

# Profitability Analysis of the Public and Private Banks in Pakistan

*Bilawal Ali Dayo\**, *Ayaz Ali Maitlo\*\**

## Abstract

*The central theme of this study is to examine the profitability and comparison between the public and private sector banks. For this purpose, bank-specific variables are taken (size, capital, advance, deposits) and macroeconomic variables, such as GDP, as these factors affected banks' profitability in Pakistan from 2009 to 2013. For measuring the banks' profitability, ROA and ROE were used. In this study, we tested that the profitability of private banks is higher than that of public banks in terms of ROA and ROE. The data was collected from the state bank of Pakistan's financial statements. A total of ten banks were selected, five from each public and private sector.*

**Keywords:** *Profitability, ROA, ROE, Internal Factors and External Factors.*

## INTRODUCTION

Banks play a significant role in economic well-being and the country's growth. The banking sector is known to be the backbone of economic development and growth (Ahmed et al., 2012), but it must be sound and well-functioning. Banks strengthen the economy in different ways such as substantial financial resource providers to different industries and companies and helping various sectors of the economy to increase trade. Pakistan's banking sector comprises public, private and foreign sector banks. The factors of banks' profitability are essential for the owner and also crucial for the decision makers to judge and adjust the performance and efficiency of the banks to enhance the profitability of the banks.

For comparing a bank's profitability based on financial ratios ROA & ROE, previous researchers (Gul et al., 2011) stated that the bank's profitability determinants are divided into internal and external factors, and both factors have a high impact on a bank's profitability. Size, loans, deposits and capital are internal factors, whereas GDP is external. A profitable banking sector adds stability to the financial structure. The banks' profitability determinants have been emphasized by assets and their system based on their banking system.

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*Correspondence:*

*\* PhD research scholar Institute of Commerce and Management, Shah Abdul Latif University (SALU) Khairpur, bilawaldayo@gmail.com*

*\*\* Assistant Professor, Department of Business Administration, Sindh University Larkana Campus, ayazalimaitlo@usindh.edu.pk*

The banks' profitability is evaluated in both the micro and macro stages of the economy (Ali et al., 2011). On the micro level, for funding resources and aggressive banking institutions, profit is an essential condition, whereas the banking sector on the macro level has the efficiency to bear undesirable stress in addition to providing strength to the economy and economic growth. Pakistan has a well-running, stable financial and banking system to support economic development and economic growth of Pakistan (Ali et al., 2011).

### ***Private Banking in Pakistan***

Habib bank was functioning in Bombay after the partition; it was shifted to Pakistan in 1947 and increased its network all over the country and its head office in Karachi. In 1974 nationalized, the government introduced the different sectors; the first bank was MCB which was nationalized, but after some period in 1991, MCB was privatized because it did not give remarkable profits (Faisal et al., 2015). Nowadays, more than 30 private banks are working in Pakistan.

### ***Public Banking in Pakistan***

In 1949, the government established "The National Bank of Pakistan" bank to provide customer service. After that, different banks were established from time to time. Pakistan's banking sector consists of private, public and foreign banks. In this paper, we take the public and private sectors for comparison. The study's primary purpose is to examine how the public sector's profitability differs from the private sector banks. Five banks have been chosen from each sector. In this research, the independent variables are internal and external factors, and the dependent variable is profitability ROA and ROE.

## **LITERATURE REVIEW**

This segment is based on previous literature related to this paper and integrates the banking environment around Pakistan. Khan et al. (2011) said that the literature gives many proofs that recognize the critical determinants of banks' profitability. Gul et al. (2011) stated that external and internal factors determine a bank's profitability. The dependent variables are ROE and ROA; the independent variables are internal and external. Ali et al. (2011) said that a bank's determinants have more capability to affect the bank's profitability, such as independent variables size, capital, credit risk and asset management; these variables affect a bank's profitability. Also, GDP and inflation influence the bank's profitability.

Alexiou & Sofokils (2009) argued that external indicators could not be controlled due to their impact shown at the macro level. They took external variables in their research paper. These variables affect the profitability of banks along with the financial situations of the country and their positive effect on the banks' profitability according to conditions. Rasiah (2010) argued that the profitability determinants are categorised into internal and external factors. The internal factors adequately clarify the commercial banks in Malaysia and Singapore. Another side, the external variables are relevant. Thus, these variables must be involved in the profitability of banks.

Gul et al. (2011) examine the affiliation of bank-specific internal and external factors and external variables that affects the bank's profitability by using the data of fifteen banks in

Pakistan; the time slot is taken from 2005 to 2009. In this study, authors investigated that the assets, equity, loans, deposits, economic growth, inflation, and market capitalization have high effects on ROE and ROA. Results show strong evidence of internal and external factors strongly affecting the bank's profitability. Ahmed et al. (2012) identified that a bank's profitability could improve through adequate asset supervision and economic growth. Further, they have stated that the external factor of GDP affects the bank's profitability. Fadzlou (2009) analyses the Chinese banking sector's profitability using the linear regression model. In this analysis, the author decided that the size of the bank, credit risk, and capital have a positive effect on the profitability of Chinese banks, while there is a negative impact of overhead costs and liquidity on the bank's profitability, while GDP (economic growth) and inflation positively impacted on bank's profitability.

Riaz and Samina (2013) analysed the profitability of commercial banks in Pakistan. The author concluded that the impact of the bank's specific factors such as size, deposits also macro indicators such as GDP and interest rate have the maximum impact on ROE and ROA; profitability results change because of the public as well as the private sector and foreign banks, due to these banks have different market shares and sizes. For these reasons, banks make different levels of profits.

Alper and Anbar (2011) examined the profitability determinants of banks in Turkey from 2002-2010. This research paper concluded that size and NIM(non-interest income) affect banks' profitability. Abuzar (2013) analyzes the profitability determinants of Islamic banks in Sudan. Accordingly, the internal determinants positively affect the commercial bank's profitability. Cost, liquidity and the bank's size are positively related to the bank's profitability. Further, he argued that external factors have not significantly impacted banks' profitability. Acaravci and Claim (2013) analyze the profitability time taken from 1998-2011 in the Turkish Banking Sector. In this paper, they argued that external factors positively affect banks' profitability in Turkey. Internal factors identify banks' profitability in terms of bank-specific determinants. This study showed that internal and external factors have a little bit of an impact on banks' profitability.

In addition, Pilots & Rhoades (2002) said that bank size has a positive impact on banks' profitability and operating efficiency of the bank. Sufian (2009) stated that the significant relationship between bank size on the bank's profitability and size depends on the economy of scale. Further, he stated that larger banks' profit is more than smaller banks. Bukhari & Qudous (2012) analyzed that loans are a risky option for banks, so it has an insignificant impact on a bank's profitability.

Javaid et al. (2011) evaluated the bank's profitability indicators in Pakistan from 2004-2008. In this, they concluded that size doesn't increase profitability while deposits and equity have an optimistic effect on banks' profitability due to economic fluctuations, and the effect of loans was found insignificant. Zhang & Daly (2013) analysed China's banking sector profitability indicators from 2004-2010. They concluded that the banks are more profitable with lower credit risk. The macroeconomic factors such as GDP, capital flows and the high economic combination caused the high profitability of china's banking sector. Therefore, it could be interesting to see how determinants (i.e. internal and external) have an optimistic effect on the bank's profitability.

## RESEARCH METHODOLOGY

Independent variables contain some internal and external variables in the regression models. The detail of the Dependent and independent variables is given below.

### (A) *Internal Variables*

Dawood (2014) stated that size displays banks' total assets and is used as an independent variable. The total bank's assets represent the bank's size. According to (Tariq, Usman, Mir, Aman, & Ali, 2014) larger banks are more diversifiable than smaller banks as larger banks gain cost advantages and achieve greater operational efficiency, resulting in high profits for the banks by utilizing their total resources. In this connection, (Samy & Goaid, 2008) stated that size negatively impacts banks' profitability. According to them, Tunisian banks increase earnings through the revenues generated from intermediation (Ani et al., 2012). In addition, size significantly impacts banks' profitability, and size hasn't increased the profit of any Nigerian banks; high capital increases banks' profitability. Other many studies (Dawood, 2014), (Tariq et al., 2014), (Abuzar, 2013), (Riaz, 2013) (Ali et al., 2011), (Sufian, 2009) concluded that size has a positive and significant impact on the profitability of banks. So it will be interesting to see the effect of size on the performance of banks in general and private and public sector banks in Pakistan.

**H1:** Size has an optimistic impact on a bank's profitability.

However, in the case of this study, size = ln (natural logarithm) is used.

Dawood (2014) argued that it is the equity capital to total assets ratio. It is fascinating that high capital raises profitability by including additional capital through investment. A bank can easily hold to monitoring capital. Thus, extra capital is provided in the shape of loans. Acaravcl & Claim (2013) stated that capital ratio confines the financial institutions' standards, security and reliability. According to them, capital significantly impacts a bank's profitability. High capital leads to a decrease the risks. Hence investors are required lower the expected return on equity. According to (Tariq et al., 2014), higher bank capital lead towards high profitability, and lower has low profitability. High capital is a cushion in loan losses and other losses. (Dawood, 2014) Concluded that capital has an optimistic influence on a bank's profitability. It is interesting to see the positive impact of capital on bank profitability in Pakistan's private and public sectors.

**H2:** Capital has a positive influence on a bank's profitability.

In this paper, the capital was calculated by applying the following formula.

$$\text{Capital} = \frac{(\text{Total Equity})}{(\text{Total Assets})} \quad (1)$$

Gul et al. (2011) argued that Excess deposits and extra amounts convert into loans. Bank loans are the primary source of revenue. It increases profitability if loans are adequately collected. Also, there is a high risk in loan recovery; sometimes, we can't recover that amount. In this case, the bank faces some difficulties in running its operation. According to Acaravcl & Claim (2013), loans negatively affect profitability because unrecovered loans are expected to decrease the bank's profitability. Bukhari & Qudous (2012) analyzed Pakistan and stated that loans are a risky option for banks, so loans have an insignificant influence on banks' profitability

in Pakistan.

**H3:** Loans have an insignificant impact on a bank's profitability.

In this paper loans to asset ratio is used to measure the loans ratio.

$$\text{Loans} = \frac{\text{Total loans}}{\text{Total assets}} \quad (2)$$

Gul et al. (2011) said that a deposit is a profitability indicator and is considered a liability. It is the key funding source essential to the bank's profitability. It is one type of liability toward the bank. High deposits of banks show a high profit, and low deposits display low profitability. Bank's profitability is affected by high deposits. In this study deposits to asset, the ratio is used to measure the deposits. It is expected and interesting to see that the deposits significantly impact bank profitability in Pakistan (Almazari, 2014).

**H4:** Deposits have a positive influence on a bank's profitability.

In addition, the total deposit to total asset ratio is used.

$$\text{Total deposits} = \frac{\text{Total deposits}}{\text{Total assets}} \quad (3)$$

### **(B) External Variables**

GDP indicates the economic growth of a country. Duraj & Moci (2015) stated that GDP positively affects profitability because banks play an essential role in economic development in a country. According to the general analysis, if a country's GDP increases, it positively affects the bank's profitability. Suppose the GDP rate declines its negative effect is seen on banks' profitability. Along with GDP, employment also increases. Employment has directly affected deposits. Increasing the deposits in banks directs the bank's profitability. In addition, GDP has an optimistic effect on banks' profitability. This study uses GDP to measure economic growth (Acaravci & calim, 2013).

**H5:** Gross domestic product (GDP) rate directly impacts a bank's profitability.

### **(C) Dependent Variable**

Nisar et al. (2015) argued that ROA is measured by net income to total assets. It is clear from the literature that ROA is the best determinant of a bank's profitability which shows how effectively the bank's management is employing complete resources to earn profits. In this study, the profitability ratio and ROA are used.

$$\text{ROA} = \frac{\text{Net Income}}{\text{Total assets}} \quad (4)$$

Gul et al. (2011) stated that (ROE) measures the rate of return on the (shareholder's equity) of common stock and preferred stock. It measures the firm's effectiveness in generating revenues from every unit of shareholder's equity. ROE displays how well a company uses

investment and assets to produce more revenue and profit. ROE is another ratio used in this study to measure profitability. In this paper, this ratio is used.

$$ROE = \frac{\text{Net Income}}{\text{Total equity}} \quad (5)$$

**Table 1: Definitions of Variables:**

Variables	Definition in this study	Definition in Other Selected Studies
Size	$\ln =$ natural logarithm.	(Naseem & Saleem,2012); (Dawood, 2014); (Irfan, 2011); (Ali et al., 2011); (Riaz, 2013); (Almazari, 2014)
Capital	Capital= $\frac{\text{Total Equity}}{\text{Total Assets}}$	(Gul et al, 2011); (Dawood, 2014); (Acaravci & calim, 2013); (Nisar, Su-sheng, & ke, 2015); (Ali et al., 2011)
Loans or Advances	Loans= $\frac{\text{Total Loans}}{\text{Total Assets}}$	(Acaravci & calim, 2013); (Riaz, 2013) (Gul, Irshad, & Zaman, 2011); (Rahman, jan, Iqbal, & Ali, 2012);
Deposits	Total deposit= $\frac{\text{Total deposits}}{\text{Total Assets}}$	(Acaravci & calim, 2013); (Riaz, 2013); (Gul et al, 2011); (Duraj & Moci, 2015); (Rahman, jan, Iqbal, & Ali, 2012)
GDP	Economic growth	(Riaz, 2013); (Acaravci & calim, 2013); (Nisar et al, 2015); (Duraj & Moci,2015); (Ali, Akhtar, & Ahmed, 2011)
<b>Dependent Variables</b>		
Profitability	ROA= $\frac{\text{Net Income}}{\text{Total Assets}}$	(Dawood, 2014); (Nisar et al, 2015); (Ahmed, Nafees, & Khan, 2012);
ROA		(Almazari, 2014); (Ali et al,2011);
ROE	ROA= $\frac{\text{Net Income}}{\text{Total equity}}$	(Gul et al, 2011); (Duraj & Moci,2015); (Ali, Akhtar, & Ahmed, 2011)

Source: Author's Calculations

The data was collected from secondary sources to compare the profitability of banks (public and private). In addition, this study covers ten banks operating in Pakistan, including 05 public and 05 private sector banks. Data has been taken from financial statements of banks as well as annual reports of banks listed in the state bank of Pakistan and GDP obtained from the World Bank.

$$Y = \beta_0 + \beta_1 \text{size}_{it} + \beta_2 \text{capital}_{it} + \beta_3 \text{loan}_{it} + \beta_4 \text{deposit}_{it} + \beta_5 \text{GDP}_{it} + \beta_6 \text{dm public}_{it} + \mu_{it}$$

Where,

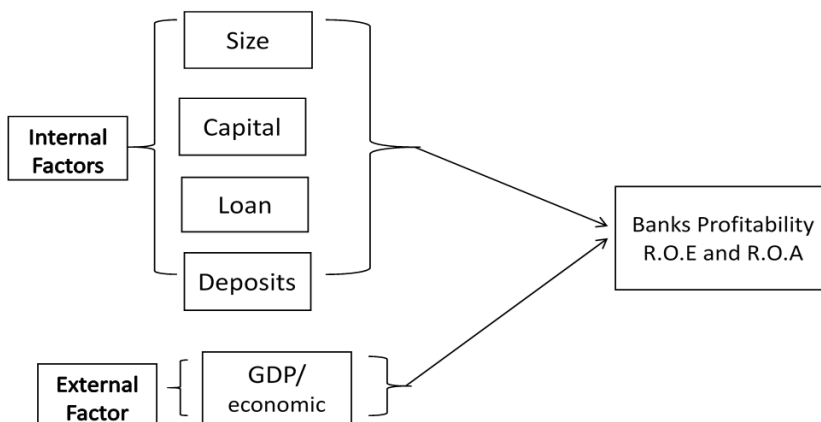
**Y** represents the R.O.E and R.O.A.

$\beta_0$  represent the constant

$\beta_i$  shows the coefficient of the variable. Where  $1 < i < 6$

$\mu_{it}$  represents the error

### Determinants of Bank's Profitability



## RESULTS AND INTERPRETATION

In this study, regression analysis has carried out to get the research findings from the data set.

### Regression analysis and interpretation:

**Table 2: Coefficient analysis for the dependent variable: ROA**

	Unstandardized Coefficients	Standardized Coefficients	Standard Error	T Values	P.Values
Constant	-4.844		3.744	-1.294	.203
Loans	-.006	-.054	.023	-.274	.786
Public	-.993	-.373	.443	-2.241	.031
Deposits	-.004	-.027	.024	-.156	.877
GDP	.229	.222	.149	1.536	.132
Capital	.089	.306	.046	1.927	.061
Natural log	.292	.297	.160	1.821	.076
R Square		.465	Adjusted R Square		.386

Source: Author's Calculations

It has been interpreted that ROA is used to measure banks' profitability and financial performance. The regression results for the banks, including public and private banks R-square is .465, which means that 46.5% of the total disparity in the value of ROA is affected by independent variables. Where adjusted R square is .386, our model is 38.6 per cent fit, which means our variables collectively related to our dependent variable ROA or contribute to profitability is 38.6%. Here ROA of public sector banks is significantly and negatively related to private sector banks, while loans and deposits are insignificantly and negatively related, GDP while the capital and natural log insignificantly and positively related to private sector banks in terms of ROA.

However, the public sector shows a 99.3% negative relation to the private sector. This

means the private sector is 99.3% more profitable than the public sector. Loans and deposits are insignificantly and negatively related to private-sector banks. Loans and deposits were negative and insignificant because public sector banks are not focusing on credit policy and investment or poor credit policy. By increasing the 1% of loans and deposits of the private sector, then loans of the public sector decreased by .6%, and deposits decreased by .4%. GDP, capital, and the natural log are insignificantly but positively related to private banks. If we increase the 1% of GDP, capital and the natural log of the private bank sector, the capital increase by 8.9% and LN increases by 29.2% of the public sector.

**Table 3: Coefficient analysis for the dependent variable: ROE**

	Unstandardized Coefficients	Standardized Coefficients	Standard Error	T Values	P.Values
(Constant)	-.254	-	.134	-1.887	.087
Loans	-.165	-.391	.194	-.937	.501
Public	-.538	-.248	.374	-1.841	.048
Deposits	.081	.189	.090	.873	.417
GDP	.364	.372	.465	2.121	.050
Capital	-.144	-.454	.134	-1.887	.077
Natural log	.318	-.746	.580	-2.019	.192
R Square		.563	Adjusted R Square		.415

Source: Author's Calculations

It has been interpreted that ROE is another ratio for measuring the profitability of banks. The regression results for the banks, including public and private banks R-square is .563, which means that 56.3% of the total variation in the value of ROE is affected by independent variables. Where adjusted R square is .415, it indicates that our model is 41.5% fit, which means our variables collectively related to the dependent variable ROE or 41.5% contribution in profitability by these variables. Here ROE of public sector banks is significantly and negatively related to private sector banks. It can say private sector banks' profitability is more than public sector banks. Results show private sector banks are 53.8% more profitable operations than public sector banks. While loans, capital, and the natural log is insignificantly and negatively related to private banks, deposits are insignificantly and positively related to private sector banks and GDP is significantly and positively related to private sector banks. However, we can say that the Bank's profitability varies according to the change in the relationship of independent variables.

**Table 4: Descriptive Statistics**

Variables	Bank Type	Mean	Std. Deviation
ROA	Public bank	0.4761	1.57847
ROA	Private bank	1.7824	0.63218
ROE	Public bank	2.8583	67.68480
ROE	Private bank	23.0504	3.29255

Source: Author's Calculations

Descriptive statistics represent the overall profitability of banks. The study used descriptive statistics for the Public and Private Bank comparison; the descriptive statistics found that the private banks have much more mean values of ROA and ROE than public banks. This indicates



that the profitability of private-sector banks is higher than that of public-sector banks in Pakistan (Unal et al., 2007).

## **CONCLUSION, LIMITATIONS AND RECOMMENDATIONS**

### ***Conclusion***

This study represents the bank's specific indicators, which lead toward the bank's profitability, such as the size of banks, deposits, loans, capital and external factor, such as GDP, on the commercial bank's profitability in Pakistan. For this purpose, ten banks are selected from the public and private sectors for comparative analysis from 2009 to 2013. Analysis of financial ratios compares the financial performance among commercial banks. It concluded from regression and descriptive statistics that the ROA and ROE of private sector banks were higher than that of public sector banks because of better efficiency, performance, and punctuality. Further, we concluded from the regression that Ln, capital, loans, deposits and GDP have an insignificant impact on ROA and ROE.

### ***Limitations***

This study is restricted to the premises of five Pakistan public and private banks. The profitability of a bank's results may be different by taking more banks and different periods.

### ***Recommendations***

This study's result of regression analysis based on ROA adjusted R square is .386, which means the variables' contribution is 38.6% in profitability in terms of ROA. The other 61.4% is an error term, which needs to be investigated by others and based on ROE, adjusted R square is .415, which means 41.5% and the other 58.5% is an error term which needs to be investigated by another researcher.

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