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Examining The Role of Firm-Based and Country-Based Determinants Towards Banks Performance: A Case of Pakistan

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ABSTRACT

The aim of my study is to determine the factors which affect the profits of the banking sectors into Pakistan. For the examination either our variables have their significant impact on the profit of the banks or not, so the data was collected for the duration of the 2010-2018. The data was gathered from the financial statement of the banks and World Development indicator. Total 17 commercial banks were selected. We apply on it the panel date analysis and find the result of the fixed and random effect. To get this object we bring the Return on asset as our independent variable. For the independent variables, we make our two factors. First one is bank specific and second is the country specific. We find that the independent variables have shown a significant impact on the profitability of the bank. The variable Net interest margin, money and quasi money have significant impact on the profitability of the banks. The result exposed that the Net interest margin and the long loss provision over the total loss have a highly significant impact on the profit of the bank.

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1. Introduction of study

1.1 Introduction

From recent years, the financial institution especially into the banking sector has performed a too much change and the environment has become with of the full competition. It can be seen at both the national and the international level. By giving their consistent good performance, the banks urge other banks to perform better and provide more facilities. The banks have been increasing from the last years in Pakistan. The industry of the banks all too all handle by the state bank of Pakistan. These banks are divided into many categories such as the Islamic bank commercial banks, investment banks and the industrial banks. Due to providing their services all these banks are different from the other banks. The levels of the performance of all banks vary from each other.

The performances of some banks are not positive. From the last years there is a large change has come into the banking sector. Too much integration and crisis have come into this sector. Due to this the structure of the sector has been changed. The main contribution in this sector is we must find the areas which mostly affect profitability. There are two main factors which affect profitability, one the country specific (external factors) and the other is the bank specific (internal factors). The eternal factors are included the Inflation, Gross Domestic Product, Per Capita Income, interest rate and all other issues which affect the performance of the country. The internal factors are those which affect the internal management of the industry.

These are the most dangerous factors because due to these factors more loss can be occurring as compared to the external factors. Commercial banks are very efficient banks, and it has a good impact on the economic growth of the country. Good and profitable bank is a good sign for the country's development. The profits of the banks vary from the country to country. So, we must see that either the income level of different people or banks of different countries are effect. But the studies have shown that the level of income has an important impact on the profitability of the banks and on the determinants which is relevant to its profitability.

Capital is also the main factor for the improvement of profitability. If the capital of the banks will be more the profit of the banks will also more. Bank performance also depends on the profitability. Investment factors also increase if the profit of the company is high. People will be more attract if the bank will have more profitability (Molyneux & Thornton, 1992). More about it, a minimum amount of equity capital has been set out and through which banks can afford high risk. The market has become globalized. Foreign banks also enter the market. Due to their enterprise the competition has increased an efficiency of the banks also increased. Therefore the profit of the banks also effect due to this. (Zopounidis & Kosmidou, 2008) he explained that the competition between the banks has increased due to the fundamental changes.

He explained that in European countries there are a lot of changes in the banking system. Too many banks which are relevant to it have become made into its merger, and someone has made the alliance of their banks and some of them have acquired their business. There is a more ratio of the acquisition and the merger of the banks. It has increased a lot in the few years. It has changed the total environment of the business. Due to this the ratio of the privately owned banks has been increased as compared to the Govt. banks. It has been a lot of changes for the institution. It has totally changed to the whole of the operation system. The monetary system has also been changed. Due to the increase in the competition, there is stable and slow change in the inflation rate. Due to this the spread of interest rate has greatly been affected by it. Foreign exchange is also a source of income for the banks it is also changed. Now banks must see a new plan and must launch the new products and now there is a lot of the need to seek new clients for the banks. There is the negative significant impact of these sectors on the profitability of the banking sector.

Risk is also an important factor for the measurement of profitability. The financial managers and the other managers which deal with the investment are using too many resources for the measurement of the risk. It's all used to measure the market position and for the investment. Most of the organization uses these variables for the measurement of the value of the firm and to maximize its firm's value. All these institutions know that the growth of their banks will be by estimating these factors.

When any one of the firms makes changes into its financial system or any other, all these changes will be made with an effect on the risk factor of the business. Risk is also seen in the two shapes. When there is a risk in two cases of each factor then we can make alternative use of the other risk. If both risks are costly then we can get approval from the other. These both can be made into both decisions. Knowing the market situation is too much necessary for the high profit to become successful. Mostly the CAPM is finance technique through which we can check the market condition and risk in the market.

1.2 Country specific and firm specific indicators

1.2.1 Country specific factors

One of factors which effect on the profit of the banks are the country specific factors. These factors are included the log of GDP, net interest margin , lender interest rate , aggregate money, quasi money and money growth. These are the main variables which affect the profit of the banking sector by the change of environment.

1.2.2 Firm specific factors

These are the variables which are in the control of the bank. These variables are wholly managed by the management of the firm. These variables show that how the banks perform its function, either management is working efficiently and effectively. By the control of these factors the banks can improve their performance. These variables are log of deposit square, total expenditure over total assets, fund cost, long loss provision on the total assets.

2. Literature Review

2.1 Theoretical Literature Review

Petria, Capraru, and Ihnatov (2015) developed that the profitability of the banking sector can be checked through the average profit on the asset, profit on the equity and profit on the interest margin. On the performance of the banking sector the two factors effects that are internally and externally and external factors are include GDP per capita, lender interest rate net interest margin. The internal are bank specific and external are country specific that effects the environment of banks. Athanasoglou, Brissimis, and Delis (2008)have shown that the growth of GDP and profitability of banks have positive link and the load of tax and enactment of banks has negative relationship. It is also proved that the burden of tax is small because it is shifted to the clients such as depositor, borrowers etc. Dietrich and Wanzenried (2011)have showed that the loan loss provision is related to the total loans and it has not significant impact on the profitability of the bank but when the period of the crisis start its significance has been improved.

Huizinga (2000) Shows that the financial growth of the banks has great impact on the profitability of the banks. The under developed country with underdeveloped monetary system has a high level of the profit of bank. (Flamini, Schumacher, & McDonald, 2009) have shown that the sub-Saharan countries have the higher profitability ratio of their commercial banks. Theirs profits are also too much high then the profits of the Developed countries. He proves that the internal factors of the bank have more significant impact than the external. External market factors have influence bank performance. Too much competition there will be low profit but the efficiency will be high and it leads to the high growth of both the industry and country.

Micco, Panizza, and Yanez (2007) have conclude that the govt. banks and the private banks both have the different profit margin according to the different income size people. The profit of the private bank has more than the profit of the govt. banks by operating in the developed countries. There is the less profit of the foreign banks in the lower developed countries.

Athanasoglou et al. (2008) have shown that concentration has a positively correlate with the profit of bank and inflation has great impact on the profit of the bank, and the profitability of the banks not affected by the Real GDP of the country.

Vasiliou (1996) have practical the methods of the statically standard cost accounting to find the differences between the low and the profits of the banks of Greek during the period of the 1977-1986. He finds that the asset managing and the lesser managing extant liability play a role in the difference of profits the interbank. (Vasiliou, 1996) he has established a translogrithmic function of cost through which we find the value of the labour, capital, assets and technological progress.

Kosmidou and Spathis (2000) have examined the effect of the euro currency on the profit of the banking sector through the cost and benefit examination. The effect shows that the profits of the banks increase quickly by the long term time period. Sufian (2009) has found that there is a significant relationship between the size of the bank and profits of the bank, and the profit of the bank depends upon the economy scale of the country because if the size will be more the profit will also be more.

Zopounidis and Kosmidou (2008) has described that there is insignificant relationship between the size of bank and the profitability of the bank. Capital maintenance also become a problem for the business, capital is more important and good for the portfolio composition and bank size. The capital highly significant effect the profit and make them to become strong in the market. Athanasoglou et al. (2008) has shown that weak bank specific factors become

reason for high development and high inflation, due to this diseconomy of scale increase. This inflation and economic growth related with the profitability. The profit of the banks can be measured through the tools of return on the asset and return on the equity.

(Abreu & Mendes, 2001) examined the different countries and find that there is a positive relationship between the loan to asset and equity to asset on the interest margin and profit of the banks. He also explains that there operating cost also have significant effects on the interest margin but not with the profitability. Macroeconomics factors also such as the inflation rate, unemployment etc. inflation is effect in all of the cases. Unemployment is negative correlate with all but its only significant with profit but not with interest margin. (Berger & Humphrey, 1997) have conduct the study on many of the countries and he make the analysis that the efficiency of the banks can be checked through its size , but now the banks most concentrate on the cost efficiency rather than profit.

3. Research Methodology

This section explains the regression model and as well as the theoretical explanation of the dependent and the independent variables. It also includes the data size, sample size, Data collection resources and the model development of the study. This study has been conducted for determine the factors which effect the profitability of the banks in Pakistan. This study includes the firm specific and the country specific factors which effect on the profits. It also called the internal and external factors. The internal factors are those factors which are wholly controlled by the management. The external factors are those factors which banks have faces due to the change of the external environment. These factors are not in the control of the management. Data was collected from the state bank of the Pakistan, annual reports and world development indicator. This study includes the one Dependent variable which is return on the assets after tax. There are also two independent variables which are firm specific and country specific.

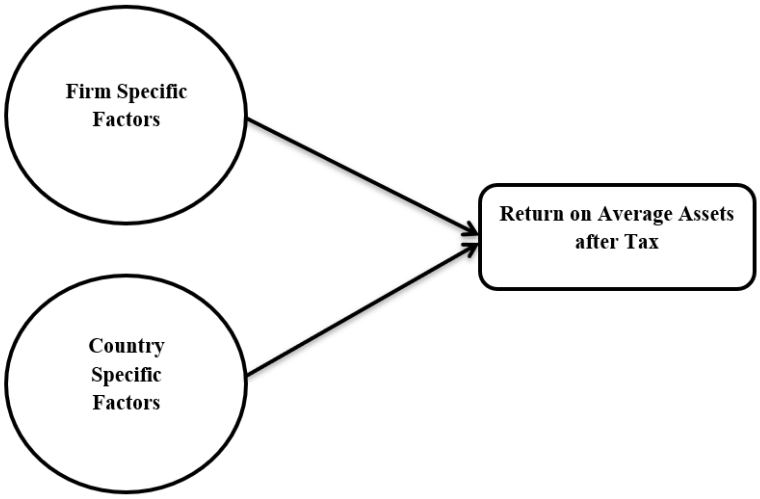

Figure 1: Theoretical framework

3.1. Model for the return on assets

$$Y = \alpha + \beta 1\ LOGGDP + \beta 2\ LOGDSQ + \beta 3\ NIM + \beta 4\ LENDIR + \beta 5\ M3MQMG + \beta 6\ TEATA + \beta 7\ FUNDCOST + \beta\ LLPTL$$

Y= ROAA

LOGGDP = Logarithm of gross domestic product.
LOGDSQ = Logarithm of total deposits square
NIM = Net interest margin
LENDIR = Lender interest rate
M3MQMG = Money and quasi money growth
TEATA = Total Expenditure over total Assets
FUNDCOST = Interest Exp. / avg. deposit
LLPTL = loan loss provision over total loss

3.2 Research design

3.2.1 Data collection

For the collection of the data there are two techniques are used. One is called the primary data and the second one is called the secondary technique. In this study the researcher used the secondary data technique. Data is collected through the already published articles, annual reports of the banks and world development indicator website. Data has been arranged in to the particular way by the researcher for analysis.

3.2.2 Sampling

The classifications of the banks have been made on the basis of the data. Only 17 banks due to which reason were kept because they have all the relevant data related to our variables. If we increase the number of the banks than there was come a gap in the data. These banks are included both types of the banks. They have the conventional banks and also the Islamic banks. The name of the banks will be show in the table.

4. Results and Discussion

Table 1
Descriptive Statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
BANKID	153	9	4.915068	1	17
YEAR	153	2007	2.590468	2003	2011
ROAAT	150	0.006467	0.020632	-0.08	0.04
LOGGDP	138	10.95022	1.337277	0	11.25
LOGDSQR	138	15.93254	2.198927	0	17.94
NIM	150	0.029867	0.015672	-0.02	0.07
LENDIR	124	11.1175	3.169272	0	14.54
M3MQMG	138	15.39362	4.674307	0	20.51
TEATA	150	0.088	0.039764	0	0.25
FUNDCOST	150	0.054	0.032212	0	0.14
LLPTL	150	0.079067	0.073698	0	0.4

Descriptive statistic is the technique in which we make the analysis. The analysis which we made is relevant to the mean, standard deviation, minima and maxima value of our all of the dependent and the independent variable. So, we bring first the dependent variable which is Return on the average asset. As it is show into the above diagram: logdsqr has his highest value into the mean. The value of the mean is 15.93254. And the Dependent variable ROAA has his lowest mean value. The value of the mean is .0064667. The highest value into the standard deviation is M3MQMG.The value of this variable is 4.674307. The lowest value in the standard deviation is of NIM. The value of the NIM is .0156723. The minima value of the majority of variables is 0. The maxima value is of M3MQMG that is 20.51.

4.1 Correlation matrix

Before making the further analysis we should make the analysis of the of correlation matrix. Correlation matrix is that in which we see that how much our independent variables are correlate with each other and how much they are significant.

The correlation between the LOGDSQ and the LOGGDP are -0.0187. This correlation is negative and insignificant. The correlation between the NIM and the LOGGDP are -0.0618. This correlation is negative and insignificant. The correlation between the NIM and the LOGDSQ are 0.3449. This correlation is positive and significant at the level of 1%. The correlation between the LENDIR and the LOGGDP is 0.5063.This correlation is positive and significant at the level of 1%.

Table 2
Correlation matrix

	LOGGDP	LOGDSQR	NIM	LENDIR	M3MQMG	TEATA	FUNDCOST	LLPTL
LOGGDP	1							
LOGDSQR	-0.0187	1						
	.8373							
NIM	-0.0618	0.3449	1					
	0.475	0.0000						
LENDIR	0.5063	0.4805	0.1992	1				
	0.0000	0.0000	0.0266					
M3MQMG	0.3595	-0.1166	-0.2388	-0.2182	1			
	0.0000	0.1988	0.0051	0.0149				
TEATA	-0.0131	0.0461	-0.0952	0.4871	-0.404	1		
	0.8796	0.5925	0.2465	0.0000	0.0000			
FUNDCOST	-0.0356	0.0405	-0.1877	0.5627	-0.4463	0.798	1	
	0.681	0.6386	0.0214	0.0000	0.0000	0.0000		
LLPTL	-0.0523	-0.0554	-0.2581	0.1559	-0.1031	0.5426	0.4025	1
	0.5452	0.5202	0.0014	0.0838	0.2323	0.0000	0.0000	

The correlation between the LENDIR and the LOGDSQ is 0.4805. This correlation is positive and significant at the level of 1%. The correlation between the LENDIR and the NIM is 0.1992. This correlation is positive and significant at the level of 5%. The correlation between the M3MQMG and the LOGGDP is 0.3595. This correlation is positive and significant at the level of 1%. The correlation between the M3MQMG and the Logdsqr is 0.1166. This correlation is positive and insignificant. The correlation between the M3MQMG and the NIM is -0.2388. This correlation is negative and significant at level of 1%. The correlation between the M3MQMG and the nim is -0.2182. This correlation is negative and significant at level of 5%.

The correlation between the TEATA and LOGGDP is -0.0131. This correlation is negative and insignificant. The correlation between the TEATA and logdsq is 0.0461. This correlation is positive and insignificant. The correlation between the TEATA and NIM is -0.0952. This correlation is negative and insignificant. The correlation between the TEATA and NIM is -0.0952.This correlation is negative and insignificant. The correlation between the TEATA and lender is 0.4871. This correlation is positive and significant at the level of 1%. The correlation between the TEATA and lender is -0.4040. This correlation is negative and significant at the level of 1%. The correlation between the fun dcost and LOGGDP is -0.0356. This correlation is negative and insignificant. The correlation between the fund cost and logdsq is 0.0405. This correlation is positive and insignificant. The correlation between the fund cost and NIM is -0.1877. This correlation is negative and significant at the level of 1%.

The correlation between the fund cost and lender is 0.5627. This correlation is positive and significant at the level of 1%. The correlation between the fund cost and M3MQMG is -0.4463. This correlation is negative and significant at the level of 1%. The correlation between the fund cost and TEATA is 0.7980. This correlation is positive and significant at the level of 1%. The correlation between the LLPTL and LOGGDP is -0.0523. This correlation is negative and insignificant. The correlation between the LLPTL and logdsq is -0.0554. This correlation is negative and insignificant. The correlation between the LLPTL and nim is -0.2581. This correlation is negative and significant at the level of 1%. The correlation between the LLPTL and is lendir 0.1559. This correlation is positive and significant at the level of 10%. The correlation between the LLPTL and M3MQMG is -0.1031. This correlation is negative and insignificant. The correlation between the LLPTL and TEATA is 0.5426. This correlation is positive and significant at the level of 1%. The correlation between the LLPTL and fund cost is 0.4025. This correlation is positive and significant at the level of 1%.

VIF is used to measure that the independent variables are correlate with each other. Either they make any problem or not. It can be checked that if the VIF is greater > than the 5, then there is a problem. If the VIF is less < then 5 then there is no problem into the independent variables. In the above table the mean value of VIF is 3.56. This 3.56 < 10. So there is no problem in correlation.

Table 3
VIF

Variable	VIF	1/VIF
LENDIR	7.91	0.126403
FUNDCOST	5.95	0.178965
LOGGDP	3.88	0.25797
TEATA	3.48	0.287605
LOGDSQR	2.29	0.437339
NIM	1.92	0.520035
M3MQMG	1.76	0.568337
LLPTL	1.66	0.602655
Mean VIF	3.56	

4.2 Panel random and fixed effect model

4.2.1 Panel Data analysis

Panel data is the secondary data. In this data we make the analysis of the both time series and the cross sectional Data. Time series data is that in which single unit but different periods include. But into the cross-sectional data there are single time but a lot of different objects are included. In the cross sectional date the units are called the entities. so when we make its analysis we give a code to the entity. Panel data is that data which have of their two types. One is the fixed effect model and the second is the Random effect model. Fixed effect model using we can only see the impact of the variables over the different time of the period. Fixed effect shows the relationship between the predictor and the outcome variables into an entity. Each of the entity has own specialty which may or may not impact on the variables.

4.2.1.1 Assumption in FEM

We assume that something within this individual may impact on our outcomes or our predictor and we should control it. We can only control the factor which effect on it but into the FE we cannot finds its value how much it will be effect.

Panel data have their two types. One is the LSDVM which is the abbreviation of the least square Dummy variable model and the second is the FEM which is the abbreviation of fixed effect model. And the results of the two types always will be same.

4.2.2 Balance pool Data

Balance pool data is that in which we see that either the countries whose analysis is made or the all of the entities have the data of all the years. We can check it through the STATA by using the command of the Xtset Bank ID, by this command we can check it, in this study this technique and our data is balanced pool data.

4.2.3 LSDVM

By using the LSDVM we can find that how much of the others factors effect to our individual. We can find its value. It he dummy variable use to find the values of those to whom we are controlling and how much into our control.

Table 4
LSDVM

	Co-eff.	Std. Dev.	T- Value	P > T
LOGGDP	-0.0009039	0.0012906	-0.7	0.485
LOGDSQR	0.000758	0.0006358	1.19	0.236

NIM	0.6675243	0.10799	6.18	0.000
LENDIR	0.0001213	0.0008334	0.15	0.8850
M3MQMG	0.0004771	0.0002324	2.05	0.043
TEATA	-0.2133732	0.0511995	-4.17	0.000
FUNDCOST	0.0554053	0.0872989	0.63	0.527
LLPTL	-0.129268	0.0263308	-4.91	0.000

4.2.4 Interpretation of LSDVM

One unit change in the value of the LOGGDP which is -.0009039, causing negative impact on the value of the return on the average assts. This value of co-eff. is insignificant. One unit change in the value of the logdsqr which is .000758, causing positive impact on the value of the return on the average assts. This value of co-eff. is insignificant. One unit change in the value of the nim which is .6675243, causing positive impact on the value of the return on the average assts. This value of co-eff. is significant. One unit change in the value of the lendir which is .0001213, causing positive impact on the value of the return on the average assts. This value of co-eff. is insignificant.

One unit change in the value of the M3MQMG, which is .0004771, causing positive impact on the value of the return on the average assts. This value of co-eff. is significant. One unit change in the value of the TEATA , which is -.2133732, causing negative impact on the value of the return on the average assts. This value of co-eff. is significant. One unit change in the value of the fund cost which is .0554053, causing positive impact on the value of the return on the average assts. This value of co-eff. is insignificant. One unit change in the value of the LLPTL, which is -.129268, causing negative impact on the value of the return on the average assts. This value of co-eff. is significant.

4.3 Fixed effect model

Table 5
Fixed effect model

	Co-eff.	**Std. Dev.**	**T- Value**	**P > T**
LOGGDP	-0.0009039	0.0012906	-0.7	0.485
LOGDSQR	0.000758	0.0006358	1.19	0.236
NIM	0.6675243	0.10799	6.18	0.000
LENDIR	0.0001213	0.0008334	0.15	0.8850
M3MQMG	0.0004771	0.0002324	2.05	0.043
TEATA	-0.2133732	0.0511995	-4.17	0.000
FUNDCOST	0.0554053	0.0872989	0.63	0.527
LLPTL	-0.129268	0.0263308	-4.91	0.000
_CONS	0.0007526	0.01696	0.04	0.965

One unit change in the value of the LOGGDP which is -.0009039, causing negative impact on the value of the return on the average assts. This value of co-eff. is insignificant. . One unit change in the value of the logdsqr which is .000758, causing positive impact on the value of the return on the average assts. This value of co-eff. is insignificant. . One unit change in the value of the nim which is .6675243, causing positive impact on the value of the return on the average assts. This value of co-eff. is significant. One unit change in the value of the lendir which is .0001213, causing positive impact on the value of the return on the average assts. This value of co-eff. is insignificant.

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of the LLPTL, which is -.129268, causing negative impact on the value of the return on the average assts. This value of co-eff. is significant.

4.4 Random Effect

Table 6
Random Effect

	Co-eff.	Std. Dev. Error	Z- Value	P > Z
LOGGDP	-0.0015597	0.0011756	-1.33	0.185
LOGDSQR	0.0005106	0.000557	0.92	0.359
NIM	0.674154	0.0745726	9.04	0.000
LENDIR	0.0002193	0.0007505	0.29	0.7700
M3MQMG	0.0004037	0.0002295	1.76	0.079
TEATA	-0.276021	0.0391419	-7.05	0.000
FUNDCOST	0.0802258	0.0639739	1.25	0.21
LLPTL	-0.0927185	0.0146	-6.35	0.000
_CONS	0.013102	0.0148696	0.88	0.378

Random effect model is the type of the panel data analysis. This modal tells that the entities are not correlate with each other. In this modal we have to show those characteristics which may and may not effect on our independent variables.

4.4.1 Interpretation of Random effect Model

One unit change in the value of the LOGGDP which is -.0015597, causing negative impact on the value of the return on the average assts. This value of co-eff. is insignificant. One unit change in the value of the logdsqr which is .0005106, causing positive impact on the value of the return on the average assts. This value of co-eff. is insignificant. One unit change in the value of the lendir which is .0002193, causing positive impact on the value of the return on the average assts. This value of co-eff. is insignificant.

One unit change in the value of the nim which is .674154, causing positive impact on the value of the return on the average assts. This value of co-eff. is significant. One unit change in the value of the M3MQMG, which is .0004037, causing positive impact on the value of the return on the average assts. This value of co-eff. is significant.

One unit change in the value of the TEATA , which is -.276021, causing negative impact on the value of the return on the average assts. This value of co-eff. is significant. One unit change in the value of the fund cost which is .0802258, causing positive impact on the value of the return on the average assts. This value of co-eff. is insignificant.

One unit change in the value of the LLPTL, which is -.0927185, causing negative impact on the value of the return on the average assts. This value of co-eff. is significant.

4.5 Ordinary least square (OLS)

Table 7
Return on asset

	Co-eff.	Std. Dev.	T- Value	P > T
LOGGDP	-0.0015597	0.0011756	-1.33	0.187
LOGDSQR	0.0005106	0.000557	0.92	0.361
NIM	0.674154	0.0745726	9.04	0.000
LENDIR	0.0002193	0.0007505	0.29	0.7710
M3MQMG	0.0004037	0.0002295	1.76	0.081
TEATA	-0.276021	0.0391419	-7.05	0.000
FUNDCOST	0.0802258	0.0639739	1.25	0.212
LLPTL	-0.0927185	0.0146	-6.35	0.000
_CONS	0.013102	0.0148696	0.88	0.38

Now we make the analysis of the of the regression analysis. First we will elaborate the independent variable effect on the dependent variable.

One unit change in the value of the LOGGDP which is -.0015597, causing negative impact on the value of the return on the average assts. This value of co-eff. is insignificant.

One unit change in the value of the logdsqr which is .0005106, causing positive impact on the value of the return on the average assts. This value of co-eff. is insignificant.

One unit change in the value of the lendir which is .0002193, causing positive impact on the value of the return on the average assts. This value of co-eff. is insignificant.

One unit change in the value of the nim which is .674154, causing positive impact on the value of the return on the average assts. This value of co-eff. is significant.

One unit change in the value of the M3MQMG, which is .0004037, causing positive impact on the value of the return on the average assts. This value of co-eff. is significant.

One unit change in the value of the TEATA, which is -.0015597, causing negative impact on the value of the return on the average assts. This value of co-eff. is significant.

One unit change in the value of the fund cost which is .0802258, causing positive impact on the value of the return on the average assts. This value of co-eff. is insignificant.

One unit change in the value of the LLPTL, which is -.0927185, causing negative impact on the value of the return on the average assts. This value of co-eff. is significant.

4.6.1 Model summary

Table 8
ANOVA

R-squared	0.8306
Adj. R-squared	0.8187
F(8, 114)	69.86
Probe > F	0.0000

4.6.2 R-square

It means that how much change occur into value of the dependent variable by all independent variable. These all independent variables effect 83.06% on the dependent variable.

4.6.3 Adjusted R-squared

When the numbers of the variables are small and the numbers of the cases are very large, than the adjusted R- square will be closer to the R-square.

4.6.4 Fitness of the mode

The fitness of the model can be checked through the F-test. By using this if the Prob. > F is less than 5, then our model will be fit. Now there the prob. > F is less than 5. So our model is good fit.

4.7 Hausman test

Hausman test is a test in which we make the comparison of the foxed effect with the random effect. In this compression we see that either our variances across the entities are zero or not. So before make the analysis of this test we have to make its hypothesis.

4.7.1 Hypothesis

H1: difference in co-eff. Is not systematic.

Table 9
Hausman test

Variables	fixed	random	Difference
LOGGDP	-.0009039	-.0015597	.0006558
LOGDSQR	.000758	.0005106	.0002474
NIM	.6675243	.674154	-.0066297
LENDIR	.0001213	.0002193	-.0000979
M3MQMG	.0004771	.0004037	.0000733
TEATA	-.2133732	-.276021	.0626478
FUNDCOST	.0554053	.0802258	-.0248205
LLPTL	-.129268	-.0927185	-.0365495

If the value of the Prob>chi2 is more than 5%, then H0 will be accept,
If the value of the prob > chi2 is less than 5%, then H1 will be accept.

Result: Prob > chi2 = 0.0609 this is more then 0.005, so H1 is reject. So it is find that difference in co-eff. Is not systematic.

4.8 Breusch and Pagan Lagrangian multiplier test

In the Breusch and Pagan test basically wants to make the comparison in the Random effect modal and OLS. From these two modals we want to select one which is better for study. First we will make its Hypothesis:

4.8.1 Hypothesis

H0: variance across the entities is zero. (OLS)
H1: variance across the entities is not zero. (REM)

If the value of the Prob > chibar2 will be less than 5, than we will reject the null hypothesis (OLS). If the value of the Prob > chibar2 will be more than 5, than we will fail to reject the null hypothesis.

Table 10
Breusch and Pagan Lagrangian multiplier test

Wald chi2(8)	558.88
Prob > chi2	0.0000

	Co-eff.	Std. Dev. Error	Z- Value	P > Z
LOGGDP	-0.0015597	0.0011756	-1.33	0.185
LOGDSQR	0.0005106	0.000557	0.92	0.359
NIM	0.674154	0.0745726	9.04	0.000
LENDIR	0.0002193	0.0007505	0.29	0.7700
M3MQMG	0.0004037	0.0002295	1.76	0.079
TEATA	-0.276021	0.0391419	-7.05	0.000
FUNDCOST	0.0802258	0.0639739	1.25	0.21
LLPTL	-0.0927185	0.0146	-6.35	0.000
_CONS	0.013102	0.0148696	0.88	0.378

	Var	Sd= Sqtr (Var)
ROAA	0.000482	0.0219477
e	8.63E-05	0.0092914
u	0	0

chibar2(01) = 0.00
Prob > chibar2 = 1.0000

On here the values of the Prob > chibar2 = 1.0000, which is the less than the 5, so reject the null Hypothesis. So the variance across the entities is not zero. Means to say on there accept the random effect modal finally. It means that the entities do not make effect on the independent variable. They have no correlation with each other.

5. Conclusion and Policy Implication

5.1 Conclusion

This research was done to find the factors which affect the profitability of the commercial banking sector in the Pakistan. To find this we first measure the return on the asset. The other variables which also affect on the profitability of the banking sector these factors also selected on here. These factors are into two types. One of the firm specific and the other is the country specific. Why these variables have been taken? For measure that which variables are more effect on the commercial banks profit. The firm specific factors are log of deposit square, loan loss provision on total loss, fund cost and total expenditure over total assets. The country specific factors are log of GDP, lender interest rate and aggregate money, quasi money and money growth.

For the analysis of the data we bring the 17 commercial banks. We collect the data of these commercial banks from 2003- 2011. For its analysis we use the panel data analysis. This panel data analysis includes the fixed and random effect. According to our result we find that the both variables factors country specific and firm specific variables affect the commercial bank profit. When the profit is measured through ROAA the NIM has shown the positive and highly significant relation with the dependent variable. M3MQMG also has a positive significant impact with the dependent variable ROAA. LLPTL also have a significant correlation with the dependent variable. These variables are too much significant with the dependent variable. It increases the profit of the commercial banks. So if the banks want to increase their profit, they should make more focus on these variables. Too much of the relation of variables will be significant their profit will increase.

5.2 Limitation of the research study

These are the some of the limitation our study.

1. This research is only focus on commercial banks, which is only one sector. It is not correlate with the other business than banks. The results of the other businesses and the other financial organization will be different from these results.
2. Only the panel data analysis is used in this study for results. The data was used from 2003-2011. For the improvement of the results we should increase the sample size.
3. The whole of the data is bases on the financial reports. So whole of the data is dependent on these information available on reports.
4. Next the study can be conducted on the other countries banks also.
5. There are too many other factors firm specific and country specific which we have not include into our study such as debt to equity, return on equity, sales volume, consumer price index.

5.3 Future implication for the research

1. To get of the more significant results we should increase the sample size, so all of the firms will be generalized.
2. More of the research can also be made in the developing economies on the same topic to find the factors influencing the profitability of the banking sector. More research will also in this form.
3. The accuracy of the research can also be checked through the different data sets and methods of estimation.

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