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Factors Affecting the Profitability of Banks in Pakistan

Abstract This study examines the relationship between bank-specific and external factors on the Banks' profitability in Pakistan from the time span of 2006 to 2012. In this study, 11 variables have been selected after reviewing relevant past literature. Variables include 1 dependent variable (i.e. Profitability), and 10 independent variables, out of which 7 are internal/bank-specific and 3 are external variables. Internal factors include Liquidity, deposits, bank Size, expense management, credit risk, capital, and loans whereas external factors include economic growth (GDP), Interest rate and Inflation. The experimental consequences have shown that internal/Bank specific and external factors have a strong impact on the profitability of banks in Pakistan. In model 1 Independent Variables include Deposits, expense management, credit risk, bank Size, Inflation and Gross Domestic Product has a significant impact on profitability whereas in Model 2 expense management was insignificant.

Key Words: Profitability, Return on Assets, Bank Specific Factors, External Factors

Introduction

"Introduction portion primary focus is on the background of the study, problem statement, objectives of the research, research questions and significance of the study." The motivation for carrying out this paper and the targeted group are also explained in this chapter.

Background of Study

For the development of an economy financial sector plays a significant and pivotal role, and it helps a nation to utilize its resources well for the best national interest. The financial sector of Pakistan has grown up in recent years, but still, this sector has enormous potential for expansion to grow. The financial sector of Pakistan is mainly consisting of Development financial institutions, Commercial and Microfinance banks, Non-Banking companies etc. These financial Institutions are working under the supervision and regulations of the Corporate Law Authority (CLA), the Pakistan Banking Council and, The State Bank of Pakistan.

The Commercial Banks have covered a major portion of the financial system in Pakistan because they are performing multi-tasks and Change in the working environment led to structural changes in the banking sector in Pakistan and all these alterations incurred after 1997 when the regulations and administration of banking system were associated with global best practices. The ongoing process of mergers and privatization of public sector banks has brought noticeable structural changes and ownership of Pakistan's banking sector. (Source: State bank of Pakistan; evolution, functions, and organization, 2009)

A well-managed banking system has the ability to face complex circumstances wisely and strong enough to tackle negative shocks. There are many factors that affect a bank's profitability and they are categorized as bank-

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specific/Internal/Microeconomic and external/macroeconomic factors. Microeconomic factors are controllable while external factors are uncontrollable. These entire variables have an impact on the profitability of banks but their intensities are different. The basic aim of our research is to find out the most effective factors affecting banks' profitability in Pakistan. Changes in a bank's income are caused by different numerous factors (internal or external), and we have selected a few variables to check their importance on the bank's profitability. We have taken seven internal factors and three external factors to check whether these factors affect a bank's profitability.

Problem Statement

Banks and Businesses are established for the sake of earning profit. For the smooth running of Banks, profitability plays an important role in the long term institutional benefit and development of an economy. There are numerous factors that affect the banks' profitability, so it is an opportunity for us to identify the Profit Determinants and check which variables are affecting the profitability and how they can be improved for further profit generation. Bank executives can review what different variables are affecting the profitability of banks and how they resolve/improve that particular factor. Over the previous Thirty years, the majority of the investigators devoted considerable "money and time" to the significance of the lucrative factors.

Objectives of the Study

The Chief purpose of this work is to provide a comprehensive analysis of factors affecting the bank's Profitability in Pakistan from the time period 2006 to 2012 (i.e. 7 years). Further objectives include which External and internal factors play important role in the profit generation of banks in Pakistan.

Limitations of the Study

Every study has some limitations, and our research is limited only to one sector (i.e Banking sector). And our results will be valid for the specified period of time because the bank's performance will not remain stagnant throughout its life and in the real world, this is not possible. When the performance will change, ultimately bank's profit will also increase or decrease so which will lead to a new result that may be different from our research and the use of financial ratios to proxy the variables of the study which change from study to study are inherent in the study.

Significance of Study

"The growth of the economy is closely linked to the soundness of its banking system. The Banking sector in Pakistan dominates the financial system and its assets are equal to ~38% of GDP. Risk-averse appetite continues to prevail in the domestic banking industry. While reflecting the challenging domestic economy, this signifies the limited incremental credit demand from the business community. Consequently, the additional liquidity mobilized through deposits, as enabled by increasing remittances and inherent money velocity, is being deployed in government securities." (Source PACRA, 2014)

Motivation

Being a student of finance we are curious to know all those variables which may affect the banks' profitability. This kind of information and research will help us out in professional life. To come up with new ideas with subject knowledge and our research may identify those factors which can be useful for the expansion of the banking sector in Pakistan.

Theoretical Frame Work

The empirical outcomes of this work will supportive as well as useful to the researchers/managers who are working in the relevant field, and for those whose focus area is regulatory and techniques to increase the profitability of banks. The analysis conducted in this study may be of assistance to the

management of the banking sector operating in Pakistan.

Literature Review

This portion presents the examination of the earlier studies that determine the aspects that affect the bank's profitability. A good number of the researchers used both variables (internal/Bank specific and external) in their studies. In light of their studies we have reviewed the following literature;

Acarvci and Çalim, (2013) viewed that Profit usually focuses on Return on invested capital (ROIC) or the excess of revenues over expenditures in an organization and Bintawim and Saud, (2011) defined profitability ratio as a type of financial Ratio with the purpose of assessing an enterprise capacity to produce more revenue contrast to their all expenses. Valentina, Schumacher and McDonald, (2009) stated that Profitability ratios can be useful to understand how effectively an organization is using their resources for profit generation and stockholder value.

Dietricha and Wanzenriedb, (2009) Viewed that the bank's Profitability is usually calculated by the ROA/Return on assets or the ROE/Return on equity, hence these are probably stated as function determinants and variables which determine the bank's profitability are divided into two parts (Internal as well as external) and Bank specific constructs including internal and environmental variables are external determinants. internal factors determining the profitability are level of credit risk, bank size, administrative expenses etc. while the macroeconomic factors affect the economy and environment of an organization.

Athanasoglou, Delis and Staikouras, (2006) Proposed that Capital is the dependent variable in the bank's profitability because an upsurge in profit leads to an increase in capital. Bourke, (1989) Literature argues that organization profitability can be increased by a reduction in expenses and that will lead to more efficiency, so we can understand that there is a negative relationship between these two variables i.e. Operating expenses, and profitability. Conversely, Molyneux, (2004) showed a direct affiliation between organization expenses and total profits, and Jabbar, (2014) viewed a direct relationship between the firm profitability and higher salaries (Expense for an institution) paid to their efficient and dynamic employees, Tough salaries are high but their creativity and hardworking increase the profit of an organization.

Haslem, (1969) calculated and worked out the financial ratios of different banks and with the help of statistical tools, he came to the conclusion that many of the ratios have an impact on productivity, mainly capital ratios, interest received and paid wages and salaries. He also acknowledged that managing expenses are the prime factor in the profitability of banks in any country.

Bourke, (1989) stated that the nature of ownership also affect the profitability of banks because incentives vary in different ownership style in banks. Gremi, (2013) stated that there are also some demand factors or forces which affect the profitability of banks and sometimes they cannot be recognized or measured, Staikouras and Wood, (2004) considered the most important factors are changes in income and population level.

Javaid et al., (2011) observed the effect of internal factors for example firm's equity, credit, deposits, and assets on the key profitability ratio which is a return on asset (ROA) by using the "pooled Ordinary Least Square method, and the outcome showed that all these internal factors encompass a great effect on the bank's profitability, in contrast, he showed that due to economies of scale, a higher level of total assets and loan may not lead to greater profit but deposits and equity plays a vital role in the bank's profitability and they have a substantial influence on it.

Bintawim and Saud, (2011) Viewed that large banks have mature growth as compared to medium banks if we check the performance of both sizes banks, the banks with the small size are

encountering several obstacles to attain better expansion in Saudi Arabia. Moreover, they used regression analysis and concluded that financial performance is negatively affected by the size of the bank in Saudi Arabia.

Medabesh, (2012) Explained that for the experimental research he used different scientific approaches to find out which variable has a significant impact on the banks' profitability in Saudi Arabia. Jabbar, (2014) Viewed different internal factors such as Liquidity, Operating expenses, and Investment in Islamic securities that are greatly correlated with the total revenues collected by the bank. Other factors such as deposits, depositor and banks profit sharing ratio and supply of money play a vital role in Islamic banks' profitability.

Scott and Arias, (2011) used The econometric model and which was supported by microeconomic factors of the banking sector while they correlated to return on assets, furthermore, macro-economic factors such as growth in the Gross domestic product were a measure to check the impact on bank's profitability. Scott and Arias, (2011) outcome confirmed a progressive relationship between the total capital to assets ratio as well as return on equity and the change in yearly proportion in per capita income.

Almazari, (2014) Compared the profitability ratio of the two countries and concluded that Saudi Banks' profitability ratio (ROA) is greater than Jordanian banks so Jordanian banks are less efficient than Saudi Banks while utilizing their resources. There is a difference between both country's Investments, Liquidity risk and some other internal factors, which cause Jordanian banks less efficient.

Obamuyi, (2013) studied different theories relating bank size and capital with profitability. Signalling theory indicates that there is a positive affiliation between an increase in capital and market value of banks and a poorer debt shows that the bank is carrying out its business better than its rival banks which cannot lift up their capital without further weakening profitability.

Dietricha and Wanzenriedb, (2009) collected data from commercial banks from 2004 to 2008 and come to the conclusion "there is a direct relationship between bank size and profitability (i.e. Return on assets)", and there is an opposite relationship among commercial bank's return on equity with inflation and gross domestic product growth rate. Dietricha and Wanzenriedb, (2009) Analyzed and came to the decision that the most important variable which affects the profitability of any bank is the GDP growth rate. The market concentration and effective tax rate have an adverse impact on profitability.

Osamwonyi and Michael, (2014) Examined Nigerian banks' profitability determinants from 1980-2006 by using panel data analysis. He found different microeconomic variables which are; exchange rate, monetary policy, real interest rates, and inflation show a vital part in Nigerian banks' profitability.

Obamuyi, (2013) explained that "there is a positive relationship between profitability and capital", and consequences show that banks having larger capital can expand their banking operations by taking some risk, and banks can avail funds at low cost from their customers to improve their liquidity position when they will get a loan on low cast they can lend on good rate and can earn more profit. Athanasoglou, Delis and Staikouras, (2006) viewed that if a bank wants to avail all the opportunities regarding their business they must have adequate capital, this will lead towards profitability and capital is sometimes very much helpful to recover the unexpected loss.

Acarvci and Çalim, (2013) concluded that Internal factors (Bank-Specific) have a greater impact as compared to external factors of the banks. Moreover, their empirical studies recommended that the state-owned banks have more liquid assets in contrast to privately-owned banks so the liquidity risk is low in State-owned banks but privately owned banks have more opportunities to invest their liquid assets. Acarvci and Çalim, (2013) Viewed there is a negative relationship between economic crisis on the bank's profitability in any country.

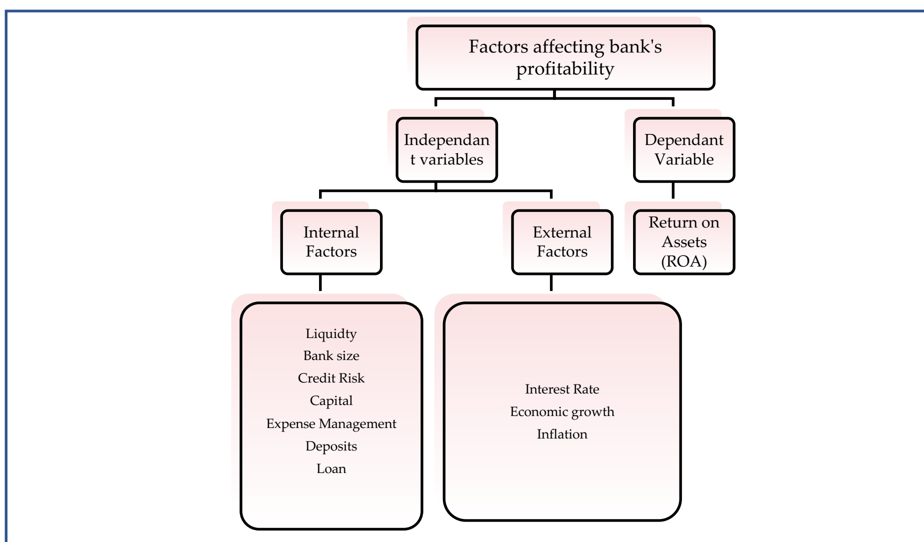
Muda, Shaharuddin and Embaya, (2013) calculated that both returns on average assets and equity have multiple effects on banks' performance instead of expected Credit and capital ratio and also show this study that China Banks' financial performance is affected by operating ratio but their influence does not affect Malaysia banks performance. The study showed that credit risk is adversely linked to ROAA/Return on average assets) of China and Malaysia banks performance and ROAE (Return on average equity) is negative correlation Malaysia Banks profitability .at the end ultimate the financial ratios leave a different impact on banks performance accordingly countries affecting factors.

Research Methodology

Research Design

Variables of Study

In the previous chapter (Literature Review) we have thoroughly reviewed the relationship between different factors and profitability, as well as their cause and effect on a bank's financial performance. We have seen a number of factors that may affect a bank's profitability. Different researchers have done work on it in different parts of the world on this topic. Based on the knowledge of our literature review, in this section, we have identified defined dependent and independent variables, and we have shown the relationship between these variables by making hypotheses. We can understand our whole model with the help of the following Diagram



Dependent Variable of Study

After reviewing the literature there are mainly four Dependent variables to check the profitability of banks which are; return on capital employed, return on equity, net interest margin, and return on Assets. It is difficult and time-consuming for the researcher who is doing research for the first time, so for our better understanding and convenience, we have taken only Return on Assets as a dependent variable to measure the profitability.

Profitability: Return on Assets

Damodaran, (2002) defined ROA/Return on assets as a tool to extent that how well and lucrative a venture is compared to its entire assets. This ratio also explains how well-organized the administration is at using its assets

to produce a profit. To Measure profitability, we have used Return on Assets, as the main financial ratio to check the productivity of banks over many years. Mathematically we can measure it by the following formula;

$$Return\ on\ Assets = \frac{\text{Net Income}}{\text{Total Assets}}$$

Independent Variable of Study

We have separated all these factors into two main categories which are internal and external factors, these variables are as follows;

Liquidity

Liquidity simply refers to easily convertible to cash without having any loss in value. In financial terms, we can define it as cash as a proportion of the total assets of the bank. Acarvci and Çalim, (2013) mentioned that liquidity has an affirmative or undesirable effect on the banks' profitability, but the situation depends upon factors whether the bank is state-owned, privately owned or a foreign bank. Liquidity can be measured by the following formula;

$$Liquidity = \frac{\text{Total Cash}}{\text{Total Assets}}$$

Deposits

Almazari, (2014) mentioned that Conventional banking tasks were to accept deposits and lend them to the general public, the primary source of funds Deposits show a vital part in the profit generation of banks because a bank can earn income/profit in the form of interest rate by lending it to their customers and there is an affirmative association between deposits and Return on assets. We can measure deposits as;

$$Deposits = \frac{\text{Total Deposits}}{\text{Total Assets}}$$

Bank Size

Molyneux, (2004) mentioned that Bank size is considered one of the chief internal factors which affect the bank's profitability. Bank size simply refers to the assets size of the bank. "The bank size can be considered by the natural logarithm of total assets". Athanasoglou, Delis and Staikouras, (2006) Viewed that there should be an optimal level of bank size with the purpose of maximising the profitability of banks.

$$Bank\ Size = Ln(Total\ Assets)$$

Credit Risk

Obamuyi, (2013) Mentioned in his literature that credit risk and interest rate play a significant part in the profit generation of commercial banks. Gremi, (2013) Viewed that if there are variations in credit risk it may the bank's loan portfolio and the same in the case of profitability. Credit risk can measure by;

$$Credit\ Risk = \frac{\text{Nonperforming Loans}}{\text{Total Loans}}$$

Capital

Athanasoglou, Delis and Staikouras, (2006) referred to the terms as the sum of resources available to sustain a bank that can be helpful and secure itself for the bad times. It is difficult to determine the relationship between capital and profitably because many researchers have shown positive relationships and many of them have shown negative relationships. Meanwhile, the profitability will also increase. Capital can be measured as;

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

Expenses Management

Muda, Shaharuddin and Embaya, (2013) related this variable to how efficient bank is utilizing their resources, this variable is also called operating expense. Bintawim and Saud, (2011) viewed the negative relationship between expense management and profitability. In view of the fact that better management of the operating expense will increase efficiency and profitability.

$$Expens\ Management = \frac{\text{Operating Expense}}{\text{Total Assets}}$$

Loans

Scott and Arias, (2011) viewed that "we can measure this variable by total loans of the bank to

total assets" of bank ratio and it is having a negative relationship with profitability because excessive loans may decrease the profit ratio of banks.

$$Loans = \frac{\text{Total Loans}}{\text{Total Assets}}$$

Economic Growth

Vong and Chan, (2006) measured economic activity (Gross Domestic Growth) by an increase in real gross domestic rate and it has a positive effect on the profitability of banks. if the economy is improving there will be higher economic growth and that might show the way to a larger demand for both non-interest and interest activities further all these activities will increase the profitability of banks. Data is collected from the economic survey of Pakistan.

Interest Rate

Sufian and Chong, (2008) Measured Interest rate as an external factor that can affect the profitability of banks and they projected a positive relationship between them. Banks charge more lending rates as compared to deposit rates, as this is one of the main sources of earnings for a financial firm. If banks increase lending rates so this brings a little bit difficult for the borrowers while repaying their debts because they have to pay an extra amount to banks in form of surplus money (interest rate). The rise in interest rate may lower the asset quality but it is necessary to balance the intrinsic risk.

Inflation

Muda, Shaharuddin and Embaya, (2013) associated inflation with higher costs plus higher earnings. If a bank's revenues are growing faster than its expenses, so there would be a positive effect on the bank's profitability. Alternatively, negative relationships will occur when expenses are growing faster than their profit. They have concluded that the inflation rate has the strongest impact on banks' ROA. Valentina, Schumacher and McDonald, (2009) Measured Inflation by the present time Consumer price Index growth rate.

Hypothesis Construction

By keeping in mind the previous literature we have proposed our hypotheses for the further research process, The terms used in Hypotheses are H_0 (Null Hypotheses) and H_1 (Alternative Hypotheses). We built the hypothesis to confirm the statements of H_1 by rejecting or accepting the H_0. For the acceptance and Rejection of the hypotheses 5% level of significance is maintained, if the P-value of the results is greater than the level of significance then we will fail to reject the Null hypotheses.

Hypotheses

A hypothesis is a proposition to check the overall effect of independent variables on dependent variables. In our analysis we have made two models, Model 1 is related to internal and external factors of the banks and model 2 is related only to internal factors of the banks, now we will make hypotheses of these models separately.

Model 1(Internal and External Factors)

Factors	Hypotheses		
• Liquidity	H_0	There is no relationship between	Liquidity and Profitability
• Deposits	H_0		Deposits and Profitability
• Bank Size	H_0		Bank Size and Profitability
• Credit Risk	H_0		Credit Risk and Profitability
• Capital	H_0		Capital and Profitability
• Expense Management	H_0		Expense Management and Profitability
• Loans	H_0		Loans and profitability
• Economic Growth	H_0		Economic growth and Profitability
• Interest Rate	H_0		Interest Rate and Profitability
• Inflation	H_0		Inflation and Profitability

Factors	Hypotheses	There is Relationship between	
• Liquidity	H_0		Liquidity and Profitability
• Deposits	H_1		Deposits and Profitability
• Bank Size	H_1		Bank Size and Profitability
• Credit Risk	H_1		Credit Risk and Profitability
• Capital	H_1		Capital and Profitability
• Expense Management	H_1		Expense Management and Profitability
• Loans	H_1		Loans and profitability
• Economic Growth	H_1		Economic growth and Profitability
• Interest Rate	H_1		Interest Rate and Profitability
• Inflation	H_1		Inflation and Profitability

Model 2(Internal Factors)

Factors	Hypotheses	There is no Relationship	
• Liquidity	H_0		Liquidity and Profitability
• Deposits	H_0		Deposits and Profitability
• Bank Size	H_0		Bank Size and Profitability
• Credit Risk	H_0		Credit Risk and Profitability
• Capital	H_0		Capital and Profitability
• Expense Management	H_0		Expense Management and Profitability
• Loans	H_0		Loans and profitability

Factors	Hypotheses	There is Relationship between	
• Liquidity	H_1		Liquidity and Profitability
• Deposits	H_1		Deposits and Profitability
• Bank Size	H_1		Bank Size and Profitability
• Credit Risk	H_1		Credit Risk and Profitability
• Capital	H_1		Capital and Profitability
• Expense Management	H_1		Expense Management and Profitability
• Loans	H_1		Loans and profitability

Research Design and Methodology

In this chapter we have studied our sample size, collection of data, research model, Validity & Reliability of data, Procedure for hypotheses testing, tests of the assumptions of the analysis and Type of inferences.

Sample

We have selected 35 out of 38 commercial Banks from all over Pakistan (n=35) and 3 banks were excluded from the sample because their data was incomplete. Data is collected from SBP Analysis Reports, Banks Websites and Pakistan economic surveys.

Research Methodology

In this study, we have used a panel data regression model (multivariate) to make the empirical analysis
of determinants affecting banks' profitability in Pakistan. The Model for the internal and external factors can be illustrated as

Model 1: Model for Internal and External Factors

$$PRF(ROA_{it}) = \beta_0 + \beta_1 LIQ_{it} + \beta_2 DPS_{it} + \beta_3 BSZ_{it} + \beta_4 CRK_{it} + \beta_5 CAP_{it} + \beta_6 EXP_{it} + \beta_7 LON_{it} + \beta_1 ECO_{it} + \beta_2 INT_{it} + \beta_3 INF_{it} + \varepsilon_{it}$$

Where				
Factors			Dependent Variable	Independent Variable
ROA	Represents	Return on Assets	✓	
LIQ		Liquidity		✓
DPS		Deposits		✓
BSZ		Bank Size		✓
CRK		Credit Risk		✓
CAP		Capital		✓
EXP		Expense Management		✓
LON		Loans		✓
ECO		Economic Growth		✓
INT		Interest Rate		✓
INF		Inflation		✓

Other terms in the model	Represents
β_0	a random variable with a mean value
I	Number of banks 1-35
T	Time period, 2006-2012
ε	Error term

Model 2 for Internal Factors

$$PRF(ROA_{it}) = \beta_0 + \beta_1 LIQ_{it} + \beta_2 DPS_{it} + \beta_3 BSZ_{it} + \beta_4 CRK_{it} + \beta_5 CAP_{it} + \beta_6 EXP_{it} + \beta_7 LON_{it} + \varepsilon_{it}$$

Where				
Factors			Dependent Variable	Independent Variable
ROA	Represents	Return on Assets	✓	
LIQ		Liquidity		✓
DPS		Deposits		✓
BSZ		Bank Size		✓
CRK		Credit Risk		✓
CAP		Capital		✓
EXP		Expense Management		✓
LON		Loans		✓

Other terms in the model	Represents
β_0	a random variable with a mean value
I	Number of banks 1-35
t	Time period, 2006-2012
E	Error term

Data Collection

The nature of the research is explanatory and we have collected data (Secondary data) from reports of the State Bank of Pakistan (i.e financial statement analysis). 3 Commercial banks which had incomplete data for the sample period 2006 to 2012 were excluded from the analysis. The data is collected from the annual reports of commercial banks, and these two financial statements are more than enough for us to collect all the required data. Inflation, GDP, and Interest rate data are collected from the Economic Survey of Pakistan.

Data Validity and Reliability

Validity is the precision by which scholars compute the compulsory ideas. For the reliability of data, all needed materiel and the historical record had collected from the State Bank of Pakistan Ratios Analysis report which is considered to be a trustworthy and reliable source. Moreover different financial ratios are used as the proxy of different variables taken into consideration in the study.

Type of Inferences

In this study, the multivariate panel data analysis is applied because of the presence of more than one independent variable with a single dependent variable. The data is cross-sectional as well as longitudinal so the simple multiple regression models are inappropriate in this study.

Generally, panel data analysis provides the researcher with greater degrees of freedom and this can reduce collinearity between and among variables. From the data set, we extracted the data that is relevant to the variables we have used in the study for thirty-five Banks. We have estimated the model using a panel EGLS (cross-section random effects) setting using STATA 12.1 and EVIEWS 7.1.

Data Analysis

"This portion treats the outcomes of the work which consist of the "descriptive statistics, regression analysis, correlation matrix, and few other tests for fulfilment the assumption of regression model".

Summary Statistics

Table 1 represents summary data of independent and dependent constructs of the study used for the panel data analysis which is shown in Table 1, "including the total number of observations, the mean values, maximum and minimum values, and standard deviation of each and every constructs". The mean value of the profitability ratios of the banks included in the study is .174%. The mean Liquidity is 14.01%, the mean value of Deposits is 64.21% and the mean values of all other variables are mentioned in table 1. The table shows that all variables have an affirmative mean value which ranges from a small value of "0.17% to 95.17%" large value. The standard Deviation/SD of GDP is 1.47 which indicates that observations in statistics are more close to the mean and it has the lowest standard deviation as compared to all variables.

Table 1. Summary Statistics of Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
PROF	245	0.1748163	2.666198	-22.17	5.3
LIQ	245	14.01547	14.26315	0	97.13
DEP	245	64.21902	23.27616	0	90.85
CR	245	16.11317	20.17039	0	99.59
CAP	245	2.175061	81.84795	-604.84	78.8
EM	245	2.6136	12.89591	-91.18	118.19
LOANS	245	95.17314	83.6091	0	704.09
BS	245	17.99598	1.936194	0	21.19969
INF	245	12.09633	4.150581	0	20.3
GDP	245	3.946122	1.478464	0	6.2
INT	245	11.54857	2.043695	0	14.1

Table 2. Correlation Matrix

.Correlate PROF LIQ DEP CR CAP EM LOANS BS INF GDP INT

(obs=245)

	PROF	LIQ	DEP	CR	CAP	EM	LAONS	BS	INF	GDP	INT
PROF	1.0000										
LIQ	0.0047	1.0000									
DEP	0.0261	-0.3999	1.0000								
CR	-0.3835	-0.0895	-0.2546	1.0000							
CAP	0.0976	0.2432	-0.0506	-0.528	1.0000						
EM	0.0870	-0.0635	0.1015	-0.0195	-0.1145	1.0000					
LOANS	-0.0934	-0.2245	0.1109	0.5353	-0.9862	0.1191	1.0000				
BS	0.2702	-0.2476	0.5439	-0.1927	0.1047	0.0489	-0.0280	1.0000			
INF	-0.0760	0.0251	0.0728	0.0152	0.0031	0.0483	0.0290	0.1339	1.0000		
GDP	0.0384	0.0069	-0.0386	-0.0489	-0.0059	-0.0636	-0.0186	0.0236	-0.8580	1.0000	
INT	-0.0007	0.0162	0.1377	0.1607	-0.0240	0.0504	0.0723	0.3330	0.2310	-0.3450	1.0000

Regression Analysis

The results for Random Effects GLS regression to estimate the bank-level panel data are presented in Table 3. The table shows the average intercept value of 19.45. We have calculated the Breusch Pagan test to make a choice between the stable result model and the random result model. Later we came across the results that the Random Effects is appropriate. The results of the BP test are provided in table 4.

Table 3(a), Regression Results for the Static Panel Model

.xtreg PROF, LIQ, DEP, CR, CAP, EM, LOANS, BS, INF, GDP, INT, re sa (robust)		
Random-effects GLS regression	Number of obs	245
Group variable: B	Number of groups	35
R-sq: 0.4928	Observation per group: min	7
	Avg	7
	Max	7

	Waldchi2(10)	66.21
Corr (u-I, X) = 0 (assumed)	Prob > Chi 2	0.0000
(Std. Err. Adjusted for 35 clusters in B)		

PROF	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
LIQ	-.0041779	.0164271	-0.25	0.799	-.0363744	.0280185
DEP	-.0510866	.0172354	-2.96	0.003	-.0848675	-.0173058
CR	-.0702503	.019853	-3.54	0.000	-.1091613	-.0313392
CAP	.0096401	.0150958	0.64	0.523	-.019947	.0392273
EM	.0166146	.0080043	2.08	0.038	.0009264	.0323027
LOANS	.0196224	.0153818	1.28	0.202	-.0105254	.0497703
BS	.6512017	.1231398	5.29	0.000	.4098521	.8925513
INF	-.3194028	.0696045	-4.59	0.000	-.4558252	-.1829805
GDP	-.8375366	.2422832	-3.46	0.001	-1.312403	-.3626702
INT	-.1306982	.0904898	-1.44	0.149	-.308055	.0466586
_cons	-.3268759	1.053831	-0.31	0.756	-2.392347	1.738596
sigma_u	.9597137					
sigma_e	1.9971319					
rho	.18760244	(fraction of variance due to u_i)				

Table 3(b): Regression Results for the Static Panel Model

.xtreg PROF, LIQ, DEP, CR, CAP, EM, LOANS, BS, re sa (robust)		
Random-effects GLS regression	Number of obs	245
Group variable: B	Number of groups	35
R-sq: 0.4808	Observation per group: min	7
	Avg	7
	Max	7

PROF	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
LIQ	-.0085612	.0144913	-0.59	0.555	-.0369636	.0198411
DEP	-.0432955	.0163788	-2.64	0.008	-.0753974	-.0111937
CR	-.0679298	.0174042	-3.90	0.000	-.1020414	-.0338183
CAP	.0018666	.0175741	0.11	0.915	-.032578	.0363111
EM	.0170844	.0091987	1.86	0.063	-.0009446	.0351135
LOANS	.0107576	.0178105	0.60	0.546	-.0241504	.0456656
BS	.4158777	.1914947	2.17	0.030	.0405549	.7912005
_cons	-4.386905	3.322432	-1.32	0.187	-10.89875	2.124943
sigma_u	.92885517					
sigma_e	2.039857					
rho	.17173731	(fraction of variance due to u_i)				

	Waldchi2(10)	25.20
Corr (u-I, X) = 0 (assumed)	Prob > Chi 2	0.0007
(Std. Err. Adjusted for 35 clusters in B)		

According to (Gujarati and Porter, 2009), "The Random Effects Model is consistent even if the true model is the pooled estimator. However, if the true model is Fixed Effects, the random effects estimator is inconsistent."

Results Significance

Table 3(a) shows the regression results of external and internal variables as a whole in one model for this research. It explains that Six controlled variables are negatively correlated with the profitability of banks which are liquidity, deposits, credit Risk, Inflation, GDP, and Interest rate, while capital, expense management, loans, and bank size are positively related.

In Model 1 (Bank specific and External) the "P values" disclose that out of Ten, Six controlled variables are statistically significant. During the time period of study the empirical results revealed that variables including Deposits, credit risk, expense management, bank size, Inflation and GDP are statistically (based on the principles of statistics) significant at $\alpha = 0.05$ 0r 5%, Other variables liquidity, Capital, Loans, and Interest rates at 5% level of significance are statistically insignificant. In Model 2 (Only Internal Factors) the "P values" disclose that out of seven, three controlled variables are statistically significant. During the time period of study, the empirical results revealed that variables including Deposits, credit risk, and bank size are statistically significant at $\alpha = 0.05$ 0r 5%, Other variables are liquidity, Capital, Loans, and expense management at a 5% level of significance are statistically insignificant.

The p-values disclose that Three out of seven controlled variables of the study are statistically significant. The empirical results revealed that for the duration of the sample period of the study, variables including Deposits, credit risk, and bank size are statistically (based on the principles of statistics) significant at $\alpha = 0.05$ 0r 5%, Other variables liquidity, Capital, expense management, and Loans, at 5% level of significance are statistically insignificant.

Table 3(a) indicates that the R-squared (R^2) values of the model in the study are 0.4808; it implies that approximately 48.08% of the variation in the profitability of banks in Pakistan is being explained by the deviation in the controlled variables throughout the sample period.

Conclusions

The financial segment plays a significant role in the development of an economy and it is considered the backbone of the country's success and consistent growth. The financial institutions especially the banking sector are growing rapidly and it has a significant impact on the economy no one can deny the importance of banks in the development of any country. In Pakistan Banks are performing outstandingly and they are generating good profits but in near future, their work may affect due to the imposition of taxes on every bank transaction of non-filers (i.e 0.6% tax on every transaction). Banks have to pay tax to the government for every transaction which they record, conversely when there is an increase in tax the profit decreases which ultimately affects the bank's earnings and shareholders' wealth.

We have used the Static panel data technique to check the relationship between bank-specific and external factors on the profitability of banks in Pakistan. In this research, we have included profitability as a dependent variable and liquidity, deposits, Credit Risk, Capital, Expense Management, Interest rate, GDP, and Inflation rate as independent variables. By Using STATA 12.1 the Random Effects Model (REM) was used to estimate the short panel sample.

All needed material and data were collected from the State Bank of Pakistan annual report which is considered to be a trustworthy and

reliable source. Moreover different financial ratios are used as the proxy of different variables taken into consideration in the study. 35 Banks' annual data is taken from the State bank of Pakistan ration analysis report for the period of 2006-2012.

In Model 1 ten hypotheses were constructed to check the relationship between bank-specific and external factors with profitability. The experimental consequences have established solid proof that internal and external factors have a strong influence on the bank's profitability in Pakistan. Independent variables include liquidity, deposits, credit Risk, Inflation, GDP, and Interest rate are negatively correlated, while capital, expense management, loans, and bank size are positively related. Independent Variables include Deposits, Credit risk, bank Size, Inflation and Gross Domestic Product revealed a significant impact on profitability.

Model 1 result indicates that the R-squared (R^2) values of the model in the study are 0.4928; it implies that approximately 49.28% of the variation in the profitability of banks in Pakistan is being explained by the deviation in the controlled variables throughout the sample period.

In Model 2 Seven hypotheses were constructed to check the relationship between bank-specific variables and profitability. Three controlled variables are negatively correlated with the profitability of banks which are liquidity, deposits, and credit Risk, while capital, expense management, loans, and bank size are positively related. Three out of seven controlled variables of the study are statistically significant. Variables including Deposits, credit risk, and bank size are statistically significant, other variables liquidity, Capital, expense management, and Loans are statistically insignificant.

Model 2 results indicate that the R-squared (R^2) values of the model in the study are 0.4808; it implies that approximately 48.08% of the variation in the profitability of banks in Pakistan is being explained by the deviation in the controlled variables throughout the sample period.

Recommendations

At the end of the research, we can easily understand with the help of empirical analysis that both internal, as well as external elements, have a substantial impact on the bank's profitability in Pakistan. There is room for further research in this field because this is a very vast sector and it is not easy to cover all the aspects of this sector. Further research can be done by including more variables such as capital adequacy, income structure, net interest margin, growth in deposits, exchange rate, ownership of the bank, effective tax rate, etc. The results can also be updated by including the latest data.

In our study, we have selected ROA/Return on assets as a measure for profitability but if another researcher selects Return on equity or any other financial ratio as a proxy for profitability within the same time period, the results may come far more different than our results. This is not a rule of thumb that we should use Return on assets as a proxy for profitability, it can be any other financial ratio but it should be extracted from the balance sheet or income statement

Suggestions for Future Research

Our study sample time period is limited only to 7 years but for more realistic and meaningful results further study can be conducted by increasing the time period and it will provide better and more accurate results. In our study, we have mainly focused on internal factors so further study can be carried out only on external factors and we can check whether external factors affect the banks' profitability in Pakistan or not. We can compare the performance of Pakistan's banking sector with any other country's banking sector to check commercial banks' performance on the international level.

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