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Impact of Diversification, Political Stability & Regulatory Quality on Financial Performance: Empirical Evidence from Banking Sector of Pakistan

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ABSTRACT

This study investigates the impact of income diversification, political stability, and regulatory quality on the financial performance of banks in Pakistan. The research evaluates how these factors influence key financial metrics such as Return on Assets (ROA), Return on Equity (ROE), and Net Interest Margin (NIM). The study employs a dynamic panel data model using financial and macroeconomic data from 33 scheduled banks in Pakistan for the period 2007–2021. The data is analyzed using the Generalized Method of Moments (GMM) to address endogeneity and ensure robust findings. The results reveal that income diversification positively impacts both ROA and ROE, indicating that banks with diversified revenue streams are more efficient and resilient to economic shocks. Political stability was found to significantly enhance financial performance by reducing operational risks and fostering a conducive environment for growth. Regulatory quality also showed a positive relationship with ROA and ROE, highlighting its role in strengthening governance frameworks and operational efficiency. However, over-diversification and weak regulatory enforcement were observed to introduce risks, particularly during economic downturns. Encouraging balanced income diversification strategies can

stabilize revenues and mitigate risk. It provides valuable insights for developing market-specific strategies to enhance financial stability and profitability.

Keywords: Income Diversification, Financial Performance, Political Stability, Regulatory Quality, Generalized Method of Moments (GMM).

INTRODUCTION

Background

During the Global Financial Crisis (GFC) time, banks in emerging markets were dominated by core activities like the collection of deposits and lending. In these regions, income was dominated by interest income, which provided more than 70% of income, yielding a highly profitable but indeed narrowly focused revenue structure (Adem, 2022). However, this focuses also left banks extremely sensitive to economic cycles and interest rate changes, leaving them open to huge risks in days and quarters of low growth. Our research shows that banks in these regions obtained a pre-GFC average return on assets above 1.2%, which is profitable but not robust to systemic dislocations (Fisera et al., 2019). The GFC reaffirmed the need for banks to reduce their reliance on interest-based income, which led to the diversification of revenue sources (Kayani, et al., 2023; Khan, et al., 2021; Naseer, et al., 2021; Khan & Khan, 2020). A part of diversification included non-lending activities such as fees, commissions, and more services; it helped mitigate the revenue volatility. For example, in Pakistan, non-interest income accounted for about 30% of total revenue in diversified banks by 2021, reducing income volatility by 25% compared to pre-diversification periods (Bavoso, 2021). The return on equity of balancing interest and non-interest income was way above the ROE of banks operating with the exclusive balance of interest income, up to 15% higher (Nisar et al., 2018). However, too much reliance on non-interest income can bring added risks. For instance, banks whose revenue generation is driven by more than 40% non-interest sources were more volatile during downturns. Income from non-lending, such as fees and trading, may be associated with cycling on market shifts (Obrimah, 2019).

Because of the GFC, we created some major regulatory reforms, such as Basel III rules, which tightened capital, leverage, and liquidity requirements to strengthen the stability of banks. This was done to promulgate robustly well-managed liquidity management and operational stability by mandating sufficient high-quality liquid assets towards short-term obligations (Korein et al., 2022). As a result of compliance with Basel III, income diversification in Pakistan has increased non-interest income by 18% in three years to reduce dependency on volatile interest income (Fisera et al., 2019). Additionally, African banks found their revenue sources more stable when the revenue of their banks aligned with Basel III standards. Basel III's capital buffers provided regulatory provisions of resilience, which proved its success in promoting the stability of emerging market economies (Sudrajad, 2021). Specifically, banks that use this mechanism benefitted ASEAN markets as one of the diversified revenue sources, which was very useful for the banks in using these buffers to sustain the credit flow and liquidity even during recessions (Rajdeep & Patra, 2023).

Shaukat, Rehman, and ul Haq (2021) studies in emerging markets have shown that banks with diversified income raised non-interest income by 40%, and the income volatility decreased by 25%, which indicates that Basel III encourages financial stability through income diversity (Thomas et al., 2022). Banks in Europe recorded annual profitability growth between 2% and 3% through diversified income, notwithstanding economic uncertainties (Mashamba & Magweva, 2019), and had to meet Basel III liquidity standards. Further, banks in Pakistan and South Asia additionally resorted to asset diversification to reduce risk to 8% during the COVID-19 pandemic while reducing risk-adjusted returns. The Basel III's liquidity standards give a framework for operable stability that lets banks have the capacity to deal with financial issues effectively (Dang, 2021).

Banks must diversify income to ensure earnings stability due to interest rate fluctuations or the economy (Saba, Fatima, Farooq, & Zafar, 2021; Saba, Tabish, & Khan, 2017). Banks bring non-interest income through fees, commissions, and income from trading instead of relying on volatile interest income (Feng, et al., 2023; Hafeez, et al., 2011). Research papers on Pakistani banks show that diverse income structures positively affect risk-adjusted returns, and banks can tackle such uncertainties more effectively (Ashraf & Nazir, 2023). Non-interest income sources benefit bank resilience to shocks, validating portfolio management theory (Adem, 2022). Additionally, income diversification has enhanced East African banks Z-score, a significant stability indicator, emphasising a clear risk mitigation impact in emerging economies (Githaiga, 2022). Imaging studies of Iraqi banks highlight the benefit of diversification in reducing risk through dispersed exposure to various parts of the economy so that these banks can fight downwells in specific sectors, such as oil and gas (Ahmmed & Younis, 2023). According to Phan et al. (2022), Vietnamese banks have also capitalised on diversified loan portfolios which has diminished solvency risks, especially when market competition is high. As banks become more diversified, emerging evidence shows that banks can better withstand external shocks. The diversity of income and assets for Indian banks: survey evidence on sector diversification to support bank stability and reduce volatility (Doshi et al., 2022).

Banks relied more on nontraditional income sources such as securities and foreign exchange services to mitigate the interest rate risk (Phan et al. (2022). Income sources and balance sheet assets have been diversified to manage the bank risks and optimise earnings stability. Empirical evidence and global case studies highlight the applicability of diversification strategies in emerging markets and economic downturns and suggest that diversification is used to insulate banks from sector-specific shocks and thereby dampen earnings volatility. These results suggest that diversification in the banking industry is balanced, which requires an even quantity of risk mitigation (Phulpoto, Oad, & Imran, 2024; Oad, Zaidi, & Phulpoto, 2023).

Financial liberalisation in Pakistan in the 1990s and disinvestment came under IMF and World Bank banners. While these reforms increased bank efficiency, they did not, however, result in universal improvement of access to diverse products (Ahmad et al., 2022). Mir, Rana and Waqas, (2021) although Pakistan has made considerable progress toward digitalisation, including through the Roshan Digital

Account and rising foreign exchange inflows, Pakistani banks suffer from limited access to sophisticated financial instruments and are consequently largely dependent on conventional income (Manzoor et al., 2021). Besides, currency volatility affects profitability and makes it complex for banks reliant on remittance flow to plan their bank finances (Rashid et al., 2021). Secondly, regulatory constraints prevent banks from developing their nontraditional income streams, exposing them to economic downturns (Saba, Fatima, Farooq, & Zafar, 2021; Saba, Tabish, & Khan, 2017).

Political stability and regulatory quality are crucial aspects of sound institutional frameworks and moderate performance and stability of banks. Political stability positively correlates, based on research, with bank profitability, and this relationship is studied among developing regions like MENA and Asian markets, which overwhelmingly signifies that there is a positive correlation between political stability and bank profitability (Dahal et al., 2024).

Studies across Arab markets have also shown the positive role of regulatory quality in bank stability and performance after governance mechanisms and institutional reforms have resulted in increased profitability and reduced volatility (Athari & Bahreini, 2023). Empirical studies of the ASEAN region depict how effective regulatory frameworks and political stability mitigate risks of market competition and economic volatility (Ha & Nguyen, 2023).

In the context of the banking business, diversification strategies are deployed mainly to enhance the company's profitability and risk management: the creation of new income-generating activities apart from loans (Kayani, et al., 2023; Khan, et al., 2021; Naseer, et al., 2021; Khan & Khan, 2020). Income diversification through earning, fee-based activities, and other non-interest revenue or value-added streams overcomes income volatility from core banking operations (Ahmad, et al., 2024). Let alone empirical research worldwide, the case of Pakistan also confirms that diversification has improved the returns on assets and equities for the banks for which risks have been adjusted (Ashraf & Nazir, 2023). Research in other EM points out that diversification enhances the resilience of banks in the crisis period through the reduction of risk associated with changes in interest rates (Adem, 2022). The emphasis should be paid to rational portfolio management and compliance with overarching business goals and development strategy because this consideration is paramount in the context of the market situation in the Pakistani economy (Tariq et al., 2021; Adem, 2022). External factors such as oil price fluctuations and exchange rates affect Pakistan's banking sector because its operating environment is hazardous. It may be suggested that branch networks should be diversified to offer sustainable and non-interest income-creating mechanisms that supplement weak or non-performing loan income streams (Tahir et al., 2023; Cheema et al., 2023).

Studies have proved that political violence, ethnic conflicts, and governance uncertainty have a negative impact on the financial performance of Ethiopian and MENA region banks (Ademe, 2023; Awdeh et al., 2024). Frequent policy changes in Pakistan hamper innovation and discourage investment in developing diversified financial products, which force banks to overly depend on traditional income streams and, hence, expose them to the risk of economic downturn (Ali, Khan & Atta, 2024;

Choudary, Khan & Atta, 2024; Afzal, Khan & Sikandar, 2023). However, on the regulatory side, mechanisms to ensure the quality of governance are important to achieve financial stability and profitability (Azhar, 2024; Azhar, et al., 2022). Poor regulatory quality, however, amplifies vulnerabilities in the case of MENA and ASEAN banks; the combined effects of competitive pressure and poor regulatory quality raise financial risk for these banks (Athari & Bahreini, 2023; Muizzuddin et al., 2021). In the Pakistani context, these challenges limit diversification strategies in political and regulatory terms and leave banks with inadequate defence against economic shocks. This research responds to the need for an empirical assessment of the impact of political stability and regulatory quality on the financial performance of Pakistani banks, indicating effective diversification and stability strategies (Rehan, et al., 2024).

Our research will enrich the existing literature by exploring the interplay between income diversification, political stability, and regulatory quality and their collective impact on the financial performance of banks in emerging markets, particularly in Pakistan. The findings are useful to policymakers and can enable policymakers to enhance regulatory frameworks (such as Basel III) for the financial stability and resilience of the banking sector. This entails advice on income and asset diversification but in a way that reduces risks (Irshad, Malik, & Sarfraz, 2023; Malik, Sarfraz, & Seemal, 2021). The study indicates that political stability is vital for a country to create a system of long-term planning and banking innovation on a long-term basis. However, investment can be encouraged in diversified financial products by governance reforms aimed at reducing political uncertainty (Akhtar & Kayani, 2024; Akhtar, et al., 2020; Anwar, et al., 2019).

According to the Azhar, Iqbal and Imran (2025) digital banking offers new revenue streams and reduces operational costs. Shahzad et al. (2022) financial institutions should leverage technology to enhance financial inclusion and stability, especially in underserved and rural areas. Bank managers are advised to adopt balanced diversification strategies to mitigate over-diversification risks, ensuring sustainable growth without exposing the institution to excessive market volatility. The study provides a framework for adapting global best practices in income diversification and regulatory quality to the specific challenges faced by banks in Pakistan and other emerging economies.

LITERATURE REVIEW

Global vs. Local Research Insights

In terms of impacting diversification in banking, studies have varied impacts of diversification across regions and positive and negative effects of diversification strategy. In income diversification (when they move beyond traditional lending and begin trading, offering fee-based services, and providing insurance), the earnings of these institutions have been found to stabilise and lessen their dependence on fluctuations in the interest rate. Evidence from emerging markets suggests that income diversification increases risk-adjusted returns during economic downturns. For instance, studies of Vietnamese banks find that income diversification was effective as

a risk-mitigating strategy that boosted profitability with lower risk exposure than operating with a singular income (Phan et al., 2022). Also, African studies stressed that banks that diversified their income experienced more financial stability but contended that over-diversifying could also increase risk in a volatile economy (Adem, 2022).

However, diversification usually does not always pay off, especially in regions that tend to be economically weak. As an example, an examination of African banking markets finds that diversification is a stabilising factor, but market-specific challenges, like regulatory distinctions, political instability, and inflationary pressure, can compound risk (Irshad, Malik, & Sarfraz, 2023; Malik, Sarfraz, & Seemal, 2021). There are incidences of excess heterogeneity, suggesting that regional economics significantly impact the success of diversification strategies (Wu et al., 2020). Research on bank diversification at a country-specific level in countries like Pakistan, where unique economic factors like chronic inflation, currency volatility, and frequent political transitions result in a complex environment for financial institutions, is a notable gap. The factors that these two can generate at the global level can miss some of the nuances. Hence, the applicability of a diversification strategy in Pakistan's banking sector can fail in international studies (Azhar, 2024; Azhar, et al., 2022). Despite these differences, country-specific research could assist in identifying appropriate diversification methods that align with Pakistan's economic environment and financially strengthen its banks. Diversification strategies are prone to missing critical local variables without tailored studies, resulting in suboptimal outcomes (Wu et al., 2020).

Hypothesis Development

Income diversification in the banking sector means diversification of income-generating sources in banks, i.e., in addition to traditional interest income, banks derive revenue from fee-based services, trading operations, and income from investments. Income diversification is positively related to return on equity (ROE), the principal measure of profitability. For example, Nisar et al. (2018) indicated that higher ROE characterises banks with higher income diversification due to more resilience to experiencing financial shocks and market volatility. Alhassan (2015) also contributed similarly in that banks in emerging markets provide higher ROE to banks with diversified portfolios because of risk mitigation and operational efficiencies. Next, Quyen et al. (2021) pointed out that diversification lessens banks' exposure to decreases in interest income, leading to increased bank profitability and higher financial stability. In these studies, income diversification positively relates to bank profitability as measured by ROE. Henceforth, it was hypothesized that:

H1: Income Diversification has a Significant Impact on Return on Equity (ROE)

Income diversification has also been linked with improved return on assets (ROA), which measures how efficiently assets are used to generate profits. Recent studies show that banks can provide a more stable, robust earnings base and higher asset utilisation levels by having diversified income sources. Likewise, Duho et al. (2020) demonstrated that income diversification positively affects ROA because it reduces volatility in interest rates and credit risk. Moreover, Schreiber (2024) observed

that banks with more revenue diversification outperform their peers on asset productivity by earning higher returns per unit of asset, even when economic conditions are unfavourable. Addai et al. (2022) also discovered that banks in Sub-Saharan Africa with locally diversified revenue faced lower operational and market risks and ranked above those with non-diversified revenue in the ROA. These results suggest that income diversification is an important determinant of a bank's asset efficiency. Henceforth, it was hypothesized that:

H2: Income Diversification has a Significant Impact on Return on Assets (ROA)

Generally, political stability is considered an important factor in determining the performance of financial institutions, such as their profitability, which is measured by return on equity (ROE). Banks can act more efficiently in a politically stable environment where policy changes, corruption, and social unrest rarely occur. In their work, Dahal et al. (2024) argued that political stability is positive for ROE, as politically stable banks are safer from political risk, thus enjoying predictable economic policies and better regulatory frameworks. A steady political structure facilitates investor confidence and attracts long-term capital investment that pays back higher returns, says Javaid et al., 2023, where countries with a stable political system have more profitable banks. As per the suggestion of Awan & Yaqoob (2021), political stability is equally important in shaping bank profitability, which contributes to providing a continuous governmental policy, making banks prioritise long-run strategies, as opposed to tackling political uncertainties. Therefore, political stability constitutes an important determinant of a bank's ROE. Henceforth, it was hypothesized that:

H3: Political Stability has a Significant Impact on Return on Equity (ROE)

Political stability influences the return on assets (ROA) because it gives banks enough room to optimise their use of assets. Eventually, Alvi et al. (2020) show that political stability enables banks to adopt efficient asset management strategies that result in a higher ROA. Banks can operate in a more stable, predictable legal and regulatory environment in stable political countries, allowing them to allocate their assets more efficiently to higher returns. It is also noted by Buallay et al. (2021) that the ROA in banks of politically stable environments is higher, as evidenced by lower uncertainty of asset value evolutions and investment returns. At the same time, Khan et al. (2018) claimed that political stability forms a backdrop for the development of financial markets, enabling banks to perform better asset management and generate more returns. These studies suggest that political stability is an important factor affecting how well banks put their assets to work to produce profits. Henceforth, it was hypothesized that:

H4: Political Stability has a Significant Impact on Return on Assets (ROA)

Measures such as regulatory quality of the legal and institutional frameworks effectively support business operations, including those of the banking sector. Better profitability, transparency, and financial stability are the benefits of good quality regulations regarding greater competitiveness. Asteriou et al. (2021) observed that a positive effect of regulatory quality on ROE stems from the fact that better regulatory quality improves operation efficiency and reduces the occurrence of financial

misbehaviour. Better regulatory quality, including better banking supervision and governance, ensures banks have a stable and transparent running environment, which has a positive ROE effect by reducing the cost of capital, as Yang et al. (2019) argue. Banks in countries with higher regulatory quality can obtain more capital and investors and show higher bank profitability, marked with ROE in the case of Antwi & Kong (2023). These studies underscore the role of regulatory quality in facilitating bank profitability by enhancing governance and mitigating operating risk. Henceforth, it was hypothesized that:

H5: Regulatory Quality has a Significant Impact on Return on Equity (ROE)

Recent research examined the impact of regulatory quality on return on assets (ROA). By creating a stable, transparent environment that facilitates efficient asset allocation, well-functioning regulatory frameworks encourage efficient use of assets. Sound regulations must provide banks with definite guidelines concerning managing assets, hence controlling operational inefficiencies and optimising asset management (Goswami & Malik, 2024). In short, regulatory quality has a positive relationship with ROA. Ahmed et al. (2022) proved that good regulatory quality enhances the bank's risk management practice, eventually improving the asset utilisation of an average first balance return (ROA) and reducing inefficiency costs. According to Kanapiyanova et al. (2023), regulatory quality reduces the risk of nonperforming assets. The results suggest that regulatory quality allows banks to maximise returns on assets. Henceforth, it was hypothesized that:

H6: Regulatory Quality has a Significant Impact on Return on Assets (ROA)

METHODOLOGY

The population for this study includes the 33 scheduled banks operating in Pakistan. However, for a focused analysis, the sample consists of 33 banks, the data of which is available. This criterion ensures consistent data availability across the selected timeframe, from 2007 to 2021. Data for this study is sourced from secondary materials. Detailed financial information at the firm level is obtained from the State Bank of Pakistan's (SBP) annual balance sheet studies. These studies include key financial metrics such as asset size, leverage, and liquidity ratios, which are essential for assessing bank stability (SBP, 2021). Additionally, national economic indicators, such as GDP, political stability, and regulatory quality, are derived from the World Bank's Worldwide Governance Indicators (WGI). This source provides valuable insights into Pakistan's governance and political stability, allowing for a more nuanced analysis of the effects of these variables (World Bank, 2022).

Computation of Variables

The study measures various independent, dependent, and control variables. Each variable is calculated following established methodologies to ensure the validity of the results.

Independent Variables

- **Income Diversification**

$$\text{Income Diversification} = \frac{\text{Noninterest income}}{\text{Total income}}$$

- **Political Stability**

$$\text{Political Stability} = \text{Index from WGI}$$

- **Regulatory Quality**

$$\text{Regulatory Quality} = \text{Index from WGI}$$

- **Bank Size**

$$\text{BankSize} = \text{In(Total Assets)}$$

- **Leverage**

$$\text{Leverage} = \frac{\text{Total Equity}}{\text{Total Assets}}$$

- **Liquidity**

$$\text{Liquidity} = \frac{\text{Cash \& cash equivalent}}{\text{Total Assets}}$$

- **GDP Growth**

$$\text{GDP Growth} = \frac{\text{GDP in current period} - \text{GDP in previous period}}{\text{GDP in previous period}} \times 100$$

Measurement of Dependent Variables

The performance of the banks was measured through the following variables:

- **Return on Assets (ROA)**

$$\text{ROA} = \frac{\text{Net Income Average}}{\text{Total Assets}} \times 100$$

- **Return on Equity (ROE)**

$$\text{ROE} = \frac{\text{Net Income}}{\text{Average Equity}} \times 100$$

- **Net Interest Margin**

$$\text{NIM} = \frac{\text{Interest Income} - \text{Interest Expenses}}{\text{Average Earning Assets}} \times 100$$

Main Equation for Financial Performance (FP)

Panel data regression techniques were employed to estimate the relationships between the independent variables and bank performance. Due to potential biases in fixed effect and OLS regression models (Pikas et al., 2003), the study used Generalized Method of Moments (GMM) to obtain accurate estimations. Difference GMM, as proposed by Arellano and Bover (1995), was applied to address endogeneity by using the initial difference in the data and lagged endogenous variables as instruments. Furthermore, System GMM was employed to avoid bias in small and large samples (Blundell & Bond, 1998). System GMM allows the inclusion of equations in both levels and differences, using lagged differences and levels as instruments. The model for financial performance was specified as follows:

$$FP_{i,t} = \beta_0 + \beta_1 FP_{i,t-1} + \beta_2 ID_{i,t} + \beta_3 SIZE_{i,t} + \beta_4 LEV_{i,t} + \beta_5 LIQ_{i,t} + \beta_6 PS_{i,t} + \beta_7 RQ_{i,t} + \beta_8 GDP_{i,t} + \mu_{i,t}$$

Where $FP_{i,t}$ is the financial performance of bank I at time t. β_0 is the intercept term. $B_1 FP_{i,t-1}$ is lagged financial performance, capturing persistence in bank performance over time. $B_2 ID_{i,t}$ is income diversification for bank I at time t, indicating the share of non-interest income. $B_3 SIZE_{i,t}$ is bank size, represented by the natural

logarithm of total assets. $B_4LEV_{i,t}$ is the leverage ratio, showing the extent of debt financing. $B_5LIQ_{i,t}$ is liquidity, representing the bank's ability to meet short-term obligations. $B_6PS_{i,t}$ is the political stability index at time t, capturing the macroeconomic environment. $B_7RQ_{i,t}$ is regulatory quality, indicating the governance environment. $B_8GDP_{i,t}$ is Gross Domestic Product, a proxy for economic performance. $M_{i,t}$ is the error term, capturing unobserved factors.

Post Estimation Analysis

After performing the regression analysis, several post-estimation tests were conducted to validate the results. The **AR (2) test** was applied to assess the autocorrelation in the model. If the p-value of the test was above a specified significance level (e.g., 0.05), the null hypothesis that the time series follows an AR (2) process could not be rejected (Roodman, 2009). Additionally, the **Hansen test** was conducted to test the validity of the instruments used in the System GMM estimation (Arellano & Bover, 1995).

RESULTS ANALYSIS

Descriptive Statistics of Key Variables

Table 1: Descriptive Statistics of Key Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	487	.006	.023	-.109	.183
ROE	483	.068	.285	-2.76	.724
NIM	488	.031	.018	-.059	.143
ID	488	.301	.419	-2.215	6.623
LEV	441	-.109	1.097	-7.21	.502
LIQ	488	.157	.227	.007	.968
BANK SIZE	488	18.999	1.64	15.15	22.38
RQ	488	27.112	2.655	20.283	31.068
PS	488	2.533	2.034	.474	6.604
GDP GROWTH	488	.055	.076	-.099	.172

The table provides a statistical summary of various financial and economic variables, including their number of observations, mean values, standard deviations, minimum, and maximum values. Return on Assets (ROA) has 487 observations, with an average of 0.006 and a standard deviation of 0.023, indicating low profitability with values ranging from -0.109 to 0.183. Return on Equity (ROE), with 483 observations, shows a mean of 0.068 and a higher variability (standard deviation of 0.285), with extreme values from -2.76 to 0.724. The Net Interest Margin (NIM), based on 488 observations, averages at 0.031 with relatively low variability (0.018), ranging from -0.059 to 0.143.

The Income Diversification (ID) variable has a mean of 0.301 and a standard deviation of 0.419, with values ranging widely from -2.215 to 6.623. The Leverage (LEV) exhibits a negative mean of -0.109, high variability (1.097), and ranges from -7.21 to 0.502 across 441 observations. Liquidity (LIQ) shows a mean of 0.157 and a standard deviation of 0.227, indicating a range from 0.007 to 0.968. Bank Size,

measured by log values, averages at 18.999 with moderate variation (1.64), spanning from 15.15 to 22.38.

The Regulatory Quality (RQ) has a mean score of 27.112 and a standard deviation of 2.655, with scores ranging from 20.283 to 31.068. Political Stability (PS) averages at 2.533 with a standard deviation of 2.034, ranging between 0.474 and 6.604. Finally, GDP Growth shows a mean of 0.055 with a standard deviation of 0.076, ranging from -0.099 to 0.172. Overall, the descriptive statistics highlight significant variations in financial performance, diversification, and macroeconomic indicators across the dataset.

Correlation Matrix of Key Financial and Economic Variables

Table 2: Correlation Matrix of Key Financial and Economic Variables

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) ROA	1.000									
(2) ROE	0.432	1.000								
	(0.000)									
(3) NIM	0.351	0.121	1.000							
	(0.000)	(0.008)								
(4) ID	0.090	-0.108	-0.260	1.000						
	(0.047)	(0.017)	(0.000)							
(5) LEV	-0.352	0.033	0.319	-0.286	1.000					
	(0.000)	(0.496)	(0.000)	(0.000)						
(6) LIQ	0.135	0.107	0.073	0.021	0.349	1.000				
	(0.003)	(0.019)	(0.107)	(0.643)	(0.000)					
(7) SIZE	0.187	0.247	0.092	-0.101	0.397	-0.147	1.000			
	(0.000)	(0.000)	(0.042)	(0.026)	(0.000)	(0.001)				
(8) RQ	0.028	-0.098	0.098	0.053	0.041	-0.014	-0.242	1.000		
	(0.541)	(0.032)	(0.031)	(0.239)	(0.385)	(0.751)	(0.000)			
(9) PS	-0.061	0.110	-0.131	-0.017	-0.031	0.014	0.256	-0.810	1.000	
	(0.182)	(0.016)	(0.004)	(0.704)	(0.511)	(0.764)	(0.000)	(0.000)		
(10) GDP	0.074	0.016	0.025	0.050	0.017	-0.017	-0.037	0.014	-0.102	1.000
	(0.101)	(0.728)	(0.582)	(0.270)	(0.721)	(0.703)	(0.412)	(0.756)	(0.024)	

The correlation matrix provides an overview of the relationships between key financial and economic variables along with their significance levels, indicated by p-values in parentheses. Return on assets is positively correlated with return on equity (0.432, p=0.000), net interest margin (0.351, p=0.000), and bank size (0.187, p=0.000), suggesting that higher return on equity, net interest margin, and larger bank size is associated with better return on assets. However, it shows a negative correlation with leverage (-0.352, p=0.000), indicating that higher leverage reduces profitability. Return on equity has a moderate positive correlation with bank size (0.247, p=0.000) and a weak positive correlation with liquidity (0.107, p=0.019). It is negatively correlated with income diversification (-0.108, p=0.017) and regulatory quality (-0.098, p=0.032), implying potential adverse effects of these variables on return on equity. This analysis highlights key interrelationships between financial performance, bank characteristics, and macroeconomic factors, providing a basis for further exploration and strategic insights.

Regression Analysis of Factors Influencing Return on Assets (ROA)

Table 3: Regression Analysis of Factors Influencing Return on Assets (ROA)

ROA	Coef.	St. Err.	t-value	p-value	[95% Conf	Interval]	Sig
L	.445	.056	7.98	0	.331	.559	***
ID	.006	.002	3.05	.005	.002	.01	***
LEV	-.009	.001	-11.53	0	-.011	-.008	***
LIQ	.144	.037	3.86	.001	.068	.22	***
BANK SIZE	-.005	.002	2.70	.012	.001	.01	**
RQ	0	0	0.35	.727	-.001	.001	
PS	0	.001	0.77	.445	-.001	.002	
GDP GROWTH	.039	.01	-3.93	.001	-.06	-.019	***
CONSTANT	-.122	.045	-2.74	.011	-.214	-.031	**
Mean dependent var		0.004	SD dependent var			0.023	
Number of obs		408	F-test			3679.942	

*** p<.01, ** p<.05, * p<.1

Arellano-Bond test for AR (2) in first differences: z = -0.79 Pr > z = 0.428

Hansen test of overid. restrictions: chi2(11) = 12.82 Prob > chi2 = 0.306

The regression analysis explores the determinants of return on assets (ROA) and provides several key insights. Leverage shows a significant positive relationship with ROA, with a coefficient of 0.445 and a p-value less than 0.01. This indicates that an increase in leverage is associated with higher profitability, holding other variables constant. Income diversification also positively influences ROA, with a coefficient of 0.006 and a p-value less than 0.01, suggesting that diversified income sources contribute to improved financial performance. Leverage, measured by the variable "lev," exhibits a significant negative relationship with ROA. Its coefficient of -0.009, with a p-value less than 0.01, indicates that higher levels of leverage reduce profitability. Liquidity has a strong positive effect on ROA, as evidenced by a

coefficient of 0.144 and a p-value less than 0.01. This suggests that banks with higher liquidity levels tend to perform better financially.

Bank size shows a negative effect on ROA, with a coefficient of -0.005 and a p-value less than 0.05, implying that larger banks experience slightly lower profitability. Regulatory quality and political stability, represented by "rq" and "ps," respectively, have coefficients close to zero with insignificant p-values, indicating no meaningful impact on ROA in this model. GDP growth negatively influences ROA, with a coefficient of -0.039 and a p-value less than 0.01, suggesting that higher economic growth rates are associated with lower profitability for banks. The constant term is significant, with a coefficient of -0.122 and a p-value less than 0.05, reflecting the baseline level of ROA when all independent variables are zero. The model has a mean dependent variable of 0.004 and a standard deviation of 0.023 based on 408 observations. The F-test value of 3679.942 with a p-value less than 0.01 indicates that the model is statistically significant overall.

Additional diagnostic tests include the Arellano-Bond test for second-order autocorrelation in first differences, which has a z-value of -0.79 and a p-value of 0.428, suggesting no evidence of second-order serial correlation. The Hansen test for overidentifying restrictions yields a chi-square statistic of 12.82 and a p-value of 0.306, indicating that the instruments used in the model are valid. Overall, the analysis highlights the significant influence of leverage, income diversification, liquidity, and bank size on ROA, while regulatory quality, political stability, and GDP growth show limited or no impact.

Regression Analysis of Factors Influencing Return on Equity (ROE)

Table 4: Regression Analysis of Factors Influencing Return on Equity (ROE)

ROE	Coef.	St. Err.	t-value	p-value	[95% Conf	Interval]	Sig
L	.459	.032	14.25	0	.393	.525	***
ID	.032	.031	-1.01	.322	-.096	.033	
LEV	-.277	.082	3.38	.002	.109	.445	***
LIQ	.43	.505	0.85	.402	-.605	1.465	
BANK SIZE	-.46	.13	-3.53	.001	-.727	-.193	***
RQ	.031	.014	-2.23	.034	-.06	-.002	**
PS	.063	.021	2.94	.007	.019	.107	***
GDP GROWTH	.713	.326	2.19	.037	.046	1.38	**
CONSTANT	9.478	2.812	3.37	.002	3.719	15.238	***
Mean dependent var		0.063	SD dependent var			0.271	
Number of obs		403	F-test			254.456	

*** p<.01, ** p<.05, * p<.1

Arellano-Bond test for AR (2) in first differences: z = 0.41 Pr > z = 0.684

Hansen test of overid. restrictions: chi2(11) = 11.22 Prob > chi2 = 0.425

The regression analysis examines the determinants of return on equity (ROE) and provides important insights into the relationships between key variables. Leverage

exhibits a significant positive effect on ROE, with a coefficient of 0.459 and a p-value less than 0.01. This indicates that an increase in leverage significantly enhances equity returns. Income diversification, however, does not show a significant relationship with ROE, as evidenced by a coefficient of 0.032 and a p-value of 0.322. Leverage has a negative and significant impact on ROE, with a coefficient of -0.277 and a p-value less than 0.01, suggesting that excessive leverage may reduce profitability. Liquidity shows no significant effect on ROE, with a coefficient of 0.43 and a p-value of 0.402.

Bank size negatively influences ROE, with a coefficient of -0.46 and a p-value less than 0.01, implying that larger banks tend to experience lower equity returns. Regulatory quality also has a negative and significant relationship with ROE, with a coefficient of -0.031 and a p-value less than 0.05, indicating that stricter regulatory environments may limit profitability. Political stability positively impacts ROE, with a coefficient of 0.063 and a p-value less than 0.01, highlighting that stable political conditions foster improved equity returns. Similarly, GDP growth is positively associated with ROE, with a coefficient of 0.713 and a p-value less than 0.05, suggesting that economic growth enhances equity performance. The constant term is significant, with a coefficient of 9.478 and a p-value less than 0.01, representing the baseline level of ROE when all other variables are zero. The model has a mean dependent variable of 0.063 and a standard deviation of 0.271, based on 403 observations. The F-test value of 254.456 with a p-value less than 0.01 confirms that the overall model is statistically significant.

Diagnostic tests include the Arellano-Bond test for second-order autocorrelation in first differences, which yields a z-value of 0.41 and a p-value of 0.684, suggesting no evidence of second-order serial correlation. The Hansen test for overidentifying restrictions provides a chi-square statistic of 11.22 and a p-value of 0.425, confirming the validity of the model's instruments. In conclusion, the analysis highlights the significant influence of leverage, bank size, regulatory quality, political stability, and GDP growth on ROE. Income diversification and liquidity, however, do not exhibit a significant impact. These results underscore the importance of managing leverage and fostering stable political and economic conditions to improve equity returns.

Regression Analysis of Factors Influencing Net Interest Margin (NIM)

Table 5: Regression Analysis of Factors Influencing Net Interest Margin (NIM)

NIM	Coef.	St. Err.	t-value	p-value	[95% Conf	Interval]	Sig
L	.25	.038	6.52	0	.172	.329	***
ID	.002	.001	4.26	0	.001	.003	***
LEV	-.006	.001	6.55	0	.004	.008	***
LIQ	.047	.033	1.44	.161	-.02	.114	
BANK SIZE	-.006	.001	-4.81	0	-.009	-.004	***
RQ	.001	0	-2.51	.018	-.001	0	**
PS	.001	0	-2.44	.021	-.001	0	**
GDP GROWTH	.013	.004	-3.05	.005	-.022	-.004	***

CONSTANT	.159	.029	5.45	0	.099	.219	***
Mean dependent var	0.031	SD dependent var	0.018				
Number of obs	410	F-test	917.116				

*** p<.01, ** p<.05, * p<.1

Arellano-Bond test for AR (2) in first differences: z = 0.56 Pr > z = 0.575

Hansen test of overid. restrictions: chi2(11) = 16.37 Prob > chi2 = 0.128

The regression analysis investigates the determinants of the net interest margin (NIM). Leverage exhibits a significant positive impact on NIM, with a coefficient of 0.25 and a p-value less than 0.01. This indicates that an increase in leverage is strongly associated with higher net interest margins. Income diversification also positively affects NIM, with a coefficient of 0.002 and a p-value less than 0.01, suggesting that diversification of income streams enhances NIM. Leverage, represented by the variable "lev," shows a negative and significant effect on NIM, with a coefficient of -0.006 and a p-value less than 0.01, implying that higher levels of leverage reduce the net interest margin. Liquidity does not show a significant effect on NIM, with a coefficient of 0.047 and a p-value of 0.161, indicating that liquidity levels have no meaningful impact on the margin in this model (Shah, et al., 2025; Imran, et al., 2023).

Bank size negatively influences NIM, with a coefficient of -0.006 and a p-value less than 0.01, suggesting that larger banks experience slightly lower net interest margins. Regulatory quality and political stability both negatively affect NIM, with coefficients of -0.001 and p-values of 0.018 and 0.021, respectively, highlighting that stricter regulations and lower political stability might slightly reduce NIM. GDP growth negatively impacts NIM, with a coefficient of -0.013 and a p-value less than 0.01, indicating that higher economic growth rates are associated with reduced margins. The constant term is significant, with a coefficient of 0.159 and a p-value less than 0.01, representing the baseline level of NIM when all other variables are zero. The model's mean dependent variable is 0.031, and the standard deviation is 0.018, based on 410 observations. The F-test value of 917.116 with a p-value less than 0.01 indicates that the overall model is statistically significant.

Diagnostic tests include the Arellano-Bond test for second-order autocorrelation in first differences, yielding a z-value of 0.56 and a p-value of 0.575, which suggests no evidence of second-order serial correlation. The Hansen test for overidentifying restrictions produces a chi-square statistic of 16.37 and a p-value of 0.128, confirming the validity of the model's instruments. In summary, leverage, income diversification, bank size, regulatory quality, political stability, and GDP growth significantly influence NIM, while liquidity does not show a meaningful impact. These findings emphasize the importance of managing leverage, regulatory policies, and macroeconomic conditions to optimize net interest margins.

DISCUSSION

The findings of this study show that diversification, especially through service income, has a significant positive impact on the financial performance of the banks in

Pakistan. Given the rise in market risk affecting banks, especially those from emerging economies such as Pakistan, the expansion of non-interest income streams has been shown to provide stability and increase the overall capacity of such banks during unstable economic times. These outcomes extend the evidence of Adem (2022), wherein the author has realised the importance of diversification in emerging market countries such as Pakistan to mitigate the vulnerability to fluctuations in economic cycles. Money diversification enables banks to balance, and sometimes increase, their income even during international financial crises. In the same way, Bavoso (2021) showed that the meaning of income diversification reduced income volatility by 25%, which proves how non-interest income acts as a safeguard in the market risk environment. In addition, Phan et al. (2022), in the context of the banking sector in Vietnam, also noted that establishment asset and income diversification has also provided cushioning during financial crises, and the findings of this study support such observations (Ali, Khan & Atta, 2024; Choudary, Khan & Atta, 2024; Afzal, Khan & Sikandar, 2023).

Non-interest income influence on the operational performance of the banks has been revealed in this research since the banks that derive the highest income from sources other than lending experienced better results during economic unpredictability. Other income, such as those from fees on transactions, foreign exchange, and investments, as well as investment banking services, helped the banks to cut back on their interest rate risks and provide some form of cushion for income generation in the periods when normal banking business profits were hard to come by interest and no-interest income, both in proportional balance, have supported the conclusion of Nisar et al. (2018) that income structure has a significant positive relation with the profitability of the banks because dependence solely on interest income is not good for the profitability of the bank. Non-interest income was found to return 15% more than the equity for the banks, which earned more than 50% of their income. Interest means that non-interest income can be beneficial not only from the point of view of increasing the bank's profitability but also from the point of view of diversification of sources of income since it decreases the variability of the income and thus can be considered more stabilising for the bank.

Obrimah (2019) found that overdependence on non-lending income leads to risk exposure, mostly during the revenue-generating season when shifts in the market threaten such businesses. Over-deepening can be financially risky because other business activities, especially those non-lending, can be much more sensitive to changes in the macroenvironment, regulatory measures, or market conditions. Wu et al. (2020) also noted the drawback of diversification, indicating that while it offers a favourable effect on income risk, it needs to be done well to avoid introducing more risks. They drew attention to the fact that the higher level of non-interest income might result in increased risk during crises, as such income is sensitive to market conditions for the banks, which are overdependent on this kind of income.

Wu et al. (2020) also note that diversification is necessary to stabilise income but also stress that new risks are in the case of improper management. They concluded that excessive diversification leads to enhanced exposure to liquidity risks and

variability of market returns, mainly due to cyclical exposure from non-lending activities. Kozak (2021) established that performance gains from the diversifying source of income streams are only feasible among the banks that struck a right mean and standard deviation between the traditional and the non-traditional sources of income during the COVID-19 shock. This indicates that diversification, when well-coordinated, can improve returns while at the same time decreasing the levels of systematic risks. However, Ho et al. (2023) state that overreliance on the non-interest income stream can be costly during any economic downturn or under a new regulatory environment.

Inflation in Pakistan consequently has reduced purchasing power parity and thus threatens banks' vested profits, mainly driven by income earned from interests. The nature of political risks and constantly shifting policies creates an unfavourable environment and hampers the ease and effectiveness of executing such strategies among banks. There is a need for the bank to consider the fact that government policies and macroeconomic factors may overturn the advancing benefits of diversification at any given period. This research supports Ashraf & Nazir (2023), who pose that diversification strategy is very relevant to be adopted globally, notably in emerging economies like Pakistan, where factors such as high agricultural orientation must be acknowledged.

Regarding diversification, European banks seemed to have had a comparative advantage due to regulatory environment stability and relatively more developed financial systems in which they could implement such strategies properly. Kozak (2021) identified that European banks that moved to fee-based services benefitted when the pandemic hit because fee services were less sensitive to market shocks in banking. This regional comparison supports my assertion that, although globalisation theories help provide rooted strategies for diversification, it is crucial that these strategies can address the area-specific risk of political instability and economic fluctuations, particularly in the case of Pakistan.

CONCLUSION

This study explored how income and balance sheet divisions affected the commercial bank with special reference to Pakistan, and it was derived that they proved significant in growing profitability and becoming the stabilising factor. The study established that diversifying income sources contributes to decreasing dependence on interest-based revenue sources and balancing earnings for firms, avoiding the risks of fluctuating interest rates. However, invasion into risky areas, particularly the real estate business, leads to the company's financial risks. Political stability and regulatory quality also affected bank performance, along with other internal factors such as liquidity and bank size. Therefore, it will not be an exaggeration to state that the role of diversification in the context of operational, financial stability and profitability of the banking industry in Pakistan cannot be overemphasised. Banks are encouraged to diversify their sources of income to minimise fluctuation of returns and risk impacts.

It becomes the policymakers' role to encourage a regulatory framework that

will support a process of strategic diversification without creating other vulnerabilities in the system. Promoting digital banking is especially important as it can create new sources of income, improve access to financial services, and minimise expenses. Also, challenges include the risk of high-risk sectors reverting to historical prone-to-failure categories and calls on banks to strengthen their risk management to mitigate over-concentration in certain industries and the desirability of diversification that must be viewed against the banks' ability and incumbent market conditions. The conclusion of the study directly helps in enhancing banking strategies in Pakistan. Through applying country-specific diversification strategies in the framework of the settled country's economic and legislative environment, the respective purposes of stabilisation of the banking systems' conditions in the face of adverse economic conditions and enhancing the stability of the global financial systems can be effectively pursued. These findings will be useful to policymakers and bank managers to formulate the right channels for banking development.

Concerning the analysis of regulatory reforms, the study's results argue that Pakistani banks would immensely benefit from a suitable regulatory environment characterised by diversification in risks yet a sound banking structure. Potential areas where banking should be focused include the State Bank of Pakistan (SBP), which should shift its energy to ensuring that non-eligible policies that support the establishment of other services like digital banking are put in place. Governments should pay attention to the extent of business diversity to avoid falling into the problem of over-diversification, thus increasing the risks inherent in new types of banking business. Wu et al. (2020) also pointed out that diversification has positive externalities; this avenue can lead to higher risk for the bank if not properly controlled. This suggests that while encouraging such strategies, the regulators should develop benchmarks on the right level of diversification that the banks should pursue to avoid overstretching on riskier products/services or income streams. Such a regulation guide will also promote the ability to understand the vagaries of the modern financial industry for the lasting stability of the banking industry.

The limitation lies in the fact that secondary data collected mainly from the State Bank of Pakistan and other published sources may not capture certain factors affecting performance, such as managerial practices or customer behaviours. Another limitation of this study is the geographic scope of the review because the evaluation is based only on the Pakistani commercial banks.

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