

# Determinants of Financial Performance: Empirical Evidence from Pakistan

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## Abstract

In economic development banks serve as a key agent with entrepreneur. Due to the importance of banks in the development of any economy than it is necessary to monitor analyze its performance and observe those factors which are responsible for the performance. Study analyzed all the banks licensed in Pakistan by using the multiple linear regressions over the period 2006-2014. Capital ratio, asset quality, management capability, earning ability and liquidity are taken as explanatory variable while financial performance which is measured by return on asset, return on equity and net interest margin is used as response variable. It was observed in the study that asset quality and capital ratio are factors which influence the performance of banks in Pakistan.

**Keywords:** Firm performance, licensed commercial banks, financial determinants and capital markets

## 1. Introduction

Management of banking system has experienced different modifications since nineties. Such modifications are because of the increase in competition which requires the adjustment in the orders of banks financial market considered by opening of new markets. Bank performance and determinants of performance are understood by such restrictions. It is illustrate from the literature that financial performance is described by quantitative measures (ROA, ROE & NIM). Identical conditions are to be established while examining the “Determinants of bank performance”. To express the motives of performance internal or external parameters are frequently used. They are incomplete and are considered insufficient.

Banks promote the formation of capital by encouraging savings and investment and make their productive use. People’s savings in Pakistan are very low because of international demonstration effect. With the introduction of different saving programs banks are mobilizing the savings. They induce investors to earn interest through savings and give a will and power to people for saving. Share of domestic saving in GDP is 9.5%. Major developing countries are facing problems of foreign debts and their dependence on other countries. Banks provide opportunities for entrepreneurs to achieve incentive for taking risk to use their idle resources in efficient way. In getting self-sufficiency, banks are very helpful.

Two consequences reflect the position of banks. Firstly, to direct the issue of bank performance, it is compulsory to relate to a comprehensive model that integrates financial, organizational and environmental. Furthermore, it’s essential that various interactions are taken among each of these parameters into the account since institutions must be described as a system with activities or various determinants that relate to the environment Beck, Kunt and Levine (2003).

This paper examines the performance of Pakistani banks for the period 2006-2014 using the CAMEL approach. The research aim is to analyze Pakistani financial institution’s capital ratio, asset quality, management quality, earning ability and liquidity management and then evaluate regulatory compliance operating soundness and financial performance of Pakistani institutions.

Contents of this paper are organized in this way. In section 2, we review literature on performance of financial institutions’ analysis using CAMEL parameters. In section 3 methodology and data used in the study is presented. While in chapter 4 and 5 empirical findings and conclusion are described respectively.

## 2. Literature Review

Return on assets (ROA) is highly preferable by organizations to measure financial performance and these are the part of internal. Internal determinants are known as fundamentals of performance, whereas external determinants are those factors that follow environment in which institution is operating. Various studies have been conducted to express the impact of a specific variable on the performance. It is observed that very often, the researches

indicated the contradictory results. This is because of the different data that various researchers used, that covers various areas and periods.

Hudgins and Rose (2013) stated that banks have acknowledged dynamic and extensive modifications those are reshaping very quickly and transforming the banking industry. Such fundamental directions comprise government deregulation, an increasingly interest-sensitive mix of funds, geographic expansion, service proliferation and many others. U.S. Federal Reserves is an authorized organization for reviewing and managing banks financial policies. This specific role is empowered by only financial supervisory agency instead of central bank, in United Kingdom and Japan. It is ensured from the banking supervision that the banks operating in a safe manner, and are not taking the unreasonable risks. This also guarantees that those banks are operating according to the regulation of federal banking supervision. It is examined that financial stability of banks is observed through on-site examination of banks in coordination with the most advanced CAMEL rating technique, which provides good results as compare to off-site monitoring (Bernanke, 2007).

Ilhomovich (2009) analyzed the performance Malaysian banks for 5 years, from 2004 to 2008. It was observed that foreign banks have extra capital reserves, but domestic banks are more productive. Although, foreign banks are influencing the quality of financial services, because all banks offered good and cost effective banking services to customers in Malaysia.

Krakah and Ameyaw (2010) investigated the profitability determinants in Ghana. It was indicated from the study that the performance has been highly resilient, recoding the profits negative during different periods in two decades under the study. It was also indicated that capital strength, non-interest income, money supply growth, non-interest expense, annual inflation rate and natural log of total assets, are significant drivers of profitability in Ghana. However, provisions for bad debt and economy size of Ghana have no impact on profitability.

Al-Tamimi (2010) investigated few powerful conventional as well as Islamic banks factors in UAE for the period of twelve years. The Islamic banks in UAE have a small market share, although demand of their services is increasing. This motivation induces to examine the influencing determinants of performance and comparing it with conventional banks. Dependent variables used in the study are ROE and ROA. The internal factors are used as explanatory variables such as: size, liquidity, GDP, number of branches, indicators of financial development and concentration. Results revealed that liquidity and concentration were considered significant determinants of profitability. In addition to this, number of branches and cost were significant determinants of performance.

Rasihah (2010) reviewed the profitability. The profitability determinants are classified into two parts, internal and external determinants. The internal variables comprise asset portfolio mix, composition of liability, capital structure, total expenses and liquidity. The external determinants are market growth, market share, composition, regulation, interest rate, inflation and firm size. The internal variables alone are adequate in describing the profitability of Singapore and Malaysian banks.

Scott and Arias (2011) proposed that it is necessary to determine appropriate indicators of profitability. The purpose to find those indicators which have capability to examine financial performance of U.S listed banks. Study indicated positive behaviour of ROE towards capital to asset ratio along with changings of per capita income of individuals. On the other hand, size as defined by total assets has capability to compete more efficiently.

### **3. Methodology**

All licensed domestic banks in Pakistan are the population of the study. All banks which were acquired or closed during the study are not the part of sample. Number of banks varies year to year due to the continued licensing. Data of 29 banks for the period of nine years was collected from the portal of State Bank of Pakistan. All other banks were excluded to get the precise results whose data was missing during 2006-2013.

#### **3.1 Bank performance Measure**

Performance of commercial bank is focused in this study; aim to develop the key factors responsible for the performance of banks in Pakistan. 2006-2014 is the time scope to study; duration in which banking sector of Pakistan underwent restructuring. Purpose of selecting this specific period was to use the recent data accessible from the commercial banks in Pakistan. Profitability is utilized as the performance similar to the studies of Samina and Ayub (2013), Stailouras and Wood (2004) and Deger and Adem (2011).

#### **3.2 Dependent variables**

As on the research framework basis of Sehrish et al., (2011); Ongore and kusa (2013), and Al-Gazzar (2014), present study also favored ROE, ROA and NIM as a dependent variable.

### 3.3 Independent variables

Table 3.1 Determinants of financial performance

Internal variables	Measurement	Notation
Capital Ratio	Total Equity to Total Asset	CR
Asset Quality	Provisions against advances to Total Asset	AQ
Management Capability	Loans to deposits	MC
Earning Ability	Total expenses to total earning	EA
Liquidity	Net loans to total assets	L

### 3.4 Model Specification

Model developed for this study is consistent with the studies of Ongore and kusa, (2013), Deger and Adem, (2011), Al-Gazzar (2014) and Samina and Ayub, (2013).

$$Y_{it} = \alpha_0 + \alpha_1 CR_{it} + \alpha_2 AQ_{it} + \alpha_3 MC_{it} + \alpha_4 EA_{it} + \alpha_5 L_{it} + \epsilon_{it}$$

Y = Performance of Bank. Performance is calculated in terms of ROA, ROE & NIM

CR stands for capital adequacy

AQ represent asset quality

MC is the indicator of management capability

EA shows the earning Ability

L represents liquidity management

### 3.5 Hypotheses Testing

H1: There is significant relationship between capital ratio and ROA.

H2: There is significant relationship between asset quality and ROA.

H3: There is significant relationship between management capability and ROA.

H4: There is significant relationship between earning ability and ROA.

H5: There is significant relationship between liquidity and ROA.

H6: There is significant relationship between capital ratio and ROE.

H7: There is significant relationship between asset quality and ROE.

H8: There is significant relationship between management capability and ROE.

H9: There is significant relationship between earning ability and ROE.

H10: There is significant relationship between liquidity and ROE.

H11: There is significant relationship between capital ratio and NIM.

H12: There is significant relationship between asset quality and NIM.

H13: There is significant relationship between management capability and NIM.

H14: There is significant relationship between earning ability and NIM.

H15: There is significant relationship between liquidity and NIM.

**Conditional Rule:** Reject the hypothesis if p-values are less than 0.05.

## 4. Result and Discussion

### 4.1 Descriptive Statistics

In given table descriptive statistics is demonstrated of financial performance indicator to conclude the performance of banks. Table 4.1 shows the total number of observations, minimum, maximum, mean and standard deviation of the dependant and explanatory variable.

	N	Minimum	Maximum	Mean	Std. Deviation
Return on equity	261	-14.74	2.35	-.0076	.98042
Net interest margin	261	-.03	.07	.0311	.01657
Return on asset	261	-.08	.05	.0049	.01953
Capital Ratio	261	-.03	.79	.1506	.15435
Asset quality	261	.00	1.00	.0900	.11161
Management capability	261	.00	21.95	.7798	1.35026
Earning ability	261	-98.77	29.56	.9230	6.46846
Liquidity	261	.00	59.47	4.7624	13.64272

### 4.2 Correlation Analysis

To observe the relation between the variable either they are positively related or negatively related Pearson's

correlation is found. The aim of Pearson's correlation is to check the multicollinearity problem. This problem occurs when variables are highly correlated. Table 4.2 shows the direction of variable between each other.

Table 4.2: Correlation

	ROE	NIM	ROA	CR	AQ	MC	EA	L
ROE	1	.235**	.368**	.040	-.132*	-.017	-.009	.017
NIM	.235**	1	.617**	-.398**	-.331**	-.239**	.115	-.021
ROA	.368**	.617**	1	-.229**	-.470**	-.148*	.053	.016
CR	.040	-.398**	-.229**	1	.341**	.279**	-.110	.106
AQ	-.132*	-.331**	-.470**	.341**	1	.511**	-.330**	-.204**
MC	-.017	-.239**	-.148*	.279**	.511**	1	-.922**	.042
EA	-.009	.115	.053	-.110	-.330**	-.922**	1	.022
L	.017	-.021	.016	.106	-.204**	.042	.022	1

\*\* Correlation is significant at the level of 0.01 (2-tailed).

\* Correlation is significant at the level of 0.05 (2-tailed).

### 4.3 Empirical Findings

H2, H7, H11 Results of multiple linear regressions focused on the impact of specific factors on the performance of banks are shown in table 4.1 using ROA, ROE and NIM as dependent variables respectively.

Table 4.3: Regression coefficients

	ROA	ROE	NIM
(Constant)	0.013	0.076	0.070
	0.000	0.551	0.000
CR	-0.011	0.671	-0.030
	0.155 <sup>NS</sup>	0.135 <sup>NS</sup>	0.000*
AQ	-0.098	-1.658	-0.022
	0.000*	0.029**	0.052**
MQ	0.004	-0.018	-0.004
	0.172 <sup>NS</sup>	0.911 <sup>NS</sup>	0.075***
EA	0.000	-0.012	0.000
	0.551 <sup>NS</sup>	0.674 <sup>NS</sup>	0.100***
L	0.000	-0.002	-9.436E-7
	0.085***	0.656 <sup>NS</sup>	0.990 <sup>NS</sup>
R2	0.249	0.030	0.213
ADJUSTED R2	0.235	0.011	0.197
SSE	.01709	0.97510	0.01485
F-test	16.931	1.568	13.767
P-value	0.00	0.169	0.000

**Note**

\*Statistically significant at 1%

\*\* Significant 5%

\*\*\*Statistically significant at 10%

NS statistically insignificant

As it is illustrated in above table that capital ratio is showing significant impact on NIM similar to the Ongore and kusa (2013), Al-Gazzar (2014) while insignificant to ROA and ROE. Asset quality showed significant impact on all profitability indicators; findings are consistent to Al-Gazzar (2014), Samina and Ayub (2013), Trujillo-Ponce (2012) and Sufian, (2010). Increase in capital increases the profitability of the bank although; as provision against advances to total loan (asset quality) decreases performance tend to increase. In addition to this management capability expected to be positively related to profitability as asserted by Faizulayev (2011), whereas findings showed contradicting results. Findings are similar to Reddy et al (2011) but inconsistent to Ongore (2013) and Almazari (2014). MQ is negatively related to profitability, because profitability decreases with the increase in MQ as measured by ROA and ROE, whereas profitability measured by NIM will expect to increase as MQ increases because of extra interest income. Results are consistent to Redy et al (2011). Earning ability and liquidity were significant to NIM and ROA respectively but insignificant to remaining both profitability indicators.

### 4.4 Hypothesis Testing

P- Value of CR and AQ is less than 0.05 so H2, H7 and H11 are accepted while H1, H3, H4, H5, H6, H8, H9, H10,

H12, H13, H14 and H15 are rejected as illustrated in table 4.1.

## 5. Conclusion

The aim of this study was to observe the most important internal factors that are influencing the profitability of banks in Pakistan. Data was collected from secondary sources. The study concludes that capital ratio measured by total equity by total asset, asset quality measured by loan loss reserve by total loans are the significant factors affecting the performance of banks in Pakistan over the period 2006-2014.

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