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Antecedents of Sustainable Financial Performance: Evidence from the Banking Sector of Pakistan

Muhammad Kashif Majeed[1], Maria Saleem[2], M Khyzer Bin Dost[3], Faisal Mahmood[4*], Nargis Batool[5]

[1] The University of Faisalabad,
Faisalabad, 38000, Punjab, Pakistan
Email: kashif5049ntu@gmail.com
[2] The Superior University,
Lahore, 54000, Punjab, Pakistan
Email: mariyasaleem1989@gmail.com
[3] The University of Lahore,
Lahore, 54000, Punjab, Pakistan
Email: khyzer_bin_dost@hotmail.com
[4] The Superior University,
Lahore, 54000, Punjab, Pakistan
Email: faisalch62@gmail.com
[5] University of Lahore
PHD Scholar (Management Sciences)
Email: nargusbatool23@gmail.com

ABSTRACT

This research aims to investigate the determinants of the sustainable financial performance of banks listed on the Pakistan Stock Exchange. The data for the present research is collected from 30 banks over the period of 2012-2022. The panel cross-linear regression was employed to analyse the data by employing Stata. Various bank-specific factors were found to be positive and statistically significant antecedents of banks' financial performance. However, bank size, business model and financial structure have negative and insignificant impacts on the bank's financial performance. In a similar vein, macro-economic factors have a significant negative and insignificant positive impact on banks' financial performance. Concerning social factors, only hospital funding has an adverse effect on financial performance. Last but not least, environmental financing is negatively and insignificantly linked with banks' financial performance. Accordingly, this research concludes that managers and policymakers of commercial banks must keep their social and environmental investments in check to attain sustainable financial performance.

KEYWORDS

Financial Performance, Bank-specific Factors, Social Factors, Macro-Economic and Environmental Factors.

JEL Codes: G-20; M-21; O-16; Q-56

1. INTRODUCTION
The 2008 financial crisis has demonstrated the vulnerability of banks and financial institutions, as their

failures constitute a significant threat to the global economic system with potentially severe repercussions. Hence, it is crucial for governments, regulators, and market participants to adapt their policies and structures to mitigate the impact of future crises. A bank is a financial institution that acts as a mediator, collecting excess savings from individuals with a surplus and providing that money to individuals with a shortage to facilitate constructive economic activities. A bank offers individuals and businesses various financial services and takes advantage of asymmetric information, reducing costs associated with gathering information about borrowing and saving options. These services enhance the efficacy of the entire economy. In the present era, the banking sector holds immense importance for individuals and businesses. According to Wu et al. (2006), the quality of services provided by banks has a significant impact, and any failures or problems in banks might pose a severe threat to the global economic system with adverse effects. Hence, how banks conduct their operations emerges as a crucial subject of stakeholder scrutiny (Ali et al., 2021; Fethi & Pasiouras, 2010).

Usually, the bank plays a vital role in the financial sector and is more reliable than the market in transferring funds from savers to spenders, but it doesn't mean that the market is so worthless because, in some cases, the market is also very beneficial for both people. The financial system is a convenient way for both savers and borrowers in the flow of funds. A healthy volume of funds and maximum improvements in company profit can be gained if the financial system is active and powerful, and it would be smooth and helpful for the customers. According to King and Levine (1993), banking sector development indicators exert a favourable and substantial impact on economic growth. In a previous study, Levine and Zervos (1998) proposed that a robust banking system and ample stock market liquidity contribute positively to the accumulation of capital, economic growth, and productivity. These effects remain significant even when accounting for political and economic variables. Banks are regarded as the vital force driving the modern economy in the financial operations of a corporation. According to a prior study, banks play a fundamental role in modern markets by facilitating the flow of financial resources, which is crucial for driving innovation, economic progress, and prosperity. The key purpose of the banking industry is to facilitate the process of production, distribution of wealth, and exchange. As a smooth channel, the banks make transactions of funds from depositors to investors and produce a healthy budget to control the operating expenses.

Economic growth and development are based on a strong banking system, and it is also a key purpose of banks to operate the economy and produce the maximum output in profit. A bank's financial stability in a particular economy can be assessed by examining the strength and resilience of its banking system. Banks can generate profitability by preserving high-quality bank assets. The significance of a well-ordered financial sector consists of the reality that certifies the mobilisation of domestic resources and produces savings and investments. The financial system highlights that a country needs the most profitable and beneficial sectors to produce more productive bases for future development. It is the key operation of the financial sector not only to transfer the funds from depositors to investors but also to clarify that funds can be shifted to the sectors which are most important for an economy. Banks play a critical part in the financial market.

The banking and financial sectors have become important business precincts in today's economy, and they are also responsible for the advancement of numerous such institutions. Although the banking system has achieved its goal of making some progress in business development, there are some hurdles and challenges, and the banking system endeavours to overcome these challenges to get the maximum financial benefits. In this regard, the banking sector also tends to improve its services and operating functions. Accounting and financial ratios are also responsible for providing important financial and related information about a bank's financial performance. The ratio estimates the relationship among many factors which are valuable and responsible for improving the bank's financial performance, like profit, assets, working staff, customer satisfaction, share value, revenue and investors, which can play a significant part in the growth of the financial and banking industry. Academic researchers have long practised financial ratios to measure the bank's financial performance. Banks use CAMELS ratings to analyse their financial health and performance (Ali & Dhiman, 2019).

The banking industry has knowledgeable global major revolutions from the last two decades in their operating atmosphere. The internal and external variables have an effect on the structure and financial performance. Despite increased aptitude towards the bank dis-intermediation experimental in various countries, the status of banks particularly performs a central role in economic activities in general and different divisions of the sectors. The healthy and profitable banking industry is remarkably capable of surviving financial crises and donating to the establishment of the financial market. In order to ensure performance efficiency and to protect banks from failure, regulatory authorities across the world adopt Basel norms. Bank-specific and country-wide factors can affect a bank's financial performance. These variables are categorised into bank internal and macroeconomic variables. The bank's individual characteristics are also current factors; these affect the bank's financial performance. These variables are essentially enhanced through internal decisions of the board and management. The statutory capital adequacy ratio is a crucial factor in assessing bank performance. It is generally posited that a bank's stability is positively correlated with its regulatory capital adequacy ratio, meaning that a higher ratio indicates more excellent stability. In comparison, a lower ratio suggests a higher likelihood of liquidation. A limited number of research studies have specifically examined the significance of bank size in influencing bank performance (Chen et al., 2018; Gafoor et al., 2018; Gupta & Mahakud, 2020; Jariyapan et al., 2022). It is generally considered that larger banks are more proficient. Likewise, the ownership structure of a bank can also impact its performance.

Sustainability, today's socially aware market environment aptitudes, has changed how businesses can control their operations. This is supported by international bodies such as the World Trade Organization for Sustainable Development. The broader specimen on institutional value has symbolised far outside the area of accounting and financial statements. Same like this rapidly pervading theory has developed new sources of business, whereas the organisations not only essential of social and environmental impacts but also sustain their financial strength for the investors, stakeholders like customers, consumers, employees, community, investors, suppliers and regulatory groups. Investors can seek the beginning market prospects with organisations that have sustainability management variables that are essential for businesses. There are different kinds of literature that prove that sustainability variables when applied to portfolio policy and investment analysis, affect the investor's probable long-term performance. It can be in the form of investors' hope for sustainability, responsible investing, corporate management's focus on corporate social responsibility, or investors' focus on sustainability and environmental problems. The banking domain proves itself to be a central point in sustainability development. Presently, sustainability is an important, remarkable trend in organisations. However, significant financial establishments often have to perform more than their basic duty. It is very important that the key objective of banks is to enhance economic development and ensure wealth remains secure, but domestic society, usually in advanced countries, increased worried about how they fulfil these objectives. However, in all cases, society and the environment are not directly affected by financial institutions through their influence on businesses. Civil society groups criticise the banks for wanting a bigger stewardship guarantee regarding their participation in businesses and expansion that massively harm the environment and human rights and are also associated with severe effects on domestic society.

In a nutshell, the purpose of this research is to examine whether (i) bank-specific, (ii) social, (iii) environmental, and (iv) macroeconomic factors determine banks' financial performance.

2. LITERATURE REVIEW

Multiple approaches are used to investigate the bank's performance. For the country's confirmation, the transition and significantly the commercial bank's performance have been affected. It is obvious that the profitability and the level of the proper banking system have the capacity to manage the /damage and that the financial strategy is also able to stabilise the position of the bank. In the literature for the analysis of financial performance, there are two opposite approaches. These techniques have also been applied in developing economies. The first one is the non-parametric approach, and the second is parametric to assess the profit and cost efficiency limitations, like data envelope analysis or SFA. These studies identified that local banks are less efficient, but overseas banks are most efficient. Surveys can be uncovered by Berger and Humphrey (1997).

2.1 Bank-Specific Factors and Firm Performance

Bashir and Hassan (2003) examined eight years of financial records for 43 Islamic banks and found a profit ratio boost. Pakistani banks' ROA and ROE are positively and negatively affected by board size. The relationship is not statistically significant. In contrast, board size positively affects ROA and ROE in Chinese banking with a 10% significance level. In Pakistani banks, the board composition coefficient is negatively and statistically significantly correlated with ROA but not ROE. In Chinese banks, board composition coefficients do not affect ROA and ROE. (Majeed et al., 2020).

Two prominent studies use traditional methods. Victor et al. (2007) employ 2002 cross-section data to analyse the central four Chinese banks, city conventional banks, and joint-stock. The primary four are less efficient, are less profitable, and have low-quality assets, excluding the three banks' policies. Some academics utilise net interest margin and return on assets and equity to calculate a bank's profitability, the second norm of literature. Occasionally, researchers used bank financial ratios, macroeconomic conditions, and regulatory changes. Goddard et al. (2004) examine European banks' financial performance, particularly in six countries. Profitability was weakly correlated with bank volume evaluated by ROE. Financial performance and profitability are strongly correlated, according to British banks.

Jha and Hui (2012) loans, credit ratios and NIM used multiple regression approaches to analyse the effect on debt ratio, capital adequacy, return on assets, interest expense and return on equity at a profit to the ratio of collection. Akhtar (2014) capital ratio proportion is a rapport of data, which is used diversified regression specimens, which is positively associated and asset management data specimen positive association with Model II, while there are important statistically up to level 5% of significance in both aspects. The margin of net interest, an abundance of capital, and total debt are positively associated with equity return, but suspected loans and the deposit credits expense on interest have an important impact on ROE. The 13 listed commercial banks in Istanbul, Turkey, and the Stock Exchange by adding the current study (Teker et al., 2011). In the notes mentioned above, they investigate the factors by which profitability is affected in the banking sector. The liquidity level control through government policy affects the banks' profitability. The other aspect of this study is an increase in bank deposits and improvement due to government policies. There are many studies other than the above-mentioned literature that investigate the profitability sources of the European banking industry. There is no work before this which defined the indicator of the European bank's profitability, which was accompanied by Molyneux and Thornton (1992), manifest the liquidity negative association and profitability of banks in Europe calculated during the span 1986 to 1989 consisting of 18 European country banks sample. Beyond European studies, studies on profitability determinants have a vast sphere, and they use the panel of different emerging countries.

Tan (2016) in his work used NIM, ROA, PM and ROE as profitability signs and classified independent variables into bank-specific factors of macro-economic in their study, adding up to 41 banks by considering the joint-stock, state-owned and conventional banks of the city for a span between 2003 to 2011 of Chinese's banking sector. The large bank size has affected the profitability of Chinese banks; tax payments prolong the capital ratio. However, profitability increases due to developments in the stock market and banking sector. He investigates the positive impact of labour productivity, the cost of overheads, GDP growth, and profitability inflation with applied GMM regression. Dietrich and Wanzenried (2011) further studied dynamics; they employed the data of unstable panels and applied the GMM technique of approximately Switzerland's 372 banks at the commercial level during the period of 1999 to 2009 to investigate the profitability indicator before and during crises. They uncover that operational efficiency and interest income from total income affected the profitability of Swiss banks during and before crises. They select the ROA, NIM and ROE indicators of profitability and classify independent variables into bank-specific, industry-specific and macroeconomic factors. Sinha and Sharma (2015) analysed the measure of profitability of Indian banks for the span of 2000 to 2013. They selected a sample of 42 Indian commercial banks. However, they found that the rate of inferior asset quality and inflation negatively affects the profitability of Indian banks by applying GMM-regression specimen, but explored GDP, HHI, capitalisation, deposit growth, and diversification are positively correlated with ROA. Athanasoglou et al. (2008) identified the effect of industry-specific variables of bank-specific and

macroeconomic factors on banks that generated the profit of Greece's commercial banks between 1985 and 2001 with applied GMM. Trujillo-Ponce (2013) evaluated the profitability indicator of Spanish banks from 1999 to 2009 for 89 banks, liquidity, deposit over liability and bank-specific factors, which are significant in defining profitability. He also reviewed the maximum number of operational improvements in Spanish banks that affect the volume of profit in the opposite direction. Furthermore, contemporary studies analyse the profitability determinants through the applied GMM technique of a single country, India (Ahamed, 2017). However, Raza et al. (2011) investigate that taxation, diversification, liquidity, credit quality and volume are negatively associated with the profitability of banks, whereas capitalisation, development of inflation and the stock market are positively associated with profitability through the use of the GMM estimator. Previously, many studies that investigated the profitability determinants used statistical methodologies in the Pakistani banking sector.

The stewardship theory, inverted U-curve theory, and agency theory can help define the link between commercial banks' size and profitability. Stewardship theory asserts that managers are good custodians of corporate assets. The profitability of banks, the bank has a negative influence, according to this theory. The decisions and functions of managers are skewed towards personal gain. This indicates that the managers can enhance the volume of the bank to gain more power and get higher incomes. The manager's impartiality should be very important because stewardship theory advises that the managers are not susceptible to misuse of the firm's resources, and hence, they are naturally trustworthy. The firm's agency theory advises that the managers' and shareholders' interests are in constant conflict. Redmond and Bohnsack (2007) classified the banks into five different categories according to bank asset size in their research work on the impact of the size of the bank on profitability. The equity return is used as a profitability highlighter. However, two classifications of analysis were employed by current work: first, in profitability, to count the statistical difference for the bank classifications through the current study, and inspections are run on the source of return on equity for the various classifications of the bank. Murthy et al. (2008) analysed bank profitability and income in the Gulf Cooperation Council (GCC) countries. The data from 78 banks was used during the period from 2002 to 2008. The size of the bank was speculated to be a very important phenomenon that influences the profitability of Gulf banks. The number of total assets was recognised with a marvellous profitability impact on the bank.

Girardone et al. (2004) found no correlation between asset size and bank profitability in Italy. Bank size was not connected with technical efficiency in Isik and Hassan's (2003) investigation. Drake and Hall (2003) find that Japanese banks' technical efficiency suffers with size, especially middle-size banks. Mullineaux (1978) found it increases bank profitability (bank size). Kwast and Rose (1982) and Smirlock (1985) found that bank size increases profitability. As measured by branch numbers, bank size did not affect profitability (Al-Jarrah et al., 2010; Hester & Zoellner, 1966). Romdhane (2013) examines emerging country bank capital ratio drivers. Providing securities to investors may put banking strain on the corporation, but higher returns on investor money volume may attract new deposits. The study examined 2002–2008 semi-annual data from 18 banks. Ogege et al. (2012) used macroeconomic factors to study the impact of capital ratio growth on Nigeria's economy and banking sector over 30 years. Ezike and Mo (2013) found that capital ratio affects Nigerian banks. Earnings per share and profit after tax assesses bank performance. This study calculated the capital ratio using advances, loans, total assets, customer deposits, and shareholders. The study used OLS to estimate capital adequacy standards and found that they significantly affect bank performance.

In this regard, Aboagye and Otieku (2010) also contended that to continue the operations for banks, they make maximum money by lending or giving services to cover financing costs and retain finance for future operations. This will not only enhance the operations but also the growth and performance of the bank. However, Achou and Tenguh (2008) proposed that it's critical that banks practice thoroughly wise credit risk management, defend the assets of banks, and succeed in building the investors. Dahlgaard-Park et al. (2013) found that quality management has matured, where research has deviated from total quality management focus on approaches, tools, and measures of establishing positive quality performance relations and advancing the measurement systems. Zatzick et al. (2012) interpreted it to explain the concept of internal fit of total quality management practices with strategy, concluding total

quality management associated with cost leadership. As per various prior studies, a significant association was identified between liquidity and the performance of conventionally listed institutes on the stock market in Sri Lanka from 2008 to 2012. Zygmunt (2013) uncovered the significant role of liquidity ratios in firm performance, which had a strong effect on financial performance in Polish listed companies.

Tugas (2012) employed in his work three ratios for liquidity, quick, current and cash ratios to investigate the vast sphere of the association of liquidity with profit in organisations going to education organisation from 2009 to 2011 in the Philippines. He further explored the positive associations between quick, operating profit margin, and current ratio. Furthermore, the cash ratio is not directly related to profit margin. Niresh (2012) explored a positive association between net profit and a quick ratio of listed manufacturing firms in some Asian countries, prominently in Sri Lanka, spanning from 2007 to 2011. Niresh (2012) investigated engineering organisations in Sri Lanka, and they took some serious steps towards maximising profit while preserving liquidity. Bolek and Wili'nski (2012) identify the association between quick ratio and ROA. Priya and Nimalathasan (2013) examined current and cash ratios and found that they are significantly correlated with ROA. Vayanos and Wang (2012) and Ruziqa (2013) proved that liquidity has positively remarkably impacted the ROA. Khidmat and Rehman (2014) and Saleem and Rehman (2011) investigated the association between liquidity and return on assets. Operational efficiency is the ability of the company to deliver quality goods to customers in a cost-effective manner. The operating efficiency of the company using the assets is reproduced in net profit. Moderately efficient companies retain more stability in terms of output and operating performance compared with other sectors (Mills & Schumann, 1985).

Many ratios measure operational efficiency. To calculate total asset turnover, divide net sales by total assets. Second, net sales to fixed assets fixed asset turnover ratio. Net sales over equity are also used to calculate equity turnover. These ratios indicate that the organisation is efficiently controlling operating costs, which will improve financial performance (Rao & Lakew, 2012). According to Ebaid's (2009) research on Egyptian listed companies, capital structure does not affect organisational performance. Financial performance proxies were return on equity, asset, and gross profit margin, while capital structure proxies were short-term, long-term, and total debt over total assets. Regression was used to analyse data. The findings matched (Berger & Di Patti, 2006). The corporation finances part of its assets with equity and capital and part with long-term finance or liabilities and short-term obligations.

Hypothesis 1: *There is a significant relationship between Bank-specific factors and the financial performance of Banks.*

2.2 Macroeconomic factor and Sustainable Firm performance

Ongore and Kusa (2013) introduced various kinds of linear regression approaches to determine and control for the least square method on panel data. In Kenya, other macroeconomic inflation, GDP, and other variables are used to determine conventional banks' financial performance. It is clear that there is a wide negative association between variables and a bank's financial performance. While studying in Kenya about commercial banks, the inflation's negative impression of 2010 makes it clear that the banks' production is badly affected. The financial performances of commercial banks indicate that occupancy controls are playing an insignificant role. In terms of liquidity accuracy, commercial banks have decent and accurate worth. Inflation is a steady rise in the general prices of every product. The higher prices anticipate minimising consumers' spending, which leads to an improvement in GDP. The GDP deflator is an indexing of inflation in any economy. The CPI measured the change in the price of a wide basket of consumer products. Usman and Adejare's (2013) research work in Nigeria represented and uncovered a negative association between market volume and GDP market share indexes with inflation. Djalilov and Piesse (2016) reported that it is negatively associated with the financial performance of early transition and positively associated with late transition countries. Alimi (2014) indicated a harmful inflation effect on financial development. Harvey (2012) described the exchange rate as responsible for associating one

currency with another. It is the price which has the ability to convert the currency of any country with the currency of another country. The state bank decides the fixed exchange rates of the country; on the other hand, varying exchange rates are decided through the mechanism of market supply and demand. There are some factors that enhance the exchange rate, including inflation rate, interest rates, trade balance, internal harmony, political stability, governance quality and economy. Martin and Mauer (2003) argued that it is very hard to consider the effect of foreign exchange, and it creates a riddle in the valuation of a firm and the management of risk.

Hypothesis 2: *There is a significant correlation between macroeconomic factors and the financial performance of Banks.*

2.3 The nexus among social factors and bank financial performance (Hospital funding, Education funding and Donation for welfare)

In modern times, the world is facing the issue of CSR. Furthermore, both the academic world and the corporate world are ambiguous in defining corporate social responsibility. Numerous studies during 1960 have corroborated and more accurately defined corporate social responsibility. The first research in 1953 on corporate social responsibility Bowen started issued social responsibility of business. Davis (1960) corporate social responsibility and decisions made through business persons beyond the organisation's direct economic and technical interest. Since 1970, various researchers have paid more attention to the CSP and corporate social responsibility CSR (Carroll, 1979). Carroll (1979) is a noticeable figure in literature and has anticipated a four-part definition of corporate social performance discretionary, the economic, ethical and legal responsibility. Carroll (1979) uncovered that administrators or managers of institutes, those selected CSP should follow these criteria from the definition of corporate social responsibility that takes under thought a correct description of where, what, why, and how way owners of company are associated with social responsibility list of necessities and rules that govern the corporate social responsibility. Cochran and Wood (1984) presented various methods in which social performance and financial performance have used indexes to examine corporate social responsibility. The determinant expresses that commercial and Islamic banks are paid for the health of their employees and other people living in society. The financial organisation employees enjoy the medical facility. Furthermore, financial organisations make a network among the public and healthcare institutes.

Hypothesis 3: *There is a significant association between social factors and the financial performance of Banks.*

2.4 The banking sector performance and environmental sustainability

Despite positive corporate environmental performance and CSP-CFP connections across industries, banking industry findings are scarce and equivocal. A good relationship between the bank's FP and SF is advised. For 385 banks, Simpson and Kohers (2002) found a positive relationship between financial and corporate social performance. Aebi et al. (2012) examined 372 US banks and found that corporate governance mechanisms improved financial performance during the 2007–2008 financial crisis. Regarding governance and human resources, Esteban-Sanchez et al. (2017) found that banks used strategic CSP and prolongeding strategies to reduce crisis-related CFP decline. He discovered that banks with influential employee associations and corporate governance have good financial performance. This impact is also minimal owing to corporate governance crises. The study found that product responsibility did not boost corporate finances. Soana (2011) found a negative correlation between financial performance and social sustainability in 21 global banks. A 2003–2005 research of 520 financial institutions in 34 countries by Chih et al. (2010) found no significant relationship between corporate social aspects and financial performance. Based on Nollet, Filis, and Mitrikostas's (2016) negative association between social sustainability and FP, the non-linear method predicts a U-shaped correlation, showing a long-term positive S & P effect.

Hypothesis 4: *There is a significant association between environmental financing and the financial performance of Banks.*

Bank Specific Factors
➢ Bank size
➢ Business Model
➢ Capital Ratio
➢ Assets quality
➢ Management quality
➢ Liquidity Ratio
➢ Operational Efficiency
➢ Financial Structure

Macroeconomic Factors
➢ Inflation rate
➢ Bank concentration
➢ Exchange rate

Social Factors
➢ Hospital funding
➢ Education funding
➢ Donation for welfare

Environmental factor
➢ Environmental financing

Financial Performance
• Return on Assets
• Net Interest Margin
• Profit Margin

Figure 1: Conceptual Model.

3. RESEARCH METHODOLOGY

3.1 Data and Sample

The annual data for the above-mentioned variables is collected over the period of 2012 to 2022. In recent times, in Pakistan, 35 regular banks have been operating, including 6 Islamic banks, 17 private conventional banks, six state-owned conventional banks, two specialised banks, and four other foreign banks. The bank-specific data are taken from unconsolidated and consolidated financial statements of the selected banks from the State Bank of Pakistan (SBP). Consequently, this study employed 30 banks, which are registered with. The macroeconomic factor's annual data are collected from the World Bank database. This research employed contemporary data analysis techniques, i.e., panel cross-linear regression approach, for the hypotheses testing. This study employs panel data methodologies, gathering observations for various cross-sectional units over time. Panel data offers multiple advantages, such as augmenting the sample size. Nevertheless, there are a handful of disadvantages as well. To address these limitations, one can employ random and fixed effect models. Another consideration is the selection between random and fixed effect models. If the period T exceeds the number of cross-sectional units N, the results will not be distinguished between the random and fixed effect models. Hausman (1978) devised a rigorous technique to determine the appropriate selection between random and fixed effect models. The test's null hypothesis posits that there is no discernible distinction between the values of fixed and random effects. We will employ either a fixed or random effect model if we dismiss this hypothesis based on our evidence. If the probability (Prob.) of χ^2 being more significant than 0.05 is observed, the fixed effect model is employed. Conversely, if the likelihood of χ^2 being less than 0.05 is observed, the data will support the random effect model.

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3.2 Empirical Models

$$\mathbf{P_{it}}= a_0 + \delta \text{Pit} - 1 + \sum_{j=0}^{j} \beta j \, BSVj \, it + \sum_{l=0}^{l} \beta l \, MVl \, t + \sum_{m=0}^{m} \beta m \, SVm \, t + \sum_{n=0}^{n} \beta n \, EVn \, t + vit + uit$$

$$\mathbf{ROA_{it}}= a_0 + \delta \text{Pit} - 1 + \sum_{j=0}^{j} \beta j \, BSVj \, it + \sum_{l=0}^{l} \beta l \, MVl \, t + \sum_{m=0}^{m} \beta m \, SVm \, t + \sum_{n=0}^{n} \beta n \, EVn \, t + vit + uit \qquad (1)$$

$$\mathbf{NIM_{it}}= a_0 + \delta \text{Pit} - 1 + \sum_{j=0}^{j} \beta j \, BSVj \, it + \sum_{l=0}^{l} \beta l \, MVl \, t + \sum_{m=0}^{m} \beta m \, SVm \, t + \sum_{n=0}^{n} \beta n \, EVn \, t + vit + uit \qquad (2)$$

$$\mathbf{PM_{it}}= a_0 + \delta \text{Pit} - 1 + \sum_{j=0}^{j} \beta j \, BSVj \, it + \sum_{l=0}^{l} \beta l \, MVl \, t + \sum_{m=0}^{m} \beta m \, SVm \, t + \sum_{n=0}^{n} \beta n \, EVn \, t + vit + uit \qquad (3)$$

Table 1: Study Variables and Measurements.

Variables	Notation	Explanation	Source	Proposed Direction
Dependent factors				
Bank performance indicator				
Return on assets	ROA	The ratio of net profit to total assets	Annual	
Net interest margin	NIM	The ratio of net interest income to total assets	Financial	
Profit margin	PM	The ratio of net profit before tax to total assets	Statement	
Independent factors				
Bank specific factors				
Bank size	BZ	The natural logarithm of total assets		+/-
Business model	BM	The non-interest income to total operating income		+
Capital ratio	CR	The total equity to total assets		+/-
Asset quality	AQ	The reserve for loan loss to gross loan	Annual	+/-
Management quality	MQ	The cost to other income	Financial	+
Liquidity ratio	LR	The total advances to total assets	Statement	+/-
Operational efficiency	OE	The total operating expenses to net income		+
Financial structure	FS	The total deposit to total equity		+
Macroeconomic factors				
Inflation rate	INF	The annual change in the CPI	State	+/-
Bank concentration	BC	The total asset squared	Bank of	+
Exchange rate	EX	Exchange rate US$ against PAK Rupees	Pakistan	+
Social factors				
Hospital funding	HosF	The annual spending on health	Annual	+
Education funding	EduF	The annual spending on education	Financial	+
Donation for welfare	DonW	The annual spending on welfare project	Statement	+
Environmental factor				
Environmental financing		The annual spending on environmental issues	Annual Financial Statement	+/-

4. DATA ANALYSIS AND RESULTS

4.1 Descriptive Statistics

The summary of descriptive statistics and trends for the variables are conducted to state the mean differences between factors within the observed period, and the results of these measures are presented in Table 2. Table 2 shows the descriptive statistics of performance variables (ROA, NIM and PM). The average of our bank's financial performance indicator sample ROA is 0.0103, median 0.0089 and standard deviation 0.0455; NIM means 0.0378, median 0.0304 and standard deviation 0.1106 and PM mean 0.0151, median 0.0142 and standard deviation 0.0574 respectively.

Table 2: Descriptive Statistics.

Variables	Mean	Median	Maximum	Minimum	Std.Dev.	Ske	Kur	Obs
BZ	18.8	19.0	21.8	15.1	1.6	-0.4	2.3	299
BM	0.8	0.7	3.9	-2.5	1.0	0.0	4.6	299
CR	0.1	0.1	2.7	0.0	0.2	8.2	91.9	299
AQ	0.1	0.1	1.0	0.0	0.2	3.3	13.9	299
MQ	5.8	6.0	11.5	0.7	1.8	-0.3	3.5	299
LR	0.5	0.4	14.4	0.0	0.8	15.5	256.7	299
OE	1.2	1.3	8.0	-5.8	1.9	-0.4	4.4	299
FS	12.9	12.7	20.6	-14.7	4.4	-2.8	19.7	299
GDP	3.8	3.8	5.8	0.4	1.4	-1.0	3.9	299
INF	8.0	7.7	13.9	2.5	4.0	0.2	1.6	299
BC	3.6	3.6	3.8	3.4	0.1	-0.6	2.5	299
EXR	97.4	101.0	112.2	81.8	9.6	-0.3	1.8	299
INT	11.6	12.0	14.5	8.2	2.4	-0.2	1.4	299
HOSF	8.6	8.8	14.1	4.6	1.5	0.2	3.5	299
EDUF	9.0	9.1	14.3	4.6	1.9	0.4	3.3	299
DONW	8.8	8.9	13.2	2.9	1.7	-0.2	3.6	299
FED	14.8	15.1	19.2	9.2	2.3	-0.3	2.4	299

Firstly, Descriptive statistics of bank-specific factors are specified in Table 2. The mean value of bank size (natural log of bank total assets) is 18.8223, and the median value is 19.0129, while the SD is 1.6200. The average value of the business model (non-interest income over total operating income) is 0.7752, and the median is 0.6893; this shows that the percentage is 77 % and 68%, which reveals the high value of the business model, while the SD is 0.9795. The average capital ratio (Total equity over Total assets) is 0.1299, and the median is 0.0796. This shows the very low value of the capital ratio, and its SD is 0.2060. This is comparatively lower than the one reported by Pathan et al. (2007) for Thai banks. In their study, De Andres and Vallelado (2008) described six developed countries, namely Italy, France, the USA, the UK, Spain, and Canada. Adams and Mehran (2012) and Pathan and Faff (2013) also contributed to the topic. The banks of the United States, as mentioned by Tanna et al. (2011), and the banks of the United Kingdom. The average of asset quality (Reserve for loan loss/ Total loan) is 0.1142, and the median is 0.0632. This indicates that there is a very low value of asset quality, and the SD is 0.1934. The mean of management quality (Cost/ Income) is 5.7769, and the median is 6.0074. This revealed that the very high value of management quality and SD is 1.8022. The mean of the liquidity ratio (Total advance over Total assets) is 0.4611, and the median is 0.4171. This shows the low value of the liquidity ratio, and the SD is 0.8374. The average of operational efficiency (Total operating expenses over Net income) is 1.2278, and the median is 1.3428. This indicates that operational efficiency is of a very high value, and the SD is 1.9354. The mean of financial structure (Total deposit/ Total equity) is 12.8705, and the median is 12.7187. This revealed a very high value, and the SD is 4.3771. Descriptive statistics of macroeconomic factors are specified in Table 2. The mean of the inflation rate is 7.9576, and the median is 7.6900. This indicates that the very high value of the inflation rate, and the SD is 3.9726. The average of bank concentration (Total asset squared) is 3.6274, and the median is 3.6383. This shows a very high value of bank concentration; therefore, take the natural logarithm for the distribution of BS to normalise for regression models, and the SD is 0.0885. The average exchange rate is 97.4218, and the median is 101.0102. This shows the very high value of the exchange rate; therefore, it takes a natural logarithm for the distribution of BS to normalise for regression models, and the SD is 9.5729. Thirdly, descriptive statistics of social factors are explicated. The mean of hospital funding is 8.5835, and the median is 8.7603. This indicates a very high value of hospital funding; therefore, the natural logarithm for the distribution of hospital funding to normalise for regression models and SD is 1.5398. The average of education funding is 9.0491, and the median is 9.1010. This shows a very high value of education funding; therefore, the natural logarithm is taken for the distribution of education funding to normalise regression models, and the SD is 1.9375. The mean of donation for welfare is 8.8128, and the median is 8.9227. This uncovers that the donation for welfare is very high; therefore, the natural logarithm for the distribution of donations for welfare is normalised for regression models, and the SD is 1.6771. Finally, descriptive statistics of financing on the environment are shown in Table 2. The average of financing on the environment is 14.8457, and the median is 15.0899. This shows the very high value of financing on the environment. However, take the natural logarithm of financing on environment distribution to normalise for the regression models.

4.2 Correlation Matrix Among Variables

Table 3 reports the results of the correlation of variables; it shows strongly correlated ROA, NIM and PM-dependent factors with each other and all factors. The financial performances of all measures are established as negatively and non-significantly correlated with bank size (BZ). So, the coefficient of correlation between financial performance indicator and Business model (BM) is found to be significant and negative with bank size. The coefficient correlation of capital ratio shows a positive and statistical correlation between business models but a negative correlation with bank size through ROA, NIM, and PM. The asset quality (AQ) is negatively correlated with the bank's performance indicator. Therefore, capital ratio and business model are positively correlated, but bank size is negatively associated with asset quality. The correlation analysis reported that there is a negative association between financial performance indicators and management quality (MQ). While the nexus between management quality (MQ) asset quality and bank size is negative, the capital ratio and business model are positive, respectively. Therefore, the coefficient of correlation between financial performance indicator and liquidity ratio (LR) is found to be significant and positive. The correlation coefficient between liquidity ratio and management quality, asset quality, and bank size is negative, and the capital ratio and business model are positive, respectively. Therefore, the correlation of the coefficient between operational efficiency (OE) and performance measures is positive. The correlation coefficient among operational efficiency and management quality, asset quality, and bank size is negative, and capital ratio, business model, and liquidity ratio are positive, respectively. The correlation of the coefficient between financial structure (FS) and performance measures is negative. Thus, the correlation among financial bank size, asset quality, and management quality is adverse, respectively.

The correlation of the coefficient between the inflation rate (INF) and the performance indicator is negative. Thus, the relationship between inflation rate and operational efficiency, liquidity ratio, capital ratio, and business ratio is negative, but bank size, asset quality, management quality and financial structure are adverse, respectively. The correlation of the coefficient between bank concentration (BC) and performance indicators is negative. Thus, the relationship between bank concentration and operational efficiency, liquidity ratio, capital ratio, and business ratio is negative, but bank size, asset quality, management quality, inflation rate and bank concentration are adverse, respectively. However, the correlation between exchange rate and financial performance indicators is positive. Thus, the relationship between exchange rate and operational efficiency, liquidity ratio, capital ratio, and business ratio is positive, but bank size, asset quality, management quality, inflation rate, bank concentration and exchange rate are adverse, respectively.

Table 3: Correlation.

	ROA	NIM	PM	BZ	BM	CR	AQ	MQ	LR	OE	FS	INF	BC	EXR	HOSF	EDUF	DO
ROA	1.00																
NIM	0.99	1.00															
PM	0.88	0.90	1.00														
BZ	-0.07	-0.10	-0.04	1.00													
BM	0.09	0.00	0.09	0.10	1.00												
CR	0.72	0.73	0.72	-0.43	0.05	1.00											
AQ	0.00	-0.01	0.00	0.07	-0.01	-0.02	1.00										
MQ	-0.01	0.07	0.01	0.31	-0.02	-0.14	0.00	1.00									
LR	0.81	0.96	0.83	-0.09	-0.01	0.67	0.00	0.08	1.00								
OE	0.11	0.05	0.11	0.16	0.64	0.02	0.00	-0.04	0.02	1.00							
FS	0.00	0.03	0.01	0.08	0.01	-0.06	0.09	0.13	-0.02	0.04	1.00						
INF	-0.03	0.07	-0.03	-0.22	-0.02	0.09	-0.07	-0.28	0.08	0.02	-0.09	1.00					
BC	-0.07	-0.10	-0.04	0.99	0.11	-0.43	0.07	0.29	-0.08	0.16	0.08	-0.21	1.00				
EXR	0.02	-0.08	0.01	0.22	0.04	-0.09	0.10	0.28	-0.07	-0.01	0.09	-0.92	0.20	1.00			
HOSF	-0.05	0.00	-0.07	0.06	-0.12	-0.05	0.09	0.00	0.06	-0.03	-0.10	0.00	0.07	0.02	1.00		
EDUF	0.02	0.02	0.00	-0.15	-0.10	0.13	-0.11	-0.25	0.02	-0.05	-0.13	0.10	-0.15	-0.09	0.29	1.00	
DO	0.14	0.12	0.15	0.31	0.03	-0.01	-0.03	-0.04	0.13	-0.04	-0.01	-0.06	0.32	0.04	0.10	0.20	1.00
FED	0.11	0.04	0.13	0.74	0.10	-0.19	0.13	0.12	0.05	0.12	-0.03	-0.19	0.74	0.19	0.08	-0.17	0.36

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4.3 Regression Analysis with ROA

Table 4 reported that fixed and random panel regression analysis is employed to investigate the association between financial performance (ROA) as a dependent factor and bank-specific, macroeconomic, social variables, and environmental financing as independent factors. Panel regression is a widely used statistical approach to identifying the bank's financial performance. The results of this study of panel regression analysis are presented based on banks' financial performance measures by a dependent factor (ROA) according to the research hypotheses. Also, the findings of the panel sample have been included. This study uses three indicators to measure the hypotheses to indicate the Pakistani bank's ability to enhance performance within the current situation. To test the hypotheses, the financial performance measures through ROA, NIM and PM are to be employed.

4.3.1 Bank-specific factors

The bank size (BZ) was reported to correlate negatively with ROA by a coefficient of -0.0068. This finding shows that if one percent increases in bank size, there is a -0.68 % decrease in the ROA of banks. There is a non-significantly and negative association between ROA and BZ. So, I have rejected the hypothesis among bank size and the bank's financial performance indicator. The business model (BM) shows a negative association with ROA by a coefficient of -0.0006. This finding highlights that if one percent increases in business model, there is -0.06% decreases in ROA of banks. There is a significant and negative association between ROA and business models. So, I have rejected the hypothesis among business models and financial performance indicators of banks. The capital ratio (CR) uncovered positively correlates with ROA by a coefficient of 0.0347 but is significant at a 1% level of significance. This result revealed that if one percent increases in capital ratio, there is 3.47 % increase in ROA of banks. There is a significant and positive association between ROA and capital ratio. As expected, the accepted hypothesis among capital ratio and financial performance is expected, and the accepted hypothesis among capital ratio and financial performance indicator of banks.

Table 4: Regression Analysis with ROA.

	Fixed Effect			Random Effect		
	ROA			ROA		
	Coefficient	t-Statistic	Prob.	Coefficient	t-Statistic	Prob.
Constant	-0.2348	-0.6894	0.4912	-0.1337	-0.407	0.6843
Bank Size	-0.0068	-0.8965	0.3708	0.0002	0.0402	0.9679
Business Model	-0.0006	-0.3955	0.6928	-0.0004	-0.2491	0.8034
Capital Ratio	0.0347*	2.9148	0.0039	0.0543*	5.1847	0.0000
Assets Quality	0.0363*	4.1479	0.0000	0.0297*	3.7863	0.0002
Management Quality	0.0015	1.6501	0.1003	0.0007	0.0864	0.9311
Liquidity Ratio	0.0391*	14.8944	0.0000	0.0365*	16.2440	0.0000
Operational Efficiency	0.0015***	1.6919	0.0919	0.0015***	1.8901	0.0598
Financial Structure	0.0002	0.7905	0.4299	0.0001	0.5463	0.5851
Inflation Rate	-0.0049*	-4.4569	0.1464	-0.0048	-1.4185	0.1571
Bank Concentration	0.0955	0.7349	0.4631	0.02795	0.2229	0.8237
Exchange Rate	0.0237	0.2658	0.7906	0.006	0.0683	0.9455
Hospital Funding	-0.0017***	-1.7126	0.0880	-0.0021**	-2.283	0.0232
Education Funding	-0.0007	-0.7063	0.4806	0.0001	0.1786	0.8584
Donation For Welfare	0.0014	1.3848	0.1673	0.0012***	1.6702	0.1000
Environmental Financing	-0.0001	0.0011	0.8932	0.0008	0.856	0.3927
F-Statistics	36.8954*		0.0000	77.8157*		0.0000
Within R-squared	0.8647			0.8048		
Hausman	42.6295*		0.0006	42.6295*		0.0006
No. of Obs.	300			300		
No. of Banks	30			30		

* 1% level of significance, ** 5% level of significance and *** 10% significance level

The asset quality (AQ) uncovered positively correlates with ROA by a coefficient of 0.0363 but is significant

at a 1% level of significance. This result uncovers that if one percent increases in asset quality, there is 3.63 % increase in ROA of banks. There is a significant and positive association between return on asset and asset quality. As expected, the accepted hypothesis among asset quality and the bank's financial performance indicator. The management quality (MQ) shows a positive association with the return on assets by a coefficient of 0.0015. This finding shows that if one percent increases in management quality, there is 0.15 % increase in ROA of banks. There is a significant and positive association between ROA and management quality. So, I have rejected the hypothesis among management quality and financial performance indicators of banks. The liquidity ratio (LR) uncovered that it positively correlates with the return on an asset by a coefficient of 0.0391 but is significant at a 1% level of significance. This result identifies that if one percent increases in asset quality, there is 3.91 % increase in ROA of banks. There is a significant and positive association between return on asset and liquidity ratio.

4.3.2 Macroeconomic Factors

The inflation rate (INF) reported that it negatively correlates with the return on an asset by a coefficient of -0.0049 but is significant at a 1% significance level. This finding uncovers that if one percent increases in inflation rate, there is -0.49 % decrease in ROA of banks. There is a significant and negative association between return on asset and inflation rate. As expected, the accepted hypothesis is among the inflation rate and the bank's financial performance indicator. The bank concentration (BC) shows a positive association with return on assets by a coefficient of 0.0955. These finding reports that if one percent increases in bank concentration, there is 9.55 % increase in return on asset of banks. There is a non-significant and positive association between return on asset and bank concentration. So, I have rejected the hypothesis about bank concentration and financial performance indicators. The exchange rate (EXR) uncovered that it positively correlates with return on asset by a coefficient of 0.0237. This finding shows that if one percent increase in exchange rate, there is 2.37 % decrease in ROA of banks. There is a significant and negative relationship between return on asset and exchange rate. So, I have rejected the hypothesis among the exchange rate and the bank's financial performance indicator.

4.3.3 Social Factors

The hospital funding (HosF) reported that it negatively correlated with return on an asset by a coefficient of -0.0017 but significant at a 10% level of significance. This result shows that if one percent increases in hospital funding, there is -0.17 % decrease in ROA of banks. There is a significant and negative association between return on assets and hospital funding. As expected, the hypothesis was accepted among hospital funding and financial performance indicators of banks. The education funding (EduF) shows a negative association with return on assets by a coefficient of -0.0007. These finding highlights that if one percent increases in education funding, there is -0.07 % decrease in ROA of banks. There is a significant and negative association between return on assets and education funding. So, I have rejected the hypothesis among education funding and financial performance indicators of banks. The donation for welfare (DonFW) uncovered a positive association with return on asset by a coefficient of 0.0014. This finding uncovers that if one percent increases in donations for welfare, there is a 0.14 % increase in the ROA of banks. There is a significant and positive association between return on assets and donations for welfare. So, I have rejected the hypothesis among donations for welfare and financial performance indicators of banks. Finally, the environmental financing impact uncovered a negative correlation with return on asset by a coefficient of -0.0001. This finding shows that if there is a one per cent increase in financing environmental, there is a -0.01 % decrease in the ROA of banks. There is a significant and negative association between return on asset and environmental financing impact. I have disproven the notion regarding the correlation between environmental finance and the financial performance measures of banks. In a prior study it is identified that a paradoxical relationship between implementing environmentally friendly practices and the long-term financial viability of a company. As a firm's proximity to clients in the supply chain increases, its attitude towards adopting green and sustainable practices also increases. In contrast to the inverse outcomes observed in the company's financial performance, the firm's profitability decreases as it becomes closer to the client in the supply chain. This is likely the rationale for the results above: Banks adopting green and environmentally sustainable practices and procedures may become less appealing to investors or their clientele.

4.4 Regression Analysis with NIM

Table 5 reported that fixed and random panel regression analysis is employed to investigate the association between financial performance (PM) as a dependent factor and bank-specific, macroeconomic, social variables, and environmental financing as independent factors. Panel regression is a widely used statistical approach to identifying the bank's financial performance. Most data analysts employed the regression approach in science and technology fields, such as social sciences, economics and finance. The results of this study of panel regression analysis are presented based on the bank's financial performance measures by dependent factor (PM) according to the research hypotheses. Also, the findings of the panel sample have been included. This study uses three indicators to measure the hypotheses to indicate the Pakistani bank's ability to enhance performance within the current situation. To test the hypotheses, the financial performance measures through ROA, NIM and PM are to be employed.

4.4.1 Bank-Specific Factors

PM was negatively correlated with bank size (BZ) by -0.0074. The PM of banks decreases by 0.74 % for every 1% rise in bank size. PM is negatively correlated with bank size. I rejected the bank size-financial performance indicator theory. The business model (BM) negatively correlates with PM (-0.0005). This shows that a 1% business model expansion lowers bank PM by 0.05%. Non-significant and negative link between PM and company model. Therefore, I rejected the theory about bank business models and financial performance measures. The capital ratio (CR) positively correlates with PM at 1% significance, with a correlation of 0.0442. This shows that bank PM rises 4.42 percent for every percent increase in capital ratio. PM and capital ratio are positively correlated. As expected, the bank capital ratio and financial performance measures supported the premise. A 0.0349 and 1% significance coefficient show that asset quality (AQ) strongly correlates with PM. This shows that bank PM rises 3.49 percent for every percent asset quality improvement. A positive correlation exists between PM and asset quality. The bank asset quality and financial performance metrics hypothesis was confirmed. PM positively correlates with management quality (MQ) at 0.0017 and 10% significance.

4.4.2 Macroeconomic Factors

The inflation rate (INF) reported that it negatively correlated with PM by a coefficient of -0.0076 and at a 5% level of significance. This result shows that if one percent increases in inflation rate, there is -0.76 percent decrease in PM of banks. There is a significant and negative relationship between PM and the inflation rate. As expected, the hypothesis was accepted among the inflation rate and financial performance indicators of banks. The bank concentration (BC) shows a positive association with PM by a coefficient of 0.1104. This finding highlights that if one percent increases in bank concentration, there is an 11.04 % increase in the PM of banks. There is a non-significant and positive association between PM and bank concentration. So, I have rejected the hypothesis about bank concentration and financial performance indicators. The exchange rate (EXR) uncovered positively correlates with PM by a coefficient of 0.0062. This finding uncovers that if one percent increases in exchange rate, there is 0.62 percent increase in PM of banks. There is a significant and positive association between PM and exchange rate. So, I have rejected the hypothesis among the exchange rate and financial performance indicators of banks.

4.4.3 Social Factors

The hospital funding (HosF) reported that it negatively correlates with PM by a coefficient of -0.0026 at a 5% level of significance. This result shows that if one percent increases in hospital funding, there is 0.26 percent increase in PM of banks. There is a significant and negative relationship between PM and hospital funding. As expected, the hypothesis was accepted among hospital funding and financial performance indicators of banks. The education funding (EduF) shows a negative association with PM by a coefficient of -0.0014. This finding highlights that if there is one per cent increase in education funding, there is a -0.14 % decrease in the PM of banks. There is a non-significant and negative relationship between PM and education funding. So, I have rejected the hypothesis among education funding and financial performance indicators of banks. The donation for welfare (DonFW) uncovered that it positively correlated with PM by a coefficient of 0.0016. This finding uncovers that if there is a one per cent increase in donations for welfare, there is a

0.16 per cent increase in the PM of banks. There is a significant and positive association between PM and donation for welfare. So, I have rejected the hypothesis among donations for welfare and financial performance indicators of banks. Finally, the environmental financing impact uncovered that positively correlates with PM by a coefficient of 0.0005. This finding uncovers that if one percent increases in environmental financing, there is 0.05 percent increase in PM of banks. There is a significant and positive association between PM and environmental financing. So, I have rejected the hypothesis about bank concentration and financial performance indicators.

Table 5: Regression Analysis with NIM.

| Independent Variable | Fixed Effect | | | Random Effect | | |
| | PM | | | PM | | |
	Coefficient	t-Statistic	Prob.	Coefficient	t-Statistic	Prob.
Constant	-0.2724	-0.6820	0.4958	-0.1837	-0.4751	0.6351
Bank Size	-0.0074	-0.8324	0.4060	0.0004	0.0576	0.9541
Business Model	-0.0005	-0.2636	0.7929	-0.0003	-0.163	0.8706
Capital Ratio	0.0442*	3.1651	0.0017	0.0649*	5.2114	0.0000
Assets Quality	0.0349*	3.3984	0.0008	0.0275*	2.9603	0.0033
Management Quality	0.0017*	1.6987	0.1000	0.0001	0.12	0.9045
Liquidity Ratio	0.0504*	16.3791	0.0000	0.0478*	17.9072	0.0000
Operational Efficiency	0.0014	1.4192	0.1571	0.0015*	1.6585	0.1000
Financial Structure	0.0003	1.0663	0.2873	0.0003	0.88075	0.3792
Inflation Rate	-0.0076**	-1.9187	0.0561	-0.0075**	-1.8801	0.0611
Bank Concertation	0.1104	0.7247	0.4692	0.0416	0.282	0.7781
Exchange Rate	0.0062	0.0593	0.9527	-0.014	-0.1355	0.8922
Hospital Funding	-0.0026**	-2.2054	0.0283	-0.0031*	-2.85	0.0047
Education Funding	-0.0014	-1.1926	0.2341	-0.0002	-0.2678	0.789
Donation For Welfare	0.0016	1.3355	0.1829	0.00144	1.3186	0.1884
Environmental Financing	0.0005	0.0376	0.9700	0.0011	0.969	0.3344
F-Statistics	43.6679*		0.0000	93.3586*		0.0000
Within R-Squared	0.8832			0.8318		
Hausman	39.7478*		0.0005	39.7478*		0.0005
Number of Observation	300			300		
Number of Banks	30			30		

* 1% Level of Significance, ** 5% Level of Significance and *** 10% Significance Level

5. CONCLUSION

This research analyses financial performance determinants from 30 Pakistan Stock Exchange-listed banks from 2012-2022. Internal determinants are elements retrieved from the balance sheet and profit & loss accounts that affect a bank's financial performance. Thus, macroeconomic issues, which affect bank operations and finances, are uncontrolled by bank management. Banks also control social factors using annual report data. Banks regulate environmental finance. Thus, they use data from their yearly reports. In this work, panel regression with fixed and random model system estimators addressed endogeneity, unobserved heterogeneity, and serial correlation. Previous studies found that internal and external factors significantly affect banks' financial performance. Initially, we applied bank-specific, bank-specific, macroeconomic, and macroeconomic and macroeconomic and social components. After that, we combined all independent elements in a single equation to analyse the influence of the factors utilised in this study on financial performance indicators. We find that the coefficient values of lag-dependent variables are insignificant and negative, which results in a low profitability and competitive structure of the Pakistani banking sector that is relevant to ROA and NIM.

The bank's financial performance was analysed using many explanatory factors, depending on the study's goal. Bank-specific factors include bank size, business model, capital ratio, asset quality, management quality, liquidity ratio, operational efficiency, and financial structure, while

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macroeconomic factors include inflation, bank concentration, and exchange rate. Hospital money, educational funding, and welfare donations are social influences. Environmental financing is also included in this study. This paper uses quantitative data to achieve its goal. The State Bank of Pakistan, Federal Bureau of Statistics, financial statements, and yearly bank reports provided quantitative data. The panel regression, fixed effect, and random effect approaches are used to study financial performance aspects. With fixed effects model conclusions, the empirical research on financial performance and affecting factors of the Pakistani banking sector for the sample found the following. Overall, we find an inverted U-shape relationship between bank-specific factors and financial performance, indicating that an increase in bank-specific factors up to a certain level improves financial performance, but after that, it decreases.

Financial performance improves with better capital ratio, asset quality, liquidity ratio, and operational efficiency. Bank size, business model, and financial structure negatively impact Pakistani banks' financial performance. Macroeconomic factors show that inflation rates affect financial performance, while bank concentration and currency rates do not. Social considerations reveal that hospital financing affects financial success, while educational funding and welfare donations do not. ROA, NIM, and PM show that environmental financing negatively and insignificantly influences financial performance. This report provides many insights for Pakistan's banking industry authorities to achieve sustainable financial performance. Also, this research suggests some future directions. This work can be expanded by applying the variables investigated in this research to other nonfinancial sectors.

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