitability, others have found no apparent link. In the same way, some studies have shown little impact of shariah governance on profitability, while others have discovered beneficial effects. This study is unique in that we will look at how, respectively, corporate governance and shariah governance impact the profitability of traditional banks in Pakistan and its Islamic windows. In Pakistan, there has never been any research done on the impact of Shariah governance on the Islamic windows of mainstream banks.

2.1. Hypothesis information

Ho: there is no significant impact of Board size on the Profitability of Conventional banks in Pakistan.
Ho: there is no significant impact of Board diversity on the Profitability of Conventional banks in Pakistan
Ho: there is no significant impact of Board independence on the Profitability of Conventional banks in Pakistan.
Ho: there is no significant impact of Bank age on the Profitability of Conventional banks in Pakistan.
Ho: there is no significant impact of Bank size on the Profitability of Conventional banks in Pakistan.
Ho: there is no significant impact of Shariah remuneration on the Profitability of Islamic windows of Conventional banks of Pakistan.
Ho: there is no significant impact of the Shariah Board on the Profitability of Islamic windows of Conventional banks of Pakistan.
Ho: there is no significant impact of Shariah Charity on the Profitability of Islamic windows of Conventional banks of Pakistan.
Ho: there is no significant change in the Profitability of Conventional banks in Pakistan after the opening of the Islamic Shariah window.

2.2. Conceptual framework

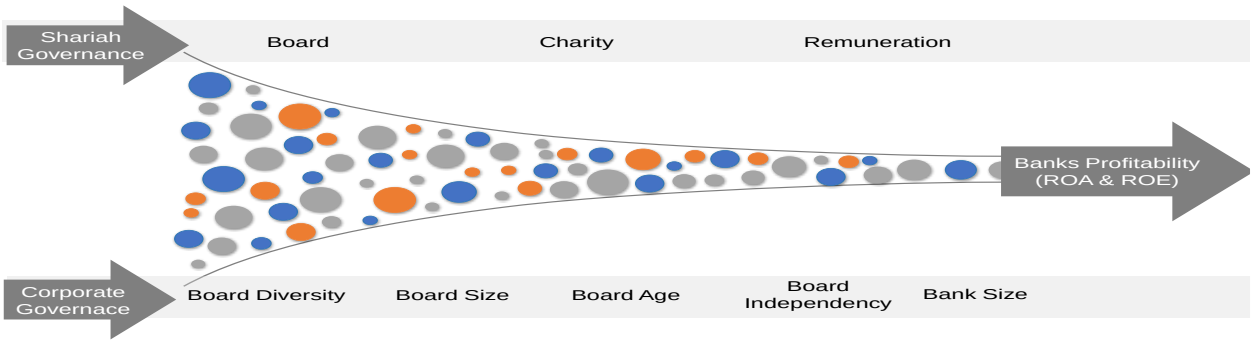

Figure 1

3. Data & Methodology

3.1. Data source

Our study is based on 10 conventional banks; the names of the banks are mentioned in appendix table 17 that are attached after the references section. For our analysis in the current study, we will use annual data that covers the period from 2013 to 2022 and collect all data from annual reports provided by banks on their official website.

3.2. Method

We download all data from the bank's website and after making a panel of 10 cross sections, we take that data into STATA and SPSS then find Correlation, VIF, and descriptive stats and estimate the results by applying a simple linear regression method on panel data set and we use paired sample T-test to make a comparison of ROA and ROE before Islamic window and after Islamic window.

In our study, the selection of simple linear regression over methods such as random or fixed effects models is motivated by several key factors. Firstly, the simplicity and interpretability of the simple linear regression allow for a clear elucidation of the relationship between the dependent and independent variables. This attribute is particularly advantageous when presenting results to a non-technical audience or when expediting assessments. Secondly, the limited sample size of 10 banks in the cross-section serves as a substantial consideration. More intricate models, such as random or fixed effects, necessitate a larger number of observations to procure dependable estimates and mitigate concerns related to over fitting. As such, the decision to employ the simple linear regression method aligns well with the specific characteristics and objectives of our research.

3.3. Models of study

$$Y\ (\text{ROA}) = \beta_0 + \beta_1 BS_. + \beta_2 BD_. + \beta_3 BIND_. + \beta_4 FS_. + \beta_5 BA_. + \varepsilon_. \quad (1)$$

$$Y\ (\text{ROE}) = \beta_0 + \beta_1 BS_. + \beta_2 BD_. + \beta_3 BIND_. + \beta_4 FS_. + \beta_5 BA_. + \varepsilon_. \quad (2)$$

$$Y\ (\text{ROA}) = \beta_0 + \beta_1 SR_. + \beta_2 SB_. + \beta_3 SC_. + \varepsilon_. \quad (3)$$

$$Y\ (\text{ROE}) = \beta_0 + \beta_1 SR_. + \beta_2 SB_. + \beta_3 SC_. + \varepsilon_. \quad (4)$$

Here,

Y= ROA and ROE of conventional banks and there Islamic windows

β_0= refers to each entity's unidentified intercept.

BS =Board size of conventional banks

BD =Board diversity of conventional banks

BIND = Board independence of conventional banks

FS = Size of conventional banks

BA = Age of conventional banks

SR = SHARIAH board remuneration of Islamic windows of conventional banks

SB = SHARIAH board on Islamic windows of conventional banks

SC = SHARIAH charity

ε= refers to the error term

An essential metric for assessing a bank's financial performance is its profitability ratio. To comprehensively explore the impact of corporate and Shariah governance factors on profitability in both conventional and Islamic banking, this study employs a three-class categorization of profitability ratios (specifically, Return on Assets (ROA) and Return on Equity (ROE)). The first class comprises the ROA and ROE ratios solely for the conventional banking aspect. This class is utilized to investigate the influence of corporate governance variables on the profitability of conventional banking. The second class encompasses the ROA and ROE ratios for the Islamic banking windows within conventional banks, enabling the examination of the effects of Shariah governance variables on Islamic Windows' profitability. The third class of ratios entails the ROA and ROE of the overall conventional bank, incorporating data from both Islamic and conventional operations. This class is leveraged to conduct a pre- and post-comparison of conventional banks, assessing any significant changes in ratios after the addition of an Islamic window. Such a three-class approach facilitates a comprehensive and nuanced understanding of the intricate interplay between corporate and Shariah governance and profitability in both conventional and Islamic banking. For a detailed description of the independent and dependent variables, refer to Table 1.

4. Result and discussions

This section includes the results and an explanation of our results. We start from the descriptive of model 1 which is present in Table 2 the mean values of BANK SIZE, firm age, board size, and board independency greater than the equivalent standard deviations except board diversity and ROA conventional. This points out how under-dispersed each of these aspects is in Model 1. In addition, all of the probability values, except for board size are significant, indicating that none of the components fit the characteristics of a normal distribution.

Table 3 presents the correlation of Model 1 which that the coefficient of BANK SIZE is found to be less than 1 and they are near to 0 so we can conclude that there is a weak relationship but the BANK SIZE has a moderate relationship with board diversity because the coefficient of the variable are found to be near to 1. Firm age has also a weak correlation with other variables because the coefficients are less than 1 and near 0. Board size has a strongly positive relation with all variables because the coefficients are found to be larger than -1.

Table 1: Detailed description of Variables

Variable name	Calculation method	Definition	Unit of measurement
ROA(Islamic) ROA (Conventional)	$\frac{\text{Net profit}}{\text{Total assets}}$	A profitability ratio is used to determine how much profit a business makes from its assets. It is computed by dividing the net income by the overall assets of the firm.	Percentage
ROE(Islamic) ROE (Conventional)	$\frac{\text{Net profit}}{\text{Total equity}}$	A profitability ratio measures how much profit a company generates from its equity It is computed by dividing the shareholder equity from the organization's net revenue.	Percentage
ROA overall (Islamic + conventional)	$\frac{\text{Net profit}}{\text{Total assets}}$	-	Percentage
ROE overall (Islamic + conventional)	$\frac{\text{Net profit}}{\text{Total equity}}$	-	Percentage
Board size	No of board members in each bank	the size of a board of directors for a corporation	Number
Board diversity	Female/board size *100	The amount in which a board of directors for a firm is made up of members with diverse backgrounds, including gender, color, ethnicity, and professional experience	Percentage
Board independence	Independent board members /Total members *100	The level of independence possessed by a board of directors from management. Independent directors are not employees of the company and do not have any financial ties to management	Percentage
Bank size	Total Asset	total assets of a bank	Numeric value amount
Bank age	Age of the company since incorporation	The period a bank has been open for business.	Number
SHARIAH board remuneration	Packages of Shariah advisors	The compensation that is paid to the members of a Shariah board.	Numeric value amount
SHARIAH board	Number of Shariah board members in each bank	An organization's board of directors is in charge of making sure that the company's activities comply with Islamic law.	Numbers
SHARIAH charity	Yearly charity to NGOs etc	A charitable organization that is established by Islamic law	Numeric value amount

The table 4 shows the magnitude of variance inflation factors among the independent variables that we have taken for our Model 1. The results show that where the VIF value is less than 10 by using the formula $[1/1 – r^2]$ the independent variables show no Multicollinearity between them. The table shows that in model 1 VIF value of all the variables is below 10 which gives the sign of no Multicollinearity so we may thus say that Multicollinearity does not exist between the independent variables in model 1.

Now we move forward toward descriptive stats of model 2 in Table 5 which shows the mean values of BANK SIZE, firm age, board size, and board independency greater than the equivalent standard deviations except board diversity. This indicates how under-dispersed each of these aspects is in Model 2. In addition, all of the probability values, except for board size, are significant, indicating that none of the components fit the characteristics of a normal distribution.

MODEL 1

Table 2: ROA conventional side Descriptive stats

	Bank size	Bank age	Board size	Board diversity	Board Independence	ROA conventional
Mean	1.39E+09	47.25	8.675	4.774441	38.6525	0.009417
Median	1.05E+09	43.5	8.5	0	36.4	0.009207
Maximum	4.64E+09	80	11	14.28571	85.7	0.020184
Minimum	1364926	21	6	0	11.1	-0.013416
Std. Dev.	1.14E+09	21.7974	1.385047	5.796706	15.9287	0.004911
Skewness	0.966679	0.106684	0.136669	0.41968	1.69705	-1.068564
Kurtosis	3.257699	1.208053	2.271471	1.258002	5.613946	8.705708
Jarque-Bera	12.68093	10.85533	2.018227	12.4636	61.17544	123.7414
Probability	0.001763	0.004393	0.364542	0.001966	0	0
Sum	1.12E+11	3780	694	381.9553	3092.2	0.75333
Sum Sq. Dev.	1.02E+20	37535	151.55	2654.542	20044.16	0.001905
Observations	80	80	80	80	80	80

Table 3: ROA conventional side Correlation

Correlation	Bank size	Bank age	Board size	Board diversity	Board Independence	ROA conventional
Bank size	1					
Bank age	0.284758867	1				
Board size	-0.048367473	-0.53101772	1			
Board diversity	0.587936188	0.24902136	-0.02122437	1		
Board Independence	-0.180961377	0.22277223	-0.41576450	0.07570441	1	
ROA conventional	0.00831156	0.24829941	-0.25037851	-0.14047232	0.013001121	1

Table 4: ROA conventional side VIF (Variance inflation factor)

VIF	Bank size	Bank age	Board size	Board diversity	Board Independence	ROA conventional
Bank size	-					
Bank age	1.088243029	-				
Board size	1.002344898	1.392718515	-			
Board diversity	1.528278411	1.066111309	1.000450677	-		
Board Independence	1.033855693	1.052218963	1.208985361	1.005764193	-	
ROA conventional	1.000069087	1.065703383	1.066882205	1.020129681	1.000169058	-

In Model 2 table number 6 shows the coefficient of BANK SIZE is found to be larger than -1, so we can conclude that there is a strongly positive relation but the BANK SIZE has a moderate relationship with board diversity because the coefficient of the variable is found to be near to 1. Firm age has also a weak correlation with other variables because the coefficients are less than 1 and near 0. Board size has a strongly positive relation with all variables because the coefficients are found to be larger than -1.

Below table 7 shows the magnitude of variance inflation factors among the independent variables that we have taken for our Model 2. The results show that where the VIF value is less than 10 by using the formula $[1/1 - r^2]$ the independent variables show no Multicollinearity between them. The table shows that in model 2 VIF values of all the variables are below 10 which give the sign of no Multicollinearity so we may thus say that Multicollinearity does not exist between the independent variables in model 2.

If we talk about descriptive stats in Table 8 of model 3, the mean values of shariah remuneration and shariah board are greater than the equivalent standard deviations except for shariah charity and ROA Islamic. This indicates how under-dispersed each of these aspects is in Model 3. Additionally, all of the components' probability values are significant, indicating that none of them fit the characteristics of a normal distribution.

MODEL 2

Table 5: Conventional side descriptive stats

ROE	Bank size	Bank age	Board size	Board diversity	Board Independence	ROE conventional
Mean	1.39E+09	47.25	8.675	4.774441	38.6525	0.142623
Median	1.05E+09	43.5	8.5	0	36.4	0.152253
Maximum	4.64E+09	80	11	14.28571	85.7	0.250613
Minimum	1364926	21	6	0	11.1	-0.276246
Std. Dev.	1.14E+09	21.7974	1.385047	5.796706	15.9287	0.071954
Skewness	0.966679	0.106684	0.136669	0.41968	1.69705	-3.131652
Kurtosis	3.257699	1.208053	2.271471	1.258002	5.613946	17.45414
Jarque-Bera	12.68093	10.85533	2.018227	12.4636	61.17544	827.1701
Probability	0.001763	0.004393	0.364542	0.001966	0	0
Sum	1.12E+11	3780	694	381.9553	3092.2	11.40987
Sum Sq. Dev.	1.02E+20	37535	151.55	2654.542	20044.16	0.409016
Observations	80	80	80	80	80	80

Table 6: ROE conventional side Correlation

Correlation	Bank size	Bank age	Board size	Board diversity	Board Independence	ROE conventional
Bank size	1					
Bank age	0.284758867	1				
Board size	-0.048367473	-0.53101772	1			
Board diversity	0.587936188	0.249021362	-0.021224374	1		
Board Independence	-0.180961377	0.222772234	-0.415764507	0.07570441	1	
ROE conventional	-0.002745219	-0.185111755	-0.03224894	-0.067005877	0.020842304	1

Table 7: ROE conventional side VIF (Variance inflation factor)

VIF	Bank size	Bank age	Board size	Board diversity	Board Independence	ROE conventional
Bank size	-					
Bank age	1.088243029	-				
Board size	1.002344898	1.392718515	-			
Board diversity	1.528278411	1.066111309	1.000450677	-		
Board Independence	1.033855693	1.052218963	1.208985361	1.005764193	-	
ROE conventional	1.000007536	1.035482208	1.001041077	1.004510037	1.00043459	-

In Model 3 Table number 10 the coefficient of shariah remuneration, shariah charity, shariah board, and ROA Islamic are found to be less than 1 and near to 0 so we can conclude that there is a weak correlation between them.

The table 10 shows the magnitude of variance inflation factors among the independent variables, that we have taken for our Model 3. The results show that where the VIF value is less than 10 by using the formula $[1/1 – r^2]$ the independent variables show no Multicollinearity between them. The table shows that in model 3 VIF values of all the variables are below 10 which give the sign of no Multicollinearity so we may thus say that Multicollinearity does not exist between the independent variables in model 3.

In descriptive stats, table 11 of model 4 shows the mean values of shariah remuneration and shariah board bigger than the equivalent standard deviations except for shariah charity and ROA Islamic. This indicates how under-dispersed each of those aspects is in model 4. In addition, the probability values of each element are significant, indicating that none of the factors match the characteristics of a normal distribution.

MODEL 3

Table 8: ROA Islamic side Descriptive side

Descriptive Stats	Shariah remuneration	Shariah charity	Shariah board	ROA Islamic
Mean	8044	16940.09	3.15	0.009463
Median	6720	4793	3	0.00884
Maximum	55334	230000	6	0.079452
Minimum	0	0	0	-0.023176
Std. Dev.	7841.881	33659.2	0.730874	0.015366
Skewness	3.472216	4.007451	0.350413	1.585001
Kurtosis	19.31414	22.93163	10.59359	9.39721
Jarque-Bera	1047.921	1538.362	193.8456	169.9107
Probability	0.00	0.00	0.00	0.00
Sum	643520	1355207	252	0.757034
Sum Sq. Dev.	4.86E+09	8.95E+10	42.2	0.018653
Observations	8.00E+01	8.00E+01	80	80

Table 9: ROA Islamic side correlation

correlation	Shariah remuneration	Shariah charity	Shariah board	ROA Islamic
Shariah remuneration	1			
Shariah charity	0.048449745	1		
Shariah board	0.263797515	0.048821865	1	
ROA Islamic	1.43E-01	0.068223825	0.045913145	1

Table 10: ROA Islamic side VIF (variance inflation factor)

VIF	Shariah remuneration	Shariah charity	Shariah board	ROA Islamic
Shariah remuneration	-			
Shariah charity	1.002352901	-		
Shariah board	1.074793976	1.002389269	-	-
ROA Islamic	1.02090297	1.004676256	1.00211247	0

MODEL 4

Table 11: ROE Islamic side Descriptive stats

Descriptive stats	Shariah remuneration	Shariah charity	Shariah board	ROE Islamic
Mean	8044	16940.09	3.15	0.119754
Median	6720	4793	3	0.124306
Maximum	55334	230000	6	0.732669
Minimum	0	0	0	-0.934198
Std. Dev.	7841.881	33659.2	0.730874	0.232789
Skewness	3.472216	4.007451	0.350413	-1.070485
Kurtosis	19.31414	22.93163	10.59359	7.734264
Jarque-Bera	1047.921	1538.362	193.8456	89.99001
Probability	0.00	0.00	0.00	0.00
Sum	643520	1355207	252	9.580356
Sum Sq. Dev.	4.86E+09	8.95E+10	42.2	4.281071
Observations	80	80	80	80

Model 4 of Table 12 shows the coefficient of shariah remuneration, shariah charity, shariah board, and ROA Islamic are found to be less than 1 and near 0 so we can conclude that there is a weak correlation between them.

Table 12: ROE Islamic side correlation

Correlation	Shariah remuneration	Shariah charity	Shariah board	ROE Islamic
Shariah remuneration	1			
Shariah charity	0.048449745	1		
Shariah board	0.263797515	0.048821865	1	
ROE Islamic	0.143975788	0.112985787	0.080386152	1

The below table 13 shows the magnitude of variance inflation factors among the independent variables, that we have taken for our Model 4. The results show that where the VIF value is less than 10 by using the formula $[1/1 - r^2]$ the independent variables show no Multicollinearity between them. The table shows that in model 4 VIF values of all the variables are below 10 which give the sign of no Multicollinearity so we may thus say that Multicollinearity does not exist between the independent variables in model 4.

Table 13: ROE Islamic side VIF (variance inflation factor)

ROE Islamic VIF	Shariah remuneration	Shariah charity	Shariah board	ROE Islamic
Shariah remuneration	-			
Shariah charity	1.002352901	-		
Shariah board	1.074793976	1.002389269	-	
ROE Islamic	1.021167816	1.012930861	1.006503962	-

After explaining the correlation and VIF table now we move forward toward linear regression results of all four models. In the first model of Table 14, we see corporate governance factors' effects including BANK size, firm age, board size, board diversity, and board independence)on ROA of conventional banks and we see that Bank age has an important effect on ROA which shows that if 1 unit increase in Bank age will lead to 0.0000895 unit increases in ROA so we reject the null hypothesis of there is no significant impact of bank age on ROA, on the other hand, board size and board diversity also show a significant impact on ROA of the conventional side of banks we also reject the null hypothesis in both board diversity and board size case at 0.05 level of significance. If one unit increase in board size will lead to a 0.005183 unit increase in ROA on the other hand if we talk about board diversity if one percent increase in board diversity will lead to a 0.0002489% decrease in ROA result matched with Alagathurai & Nimalathashan(2013) while bank size and board independence don't show any impact on ROA which leads to accepting null hypothesis at 0.05 level of significance, that there is no significant impact of bank size and board diversity on ROA these results are matched with the study found that bank size had an inverse relationship with profitability in Pakistan of (Alagathurai & Nimalathashan, 2013; Hassan, Rizwan, & Sohail, 2017; Pandya, 2011).The coefficient of determination (R-squared) indicates that 80% of the variation in the dependent variable can be attributed to the explanatory power of the independent variables. (Corporate governance) and remaining changes are due to error terms. The adjusted R-squared value shows regression model is a 78% fit for our data set. Maybe this is a reason for bank size's insignificant impact on the ROA of Pakistani banks. The regulatory environment is not conducive to large banks. The Pakistani government has several regulations in place that make it difficult for large banks to operate efficiently for example; the government restricts the number of branches that banks can open. This limits the ability of large banks to grow their customer base and spread their fixed costs over a larger number of assets. The regulatory environment in Pakistan may also affect the impact of board independence on ROA. If the regulatory environment is weak, the independent directors may have limited power to influence the management of the bank. The culture of the bank may also affect the impact of board independence on ROA. If the culture of the bank is not supportive of good corporate governance, the independent directors may be unable to effectively influence the management of the bank.

In the second model of Table 14, we see the impact of corporate governance variables including bank size, firm age, board size, board diversity, and board independence on the ROE of conventional banks and we see that board size has a significant impact on ROE which shows that if a unit increase in Bank size will lead to 0.0115412 unit increases in ROE so we reject the null hypothesis that there is no significant impact of board size on ROE at 0.05 level of significance and our study are matched with Haider, Khan, et al. (2015), on the other hand, board independence also show a significant impact on ROE of the conventional side of banks, in this case, we also reject null hypothesis at 0.05 level of significance. If a one % increase in board independence will lead to a 0.001135% increase in ROE studies are matched Sheikh and Karim (2015), on the other hand, if we talk about board diversity, bank size, and bank age doesn't show any impact on ROE As a result, we support the null argument that bank age, board diversity, and bank size has no substantial influence on ROA at 0.05 level of significance and our study are matched withChandani, Mabood, et al. (2018). The coefficient of determination (R-squared) indicates that 79% of the variation in the dependent variable can be attributed to the explanatory power of the independent variables (corporate governance) and the remaining changes are due to error terms. The adjusted R-squared value shows regression model is a 77% fit for our data set while the f value of 0.000 shows model whole is significant. The regulatory environment in Pakistan may also affect the relationship between bank age and ROE. For example, if the regulatory environment is more stringent, older banks may be more profitable than younger banks. The

management of the bank may also affect the relationship between bank age and ROE. For example, if the management of the bank is more experienced, older banks may be more profitable than younger banks.

Table 14: Linear regression results

MODEL 1(CORPORATE GOVERNANCE) DEPENDENT VARIABLE (ROA)				MODEL 2(CORPORATE GOVERNANCE) DEPENDENT VARIABLE (ROE)			
Independent Variables	Coefficient Value	Std. Error	Probability value	Independent Variables	Coefficient Value	Std. Error	Probability value
BANK SIZE	0.000000000000519	0.0000000000000634	0.416	BANK SIZE	0.000000000000130	0.0000000000000634	0.188
Bank AGE	.0000895	0.0000261	0.001	Bank AGE	-0.000259	0.0004021	0.523
BOARD SIZE	0005183	0.0001581	0.002	BOARD SIZE	0.0115412	0.0024319	0.000
BOARD DIVERSITY	-.0002489	0.0001196	0.041	BOARD DIVERSITY	-0.0019607	0.0018395	0.290
BOARD INDEPENDENCE	.0000269	0.0000338	0.428	BOARD INDEPENDENCE	0.001135	0.0005196	0.032
R-squared	0.8009			R-squared	0.7919		
ADJUSTED R-squared	0.7876			ADJUSTED R-squared	0.7780		
Prob > F	0.0000			Prob > F	= 0.0000		

After explaining models 1 and 2 tables now we move forward toward linear regression results of models 3 and 4. In 3rdmodel of Table 15, we see the impact of Shariah governance variables including Shariah charity, shariah remuneration, and Shariah board) on ROA of Islamic windows of conventional banks and we see that shariah board has a significant impact on ROA which shows that a marginal increase of one unit in the presence of Shariah board corresponds to a statistically significant increase of 0.002057 units in the ROA. Consequently, the null hypothesis is rejected at a 0.05 level of significance, and results are matched with the study of *Hassan, Rizwan et al. (2017),* on the other hand, shariah charity and shariah remuneration doesn't have any impact on ROA and we accept the null hypothesis at 0.05 level of significance. The coefficient of determination (R-squared) indicates that 28% of the variation in the dependent variable can be attributed to the explanatory power of the independent variables (Shariah governance) and the remaining changes are due to error terms. The adjusted R-squared value shows regression model is a 26% fit for our data set. In the 4th model of Table 15, we see the impact of Shariah governance variables including Shariah charity, shariah remuneration, and Shariah board on the ROE of Islamic windows of conventional banks and we see that Shariah board has a significant impact on ROE which shows that a marginal increase of one unit in the presence of Shariah board corresponds to a statistically significant increase of 0.00238504 units in the ROE. Consequently, the null hypothesis is rejected at a 0.05 level of significance, and we are consistent with the study of*Hassan, Rizwan et al. (2017),* on the other hand, shariah charity and shariah remuneration again don't have any impact on ROE so we accept null hypothesis at 0.05 level of significance. The coefficient of determination (R-squared) indicates that 26% of the variation in the dependent variable can be attributed to the explanatory power of the independent variables (Shariah governance) and the remaining changes are due to error terms. The adjusted R-squared value shows regression model is a 20% fit for our data set while the f value shows a probability value of 0.000 showing that the model whole is significant. The impact of Shariah charity on the ROA of Islamic windows of conventional banks in Pakistan is likely to be insignificant. The amount of charity given by an Islamic window may be relatively small, and it may not have a significant impact on the bank's overall profitability. The second reason may be the charity is given in the form of cash donations; it may have no impact on ROA, as the donations will not generate any income for the bank. The Shariah remuneration of Islamic windows of conventional banks in Pakistan has an insignificant impact on their ROA for several reasons. First, the Islamic windows of conventional banks in Pakistan are still relatively new, and they have not had enough time to build up a track record of profitability. As a result, it is difficult to isolate the impact of Shariah remuneration on their ROA. Second, the Islamic windows of conventional banks in Pakistan often have to compete with fully-fledged Islamic banks. These Islamic banks have a head start in terms of experience and expertise, and they may be able to offer more competitive products and services.

Table 15: Linear regression results

MODEL 3(Shariah governance) DEPENDENT VARIABLE (ROA)				MODEL 4(Shariah governance) DEPENDENT VARIABLE (ROE)			
Independent Variables	Coefficient Value	Std. Error	Probability value	Independent Variables	Coefficient Value	Std. Error	Probability value
Shariah Remuneration	0.0000000266	0.0000000230	0.251	Shariah Remuneration	0.000000377	0.000000345	0.278
Shariah charity	0.00000000308	0.00000000516	0.552	Shariah charity	0.0000000740	0.0000000775	0.342
Shariah board	0.0020577	0.0008335	0.016	Shariah board	0.0238504	0.0125181	0.060
R-squared	0.2887			R-squared	0.2639		
ADJUSTED R-squared	0.2617			ADJUSTED R-squared	0.2072		
Prob > F	0.001			Prob > F	0.0001		

After explaining linear regression results now we are going to present paired sample t-test results present in table 16 which are applied in order to test whether there is any significant change in ROA and ROE of conventional banks after open Islamic windows, below table shows that ROA and ROE of conventional side are 0.0094 and 0.1426 on average and after starting Islamic windows on average ROA and ROE is 0.0095 and 0.1426 so according to the means there is minor difference among ROA after starting Islamic windows but ROE means are same in both cases and if we talk about significance level we see that ROA contain insignificant value of 0.120 according to the consequence, the null hypothesis, positing the absence of a significant difference in ROA, is accepted and we say that there is no change in profitability of conventional banks after adding Islamic windows at 5% level of significance, on the other hand if we talk about ROE it contain insignificant value of 0.970 so we accept null hypothesis that there is no significant difference in ROE ratios of conventional banks after adding Islamic windows at 5% level of significance.

Table 16: Paired Sample T-Tests Result

Paired Samples Statistics

Situations	Mean	Std. Error Mean	Std. Deviation
ROA of conventional	.0094	.00055	.00491
ROA after open Islamic windows	.0095	.00053	.00477
ROE of conventional	.1426	.07195	.00804
ROE after open Islamic windows	.1426	.07057	.00789

Paired Samples Test results

Situations	Mean	Std. Error Mean	Sig. (2-tailed)
(ROA of conventional) less (ROA after opening Islamic windows)	-.00011	.00007	.120
(ROE of conventional) less (ROE after opening Islamic windows)	.00005	.00145	.970

5. Conclusion

The present study aims to scrutinize the impacts of various corporate governance factors, encompassing board size, board independence, board diversity, bank size, and bank age, on the profitability dynamics within the context of traditional Pakistani banks. Through an empirical analysis, we endeavor to shed light on the intricate relationships between these governance aspects and the financial performance of the banks, thereby contributing to a deeper understanding of the interplay between corporate

governance and bank profitability in the specific context of Pakistan. We will also examine the effects of Shariah governance factors, such as Shariah remuneration, shariah charity, and Shariah board, on their Islamic windows. Another goal of this study is to determine whether there is any discernible difference in the profitability of conventional banks after adding Islamic windows. To achieve these objectives we are using a linear regression model and paired sample t-test and after using these tests we conclude bank age and board size have a significant positive impact on corporate governance while board diversity has a significant but negative impact on the ROA of conventional banks on the other hand bank size and board independence do not have any impact on ROA and if we talk about ROE board size and board independence had a positive significant impact on ROE while bank size bank age and board diversity doesn't have any significant impact on ROE of conventional banks of Pakistan. In the case of Shariah governance, only the Shariah board has a significant positive impact on ROA and ROE ratio on the other hand remuneration and charity doesn't have any impact on the Islamic windows of conventional banks. If we talk about paired sample t-tests so this statistical technique gives us evidence that there is no significant difference in ROA and ROE of conventional banks of Pakistan after opening Islamic windows.

5.1. Policy implication

The findings of this study suggest that the government of Pakistan should focus on promoting good corporate governance practices in banks, especially regarding board size, bank age, and board diversity while our study suggests that regulators and banks should consider the size of the Shariah board when making decisions about the governance of Islamic banks while Regulators should encourage banks to have larger Shariah boards because Shariah boards can effectively monitor the activities of the banks and ensure that they are compliant with Shariah principles and according to our study Banks should not focus on Shariah remuneration or Shariah charity when making decisions about the governance of their banks. These factors are not significant drivers of ROA and ROE, and they should not be given priority over other factors, such as the size of the Shariah board.

5.2. Limitations

We included 10 banks in our data collection because these are the only banks operating in Pakistan that have been conventional since their inception and later started Islamic window operations. We excluded certain banks such as Silk Bank, Summit Bank and Bank of Khayber due to their low market capitalization. The remaining banks are fully-fledged Islamic banks, which did not align with the objectives of our research.

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Appendix: Table 17

Islamic windows used in this study	
1. HBL	(Habib bank ltd)
2. UBL	(United bank ltd)
3. BOP	(Bank of Punjab)
4. NBP	(National bank of Punjab)
5. BAF	(Bank Alfalah ltd)
6. ASKBL	(Askari bank ltd)
7. ABL	(Allied bank ltd)
8. BAH	(Bank Al Habib ltd)
9. JS bank	(Jahangir Siddiqui bank ltd)
10. SCB	(Standard charted bank ltd)