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IMPACT OF EXTERNAL FACTORS ON BANK PROFITABILITY

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ABSTRACT

The study endeavors to shed light on the indicators of profitability for the banking system of Pakistan by taking into consideration Bank-Specific and Macroeconomic Factors. This study reveals an efficient image of the profitability on banking sector of Pakistan for the period 2003-2013. The effect of macroeconomic variables like: Market Concentration, Interest Rate, Real Gdp Growth Rate, Bank Expense and Bank Fixed Asset on Bank profitability (ROA) in Pakistan. The methodologies used are Descriptive, Correlation and Multiple Regression Analysis. The regression was performed in order to predict the ROA and five independent variables were selected. Out of these five independent variables (predictors), four appeared significant as indicated by the probability values. The most significant predictor for ROA highlighted by our regression results is IR (t-statistics 3.34, p=0.001) followed by C (t-statistics 3.34, p=0.003). However, when the regression coefficient was compared for these significant variables, a contrasting difference was observed. These results are helpful for policy makers, Government and foreign investors.

KEYWORDS: Profitability, micro and macro, steadiness, GDP growth rate, Interest Rate, Bank Expense, Bank Asset and Market Concentration.

INTRODUCTION

A profitable and sound banking sector is in a superior position to endure negative upsets and add to the permanence of the financial system {Athanasoglou, Brissimis & Delis (2008)}. The observed literature on the determinants of bank profitability is wide-ranging. Conversely little is acknowledged with reference to the determinants of profitability on banking system of Pakistan. The purpose of this study by Athanasoglou et al (2008) is to recognize the vital determinants that affect the profitability of the public and private commercial banks over the period of 2003-2013 also second by Lloyd Williams et al (1994),

Sufian, (2010) Bhatti and Hussain (2010) and Ahamed (2012).

Profitable banks are the most important as these offer savings, mobilization and financial resource allocation institutions. Consequently, these roles make them an important phenomenon in economic growth and development. In performing this role, it must be realized that banks have the potential, scope and prospects for mobilizing financial resources and allocating them to productive investments. Therefore, no matter the sources of the generation of income or the economic policies of the country, commercial banks would be interested in giving out loans and

advances to their numerous customers bearing in mind, the three principles guiding their operations which are, profitability, liquidity and solvency.

Financial intermediation is essential for economic development. The international banking industry has undergone substantial structural reforms over the last two decades. There have been fundamental changes in the behavior of banks with more emphasis on profitability and comprehensive asset management in recent period. It is particularly important for emerging countries to ensure that the banking system is stable and efficient. Such a banking development should lead to private and infrastructural projects which are being financed effectively and allocated efficiently. As Albertazzi&Gambacorta (2009) argue, because of phenomena such as globalization, growing international financial markets, deregulation and advances in technology, identifying the determinants of bank performance is an important predictor of unstable economic conditions. Athanasoglou et al. (2008) also point out that a profitable banking system is likely to absorb negative shocks, thus maintaining the stability of the financial system. In this respect, it is important to investigate the effectiveness of emerging banks. How banks are affected by increased competitive pressures, depends partly on how efficiently they are run. Banks can increase their profitability through either improvement of their cost efficiency or exerting their market power. The latter approach to make profit can reduce total social welfare.

A profitable banking sector is better able to withstand negative shocks and contribute to the stability of the financial system. The importance of bank profitability can be appraised at the micro and macro levels of the economy. At the micro level, profit is determined by bank's management decisions and policy objectives, while the macroeconomic determinants look at variables that reflect the economic and legal environment where the credit institution operates.

Profitable commercial banks also stabilize the financial system of a country. Commercial banks perform major function of accepting the deposits from the general public and advances loans. In the past a lot of work has been done by the researchers on the profitability determinants of commercial banks {Sufian et al (2011), Gul et al (2011), Karceski et al (2004)}.

Some researchers have used only bank characteristics or internal factors in their study but some also used the macroeconomic factors or external factors in their study along with internal factors {Saira et.al (2011)}. Bank size or total assets does not lead any profitability of commercial banks but equity and deposits have a significant influence on the profitability of commercial bank Pilloff& Rhoades (2002) discuss the positive relationship of the size with bank's

profitability {Karceski et al (2004) and Khan et al (1997)}.

There are many macroeconomic variables which have significant impact on bank profitability like market concentration, market growth, scarcity of capital, money supply, GDP growth rate, interest rate, Money supply, exchange rate, human capital, inflation, political instability and economic instability etc. {Berger et al (1987), Berger (1995), Neely & Wheelock (1997), Naceur (2003), Mamatzakis&Remoundos (2003), Naceur&Goaeid (2001, 2005)}. Mutual relations between the micro and macro Variable and Bank Profitability have attracted much attention of researcher for previous decades {Khizar et al (2011), Mamatzakis&Remoundos (2003), Naceur&Goaeid (2001, 2005) and Alper& Anbar (2011)}.

THE RESEARCH OBJECTIVES

The objectives of this study are:

1. To find the impact of (Market Concentration, Interest Rate, GDP Growth Rate, Bank Fixed Asset and Bank Expense) on Bank Profitability in Pakistan.
2. To help the foreign investor to identify the factors, that can affect the Bank profitability, while investing in Pakistan.
3. To provide the guidelines for policy makers in formulating the macroeconomic policies.
4. To explore which of the external factor affect the bank profitability more than then other factor? These are the **questions** which are to be discussed in this research.
1. Is there any impact of Market Concentration, Interest Rate, GDP Growth Rate, Bank Fixed Asset and Bank Expense on Bank Profitability (ROA) in Pakistan?
2. To determine which variables (Market Concentration, Interest Rate, GDP Growth Rate, Bank Fixed Asset and Bank Expense influence more on Bank Profitability (ROA) in Pakistan?

SIGNIFICANCE OF STUDIES

The current study is distinct from the previous studies on account that it adopts model that focus not only bank specific factors but also industry and macroeconomic factors in order to investigate their impact on banks profitability. The study included Market Concentration, Real Interest rate, GDP growth rate, Bank expense and Bank Asset.

LITERATURE REVIEW

Ani et al (2012) investigated the determinants of profitability of commercial banks in Nigeria for the period of ten years from 2001 to 2010 including the observation of 147 banks. Pooled ordinary least square was used to estimate the coefficient. Study finds that bank size does not increase the profit of any commercial banks in Nigeria. Greater capital-asset ratio increases the profitability of banks.

Saira et al (2011) examined the profitability of top 10 the commercial banks of Pakistan for the period of 2004- 2008. Pooled ordinary least square has been used to check the impact of internal factors includes assets, loan, equity and deposits on the profitability of banks on dependent variable called return on asset (ROA). The study found that internal factors stated above effect the bank's profitability. Bank size or total assets does not lead any profitability of commercial banks but equity and deposits have a significant influence on the profitability of commercial banks. Abdel (2013) analyzed the internal factors that impact on the profitability of the commercial banks listed in Amman Stock Exchange in Jordan for the duration of 2005-2011. The study constitutes that the cost-income ratio has a significant collide with the profitability of commercial banks in Jordan.

Imad et al (2011) took apart the determinants of profitability of 10 Jordan banks for the period of 2001-2010. They have used return on equity (ROE) and return on assets (ROA) as dependent variables and internal and external factors have been used as an independent variables and the type of data of Jordan banks is penal data. Results designated that profitability of the Jordan banks depend upon the well capitalized banks, high loaning activities, less credit risk and cost management efficiency. Findings also expressed that size does not increase the profitability of Jordan banks.

Sufian et al (2008) studied the profitability of the banks in Philippines for the period of 1990-2005. The outcome paint a picture that profitability factors have significantly impact on bank profitability. The study also suggests that if the expense related behavior and credit risk increases the profitability of the banks operating in Philippines decreases and the non-interest income and capitalization both have the positive relationship with bank's profitability. During the study undertaken the inflation increases the profit of the banks in Philippines decreases.

Sehrish, Irshad&Zaman (2011) tried out the relationship between the bank specific characteristics and the profitability of the banks using the data of top fifteen commercial banks operating in the economy of Pakistan for the period of 2005-2009. This paper applies the Polled Ordinary Least Square method to look into the hit of assets, loans, equity, deposits, economic growth, inflation and market capitalization on major profitability blinkers like return on assets (ROA), return on equity (ROE), return on capital employed (ROCE) and net interest margin (NIM) one by one. The study constitute that both the internal and external factors have a solid influence on the banks profitability.

Syeda (2012) analyzed the internal and external factors that effect on the profitability of

11 commercial banks operating in Pakistan for the period of 2005-2009. The study uses the regression analysis to implicate the result with the hypoArticle. The findings from this research paper are that internal factors impact the profitability of the commercial banks whereas external factors do not impact.

Khizar et al (2011) analyzed the profitability factors impacting on the profit of the 22 commercial banks both public and private working in Pakistan for the period of 2006-2009. The study used the descriptive statistics, correlation and regression analysis. Return on assets (ROA) and return on equity (ROE) have been used as dependent variables and on the other hand internal and external factors have been used as independent variables. The results show that when the economic growth increases the profitability increases. And on the other side when the credit risk increases the profitability decreases.

Deger (2011) probed the internal and external factors of banks profitability of Turkey for the period of 2002-2010. In this study the return on assets (ROA) and return on equity (ROE) both are the dependent variables and the function of internal and external factors. Profitability increases when the non-interest income and asset size increases. And real interest rate in the external factors has positive effect on profitability.

Srinivas et al (2013) analyzed the profitability determinants of Tanzania commercial banks for the period of 2006-2012. Internal determinants use the variables like liquidity risk, credit risk, operating efficiency, business assets and capital adequacy and external determinants use the variables GDP growth rate and inflation rate. All of these variables are independent. The study found that internal variables determine the bank's profitability whereas external factors do not influence the profitability of commercial banks.

Abuzar (2013) studied the determinants of profitability of Islamic banks operating in Sudan. This study found that only the internal factors have the substantial impact on the profitability of the commercial banks. Cost, liquidity and the size of the banks have the positive relationship with the bank profitability. Macroeconomic or external factors have no substantial impact on profitability. Alkassim (2005) examined the profitability of Islamic and conventional banks in GCC countries for the period of 1997- 2004. He analyzed both the internal and external factors impacting on the profitability of Islamic and conventional banks. This study showed that asset quality of the conventional banks is better than others. Interest free lending impact on the profitability of the Islamic bank and total expenditures impact on the profitability of the conventional banks operating in the GCC countries negatively.

Alper & Anbar (2011) analyzed the internal and external factors of the commercial banks of Turkey for the period of 2002-2010. The study shows that non-interest income and bank size have the positive impact on the bank profitability. And on the side of the macroeconomic or external factors only the real interest rates impact on the profitability of the commercial banks positively. Vong & Chan (2006) analyzed the impact of internal and external factors on the profitability of Macao banking industry for the period of 15 years. This study found that high capitalization leads to the high profitability and size of the bank increases the profitability its mean banks are enjoying the benefit of economies of scale. And on the other hand loan loss provision impact on the profitability of the Macao banking industry unfavorably.

Anwar & Herwanay (2006) worked on the subject of bank profitability in Indonesia that specialized on empirical study between Provincial Government's banks and Private Non-foreign Exchange banks. Their data are set for the period of 1993-2000. ROA and ROE are used as dependent variables to determine the profitability of the Indonesian banking industry. Their results show that Capital and Reserves to Total Asset (CRTA) and Loans to Deposits Ratio (LIQ) are the ones affecting the profitability positively.

Sufian (2011) investigated the profitability of the Korean banking sector for the period of 1992-2003 and he comes up with the following findings that the banking system in Korea impulses profitability when there is low liquidity in their assets and their macroeconomic determinants especially inflation have a significant impact on bank profitability. However, the impact of credit risk and cost are always negative. Furthermore, it is observed that on average the Korean banking sector is relatively more profitable during the pre-crisis period under both profitability measures, i.e., ROA and ROE. One relevant view that is included in Sufian paper is that the Korean banking system was under fire during the Asian financial crisis.

Sing and Chaudhary (2009) put their efforts together to analyze the Indian's banking sector from three (3) different perspectives such as

Public, Private and Foreign banks from 2002 to 2007 in terms of profitability. The frequent determinants such of macroeconomics and bank-specific are to be implemented in this subject. Moreover the outcomes of this analysis reveal the profitability of Indian banks has significantly increased over the past years. The macroeconomics determinants (income per capita, exports and foreign exchange reserves) indeed influence substantially their profitability. In other word, no sign of negativity in profitability is emphasized on this Indian banking sector.

BANK PROFITABILITY AND ITS DETERMINANTS

Performance measure

The empirical evidence supports that the two variables which were used to measure the profitability i.e. Return on Assets (ROA) and Return on equity (ROE) {Ramlall (2009), Koasmidou, (2008), Sufian & Habibullah (2009), Sayilgan & Yildirim (2009)}. Both profitability measures reflect to breeds of earning form optimum utilization of resources.

Internal Indicators

The bank-specific indicators have more ability to influence the profitability of banks. The bank size, operating efficiency, capital, credit risk, portfolio composition and asset management all these variables considered independent which can influence profitability internally. These factors are controllable and the empirical evidence discusses all these variables and their relationship with profitability and the proportionate change occurs due to all these variables (Sufian & Habibullah (2009), Ramlall (2009), Sayilgan & Yildirim (2009)).

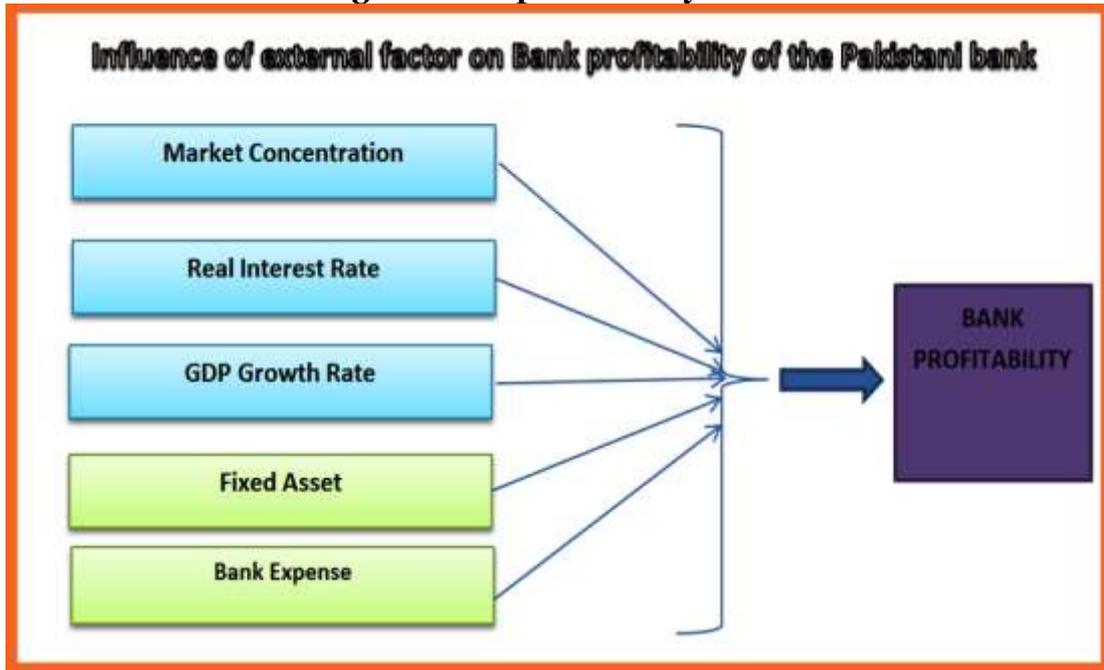
External Indicators

The macroeconomic variables can externally influence the profitability of the banks. These indicators cannot control by the banks because their impact appears at macro level.

Proposed Model

The Market Concentration, Interest Rate, GDP Growth Rate, Bank Fixed Asset and Bank Expense are independent variable while ROA is dependent variable. The study is conducted by taking annual data of Banks from 2003 to 2013.

Figure 1: Proposed Study Model



HYPOTHESES OF THE STUDY

HO: There is no impacts of Market Concentration, Real interest rate, GDP Growth Rate, Bank fixed asset and Bank Expense on Bank Profitability.

$$H_0: \alpha = 0, \beta_1 = 0, \beta_2 = 0, \beta_3 = 0, \beta_4 = 0, \beta_5 = 0$$

H1: There is a significant impact of Market Concentration, Real interest rate, GDP Growth Rate, fixed asset and Bank Expense on Bank Profitability.

$$H_1: \alpha \neq 0, \beta_1 \neq 0, \beta_2 \neq 0, \beta_3 \neq 0, \beta_4 \neq 0, \beta_5 \neq 0$$

RESEARCH METHODOLOGY

The effect of macroeconomic variables like: market concentration, interest rate, real GDP growth rate, bank expense and bank fixed asset on bank profitability(ROA) in Pakistan investigated by using a regression analysis technique as used

To check the dependence of ROA on Macroeconomic variables in Pakistan, a model has been developed through theoretical and empirical literature. The study also used other variables that can affect the ROA are Market Concentration, Real GDP growth rate , Interest Rate, Bank Expense and Bank Fixed Asset.

$$ROA = \alpha + \beta_1 (MC) + \beta_2 (GDP) + \beta_3 (INT) + \beta_4 (FA) + \beta_5 (EXP)$$

Data Description and Sources

This study is based on secondary data. The data on ROA is taken from Annual reports of banks, while data relating to Market Concentration, Interest Rate, Real Gdp Growth Rate, Bank Expense and Bank Fixed Asset is taken from (Annual reports of banks) for the period 2003-2013.

- The State Bank of Pakistan
- SBP Banking Service Corporation
- National institute of Banking and Finance

Variables	Description	Sources
Bank Profitability (ROA)	Bank profitability	Annual Reports
Market Concentration	Market concentration of bank	Annual Reports
Interest Rate	Interest rate of banks	Annual Reports
GDP Growth Rate	Gross Domestic Product	Annual Reports
Bank Asset	fixed asset of Banks	Annual Reports
Bank Expense	Expense of Banks	Annual Reports

Banks including in our Research:

Following bank are including in our research.

S.NO	BANKS	CATEGORY
1.	HABIB BANK LIMITED	Commercial Bank
2.	BANK AL-HABIB	Commercial Bank
3.	UNITED BANK LIMITED	Commercial Bank
4.	STANDARD CHARTER BANK LIMITED	Commercial Bank
5.	ALLIED BANK LIMITED	Commercial Bank
6.	ZARI TARAQIATI BANK LIMITED	Commercial Bank
7.	ASKARI BANK	Commercial Bank
8.	BANK ALFALAH	Commercial Bank
9.	NATIONAL BANK OF PAKISTAN	Government Bank
10.	THE BANK OF PUNJAB	Government Bank

Econometric Model and Estimation Techniques

E-views 8.1 software package was used for regression and other Diagnostic test. {Edward & Charles (2011), Kiyota& Urata (2002), Nasir & Hassan (2009), Masayuki &Ivohasina (2005), Shah & Ahmad (2003), Mushtaq et al (2012), Hakro&Ghumro (2007), Shamsuddin (1994), and Shah & Ahmad (2003)}. The following techniques are applied to estimate the econometric model of this study from the period 2003-2013 and pooled data is used for this article.

Model

$$ROA = \alpha + \beta_1 (MC) + \beta_2 (INT) + \beta_3 (GDP) + \beta_4 (FA) + \beta_5 (BE)$$

Where:

ROA= Bank Profitability

α = y-Intercept

β_1 = Coefficient of MC (Market Concentration)

β_2 = Coefficient of INT (Real Interest Rate)

β_3 = Coefficient of GDP (GDP Growth Rate)

β_4 = Coefficient of FA (Fixed Asset)

β_5 = Coefficient of BE (Bank Expense)

Estimation Techniques

- Descriptive statistics
- Correlation analysis
- Multiple Regression analysis(OLS)
- Panel EGLS (CROSS SECTIONAL SUR METHOD)

EMPIRICAL RESULTS

Descriptive Statistics

The descriptive statistics of the variables (Market Concentration, Interest Rate, Gdp Growth Rate,

Bank Expense and Bank Assets on Return on Asset) Kiyota and Urata (2002), are made in order to check the normality of variables which is described in the Table 4: Descriptive statistics of the variables from 2003-2013. Descriptive statistics are distinguished from inferential statistics (or inductive statistics), in that descriptive statistics aim to summarize a sample, rather than use the data to learn about the population that the sample of data is thought to represent.

The descriptive statistics shows that all the four variables i.e. ROA, Dependent variable and MC,IR, GDP, BA and BE has lot of variability in terms of minimum and maximum values. Due to the difference between minimum and maximum values the range statistics parameter “Skewness” exceed beyond 1 for ROA which further shows that the data is skewed and not normally distributed. However, for rest of the parameters, the values for skewness between -1 to +1 which is an indication of normal distribution of data for MC,IR,GDP, Bank Expense and Fixed Asset.

The mean value of ROA is 0.016 with a standard deviation of 0.027545 and its distribution is positively skewed. The mean of Interest rate (IR) is 10.18182 with standard deviation of 4.400129 and its distribution is also positively skewed and leptokurtic. Similarly the mean of GDP Growth Rate, Bank Fixed Asset and Bank Expense is 4.536364,16571884 and 11858371 respectively with standard deviation 2.066452,43434490 and 12011540 positively skewed and leptokurtic distribution.

Data Descriptive Analysis

	ROA	MC	IR	GDP	FASST	EXP_AD
Mean	0.016881	0.488147	10.18182	4.536364	16571884	11858371
Median	0.013383	0.467165	9.100000	4.800000	9401590.	8675001.
Maximum	0.214589	0.777244	20.30000	7.700000	3.41E+08	81478296
Minimum	0.001239	0.297312	2.900000	1.600000	444924.0	647895.0
Std.Dev.	0.027545	0.151832	4.400129	2.066452	43434490	12011540
Skewness	6.276426	0.512069	0.734445	0.050653	6.853025	3.076004
Kurtosis	44.19941	1.989385	3.408442	1.718145	49.76522	16.00294

Correlation Analysis

To check the relationship among the variables, correlation analysis is made. The results of correlation analysis are depicted in the table 5. the three variables are positively correlated with dependent variable (Return on Asset (ROA) expect the Market Concentration and interest rate which shows a negative correlation with ROA. Interest Rate has a

negative and strong relationship with GDP Growth Rate.

ROA shows negative and strong relationship with interest rate, ROA show positive relationship with bank expense, there is a positive relationship with fixed asset and market concentration. Bank expense show negative relationship with Gdp Growth Rate.

	ROA	EXP_AD	FASST	MC	GDP	IR
ROA	1.000000	0.062221	0.083589	-0.012206	0.096139	-0.098385
EXP_AD	0.062221	1.000000	0.115686	-0.165202	-0.074981	0.008201
FASST	0.083589	0.115686	1.000000	0.174719	-0.004227	-0.022384
MC	-0.012206	-0.165202	0.174719	1.000000	0.232190	0.141973
GDP	0.096139	-0.074981	-0.004227	0.232190	1.000000	-0.705708
IR	-0.098385	0.008201	-0.022384	0.141973	-0.705708	1.000000

Bank profitability (ROA) shows negative relationship with market concentration, ROA shows negative and strong correlations with interest rate, Market concentration show negative relationship with interest rate. Bank profitability (ROA) show positive and strong relationship with GDP Growth Rate, GDP Growth rate show negative relationship with interest rate, investment shows positive relationship with fixed assets.

Interest rate show positive relationship with bank expense, investment and GDP growth rate show positive relationship with market concentration. Bank profitability show positive relationship with GDP Growth rate, interest rate show negative and strong relationship with ROA. GDP growth rate show negative relationship with Bank expense.

Correlation among ROA, GDP Growth Rate, Interest Rat, Market Concentration, Fixed Asset and Bank Expense

	ROASS	EXP AD	FASST	GDP GROWTH	INTEREST RATE	MARKET CONCENTRATION
ROASS	1.000000	0.062221	0.083589	0.096139	-0.098385	-0.012206
EXP AD	0.062221	1.000000	0.115686	-0.074981	0.008201	-0.165202
FASST	0.083589	0.115686	1.000000	-0.004227	-0.022384	0.174719
GDP GROWTH	0.096139	-0.074981	-0.004227	1.000000	-0.705708	0.232190
INTEREST RATE	-0.098385	0.008201	-0.022384	-0.705708	1.000000	0.141973
MARKET CONCENTRATION	-0.012206	-0.165202	0.174719	0.232190	0.141973	1.000000

Regression Analysis (OLS Method)

Regression analysis is a statistical process for estimating the relationships among variables. It includes many techniques for modeling and analyzing several variables, when the focus is on the relationship between a dependent variable and one or more independent

variable. Our observation include 110 and r-square is 0.968756, adjusted R square is 0.966718 and Durbin Watson stat is 2.53278.

The regression was performed in order to predict the Bank profitability (ROA and five independent variables were selected. Out of these five independent

variables (predictors), four appeared significant as indicated by the probability values. The most significant predictor for ROA highlighted by our regression results is interest rate (IR) (t-statistics 3.34, p=0.001) followed by C (t-statistics 3.34,

p=0.003). However, when the regression coefficient was compared for these significant variables, a contrasting difference was observed (Kiyota& Urata (2002).

Dependent Variable: ROA				
Method: Panel EGLS (Cross-section SUR)				
Sample (adjusted): 2004 2013				
Periods included: 10				
Cross-sections included: 10				
Total panel (unbalanced) observations: 99				
Linear estimation after one-step weighting matrix				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.010828	0.000700	-15.47628	0.0000
EXP_AD	-2.25E-14	7.84E-12	-0.002869	0.9977
FASST	4.21E-12	1.70E-12	2.471583	0.0153
MARKET_CONCENTRATION	0.015966	0.000590	27.04730	0.0000
GDP_GROWTH	0.000227	6.68E-05	3.395723	0.0010
ROA(-1)	0.769825	0.023987	32.09402	0.0000
INTEREST_RATE	0.000343	3.70E-05	9.282558	0.0000
Weighted Statistics				
R-squared	0.968756	Mean dependent var	4.738015	
Adjusted R-squared	0.966718	S.D. dependent var	15.59677	
S.E. of regression	0.976547	Sum squared resid	87.73527	
F-statistic	475.4221	Durbin-Watson stat	2.090507	
Prob(F-statistic)	0.000000			
Un weighted Statistics				
R-squared	0.651608	Mean dependent var	0.012420	
Sum squared resid	0.002656	Durbin-Watson stat	2.532748	

The overall accuracy of regression model can further be investigated by observing the adjusted R2 values. This adjusted R2 (0.96) we can predict the overall trend accurately up to 96%. The variation in Bank profitability (ROA) is explained by all independent variables included in the model is 96%. The remaining 4% variation is due to other factors that are not included in model. The higher value shows greater strength of model. R Square is a coefficient of determination show strength of model. F-test means model fit test they are equal to 0%. The value of R-square (0.96) shows that 96 % variation in dependent variable (ROA) is explained by the independent variables and show strong relationship. The relationship of all independent variables with ROA is described below.

Market Concentration and ROA:

The table shows results of GLS regression. The coefficient of Market concentration is 0.015966 that means when

Market concentration increases by 1 unit the profitability of banks (ROA) will increase by 0.015966. There is positive relationship between Market concentration and ROA. This result is significant at 1% level of significance level.

Interest Rate and ROA:

The table shows results of GLS regression. The coefficient of Interest rate is 0.000343 that means when interest rate increases by 1 unit the profitability of banks (ROA) will increase by 0.000343. There is positive relationship between interest rate and ROA. This result is significant at 1% level of significance level.

GDP Growth Rate and ROA:

The table shows results of GLS regression. The coefficient of Gdp Growth rate is 0.000227 that means when GDP Growth rate increases by 1 unit the profitability of banks (ROA) will increase by 0.000227. There is positive relationship between Gdp Growth rate

and ROA. This result is significant at 1% level of significance level.

Banks Fixed Asset and ROA

The table shows results of GLS regression. The coefficient of Fixed Asset is 4.21E-12 that means when Fixed Asset increases by 1 unit the profitability of banks (ROA) will increase by 4.21E-12. There is positive relationship between Fixed Asset and ROA. This result is significant at 1% level of significance level. (Goddard et al (2004).

Bank Expense and ROA

The table shows results of GLS regression. The coefficient of Expense is -2.25E-14 that means when of Expense increases by 1 unit the profitability of banks (ROA) will decrease by -2.25E-14. There is negative relationship between Bank expense and ROA. This result is significant at 1% level of significance level.

Panel EGLS (CROSS SECTIONAL SUR METHOD)

The data is heterogeneous and we assign weight to the value. That why we uses panel EGLS (cross sectional SUR method).The table shows results of GLS (CROSS SECTIONAL SUR

METHOD) regression. The coefficient of Market concentration is 0.000179 that means when Market concentration increases by 1 unit the profitability of banks (ROA) will increase by 0.000179. There is positive relationship between Market concentration and ROA. This result is significant at 1% level of significance level. The coefficient of Interest rate is 0.000360 that means when interest rate increases by 1 unit the profitability of banks (ROA) will increase by 0.000360. There is positive relationship between interest rate and ROA. This result is significant at 1% level of significance level. The coefficient of Gdp Growth rate is 0.002229 that means when GDP Growth rate increases by 1 unit the profitability of banks (ROA) will increase by 0.002229. There is positive relationship between Gdp Growth rate and ROA. This result is significant at 1% level of significance level. The coefficient of Fixed Asset is 5.77E-11 that means when Fixed Asset increases by 1 unit the profitability of banks (ROA) will increase by 5.77E-11. There is positive relationship between Fixed Asset and ROA. This result is significant at 1% level of significance level.

Regression Analysis of variable using Panel EGLS (CROSS SECTIONAL SUR METHOD)

Dependent Variable: ROA				
Method: Panel EGLS (Cross-section SUR)				
Sample: 2003 2013				
Periods included: 11				
Cross-sections included: 10				
Total panel (balanced) observations: 110				
Linear estimation after one-step weighting matrix				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
MC	0.000179	0.002695	0.066545	0.9471
FASST	5.77E-11	6.06E-12	9.520982	0.0000
IR	0.000360	8.31E-05	4.327050	0.0000
GDP	0.002229	0.000177	12.60399	0.0000
EXP_AD	1.49E-10	1.80E-11	8.260394	0.0000
Weighted Statistics				
R-squared	0.727073	Mean dependent var		2.127713
Adjusted R-squared	0.716676	S.D. dependent var		4.640548
S.E. of regression	1.000782	Sum squared resid		105.1644
Durbin-Watson stat	1.895207			
Unweighted Statistics				
R-squared	0.014254	Mean dependent var		0.016881
Sum squared resid	0.081523	Durbin-Watson stat		1.011050

CONCLUSION AND SUGGESTION

The study endeavors to shed light on the indicators of profitability for the banking system of Pakistan by taking into consideration bank-specific and macroeconomic factors. This study reveals an efficient image of the profitability on banking sector of Pakistan for the period 2003-2013. On the micro independent variables front, profitability seems to have been positively affected by bank asset size, operating efficiency, portfolio composition, Kiyota & Urata (2002), asset management and negatively by bank expense, capital and credit risk in case profitability is measured by return on assets (ROA). On the macroeconomic variables, MC, GDP and interest rate is found to having positive affect on profitability (as measured by ROA). This study facilitates the academicians, Goddard et al (2004) scholars and bankers to have a portrait about banking developments in managing profitability as the journey provides the study of commercial banking to improve their consideration.

The purpose of the study is to check the impact of macroeconomic like market concentration, interest rate, GDP growth rate, and Bank asset and bank expense on Bank profitability in Pakistan using annual data from 2003 to 2013 by employing multiple regression analysis. The previous chapter described the results and their interpretation. This chapter summarizes the major findings, and limitations of this study. Further, this chapter gives the policy implication and recommendations for the future research.

The results of multiple regression analysis that indicate, in the previous literature some studies found positive and other found negative sign of the macroeconomic variable with ROA. Further, GDP, Bank Expense and Market Concentration are found to be positive with ROA, so support the literature studies {Bakhtiar et al (2010), Nasir & Hassan (2011), Talat et al (2013), Aqeel & Nishat (2004), Shamsuddin (1994), Ismail & Burak (2007)}.

RECOMMENDATIONS FOR FUTURE STUDY

The time period used in this study is from 2003-2013, therefore, for the future, research can be done by extending time period of the study. Further, a comparison can be made in the future between self-governing and non-democratic regimes in Pakistan. Moreover, further study will be conducted by using some other important variables like, Market Growth, Economies of scale, Inflation Rate etc. Finally, annual time series data is used in this study consisting five independent variables (market concentration, Interest Rate, GDP Growth Rate, Bank Expense and Bank Assets). Hence in the future, study can be made by using panel data and by dropping the independent variables or by changing the methodology (Ismail & Burak (2007).

LIMITATION OF THE STUDY

The data constraint (due to large data set i.e. five independent variables, market concentration, interest rate, GDP growth rate, Bank Assets and bank Expense) is the major limitation faced in this study, therefore this study is conducted from 2003-2013. Further, generalizability is another constraint of this study. Because this study is done by taking annual data set of the variables in Pakistan and it is a developing country having different administrative conditions, Goddard et al., 2004. Hence the results found from the various testing in this study are beneficial for Pakistani policy makers.

CONCLUSION

This study is conducted to check the impact of market concentration, real interest rate, Gdp growth rate, bank expense and bank asset on the bank profitability in Pakistan. The time period used in this study is from 2003-2013. The methodologies used are Descriptive, correlation, multiple regression analysis. The regression was performed in order to predict the ROA and five independent variables were selected. Out of these five independent variables (predictors), four appeared significant as indicated by the probability values. The most significant predictor for ROA highlighted by our regression results is IR (t-statistics 3.34, p=0.001) followed by C (t-statistics 3.34, p=0.003). However, when the regression coefficient was compared for these significant variables, a contrasting difference was observed. These results are helpful for policy makers, Government and foreign investors..

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