Determinants of Commercial Banks Profitability: Empirical Evidence from Pakistan

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Abstract

As profitability is a comparative measure that describes the associations of total amount of profit with different factors. This study examines the influence of commercial banks determinants on the performance of commercial banks in Pakistan over the time period from 2004-2010. Consistency in performance is the basic reason for smooth running and presence

of every financial institution. Profitability is the most significant and consistent indicator as it contributes huge amount of profit that ultimately impacts its performance positively. The commercial bank's profitability is found out by the return on equity (ROE) and net-interest margin (NIM). Result indicates that the capital strength of a bank is utmost significance in affecting its performance, as a well-capitalized bank is observed to be less risky and such edge lead to high profitability. The assets quality, measured by the loans loss provisions, affects the performance of the banks positively and bank size as deposit indicates direct association with profitability as large banks earn more profit instead of small banks. Inflation and NIGI affects the bank's profitability inversely as increase inflation affects banks cost that increased and its earning main source is its fee that it charge on its services but free services without any charges decrease in gross income that lead a reduction in profit. This study is important and worthwhile for all commercial banks mangers regarding performance decisions of banks. As the development of the banking sector depends profoundly on strong decision making that leads to the efficiency and performance.

Keywords: Commercial banks, profitability, Determinants, Pakistan.

1. Introduction

Current commercial banking is the main character of present economy as it makes flow of the resources. Finance is blood of the trade, commerce and they play the role of vanes in the circulation of the funds in economy and the primary growth of any country depends upon the robust banking system. Commercial banks are the main pillar of the financial system in Pakistan as banks provide different opportunity and services to clients. The importance of the banking sectors is immense in the progress and richness of any state. The economic development and prosperity comes from the well rounded developed and perfect banking system. Strong banking system plays important role in efficient allocation and utilization of credit (Haque & Tariq, 2012). Pakistani banking opens a new horizon in Asia as working a dynamic competitive partner in this region, as over the world all the financial institutions face financial crises over last decade now banking in Pakistan is a prominent sector for investment and it provides to the needs of all regardless of caste, creed and religion. Bank is a backbone of all the industries, because every transaction where money is involved, the bank is the main pillar of funding. Banks attract saving from people.

As profitability is an accounting theory that shows surplus of profit over expense for a specified period of time that represent earning of banks for the sake of which they perform various activities in growing economy of Pakistan. Profitability is a silent feature and main pillar of discussion as experienced of a business entity. As in a study of commercial banks profitability analysis Amandeep (1999) discovered that the reliability of the institution for shareholders, long term creditors and for management is essential, in this way it helps to know about the financial soundness of the bank or the organization . Profitability shows the relationship of the absolute amount of revenue that indicate the ability of a bank to raise its loans to its customers and boost their profit .In the science of business Profitability is the life blood of a business as acting a bridge by providing loans to the business firms in running

their long and short term projects day by day. As profit ability is efficiency improvement indicator but there are number of factors that can affect the profitability of bank, some of them will be independent and some are dependent but still physical, we will see their impact on profitability in our study.

1.1 Problem statement

Profitability is the basic aim of establishing business and banks are not exceptions. As profitability is an important factor for the smooth running of any business in today's competitive setting and it has a significant impact on the performance of the institutions, as the financial proficiency of banks can also influence the economic development. So to identify profit determinants provide an opportunity to know which variable's influencing banks profit, management can concentrate their attention on it at the time decision making to adjust the factors. Besides, banks bankruptcies can link systematic crunch. Economic sector that has well established banking setup can also subsidize to the solidity of the financial system within boundaries of the countries. Over the preceding 30 years most of the researcher's dedicated considerable time and money in the importance of the commercial variables and various studies have linked variables. All this points to the significance of variables that we are going to conduct study. To conduct a study about the determinants of the profitability of banks not only important for the proprietor but also for the decision makers as the asses and modify the performance of the banks accordingly to enhance their efficiency and profit describes by (E. C. Mamatzakis, & Remoundos, P. C., 2003).

1.2 Objective of study

The objective of this study is to observe the impact of commercial determinants to the deviation in profitability across banks in case of Pakistan. We are using the banks level data from 2004-2010 and also used panel data regression, fixed effect model and random effect model to explore out the relationship between the key factors in 17 commercial banks of Pakistan and their effects on high profitability. There are large number of studies in developed and developing countries but our study differs from that because we are conducting this in Pakistani environment.

1.3 Scope of the study

The study is conducted to explore the profitability factors from 2004-2010 in Pakistan. The study sample contains 17 commercial banks like NBP, MCB,UBL, ABL,HBL,HMBL,BAH, Faisal bank limited, Khyber bank, Soneri bank, Askari bank, NIB, KASB, SAMBA, Meezan bank limited, BOP etc. The study used 13 independent variables, assets composition ratio, capitals, size, deposits, credit risk, debit risk, on-interest expenses, tax, assets quality and external variables inflation and real interest rate, and profitability as dependent variables.

2. Literature Review

This section explores the past literature associated to this study, research and it incorporates the banking environment in Pakistan from 2004-2010.There is an extensive frame of literature that pursues to distinguish the factors of banks profitability. ROE(Return on Equity) and NIM(Net Interest Margin) are Dependent variables that represent profitability of the

commercial banks.

In a book of commercial banks analysis the performance by Kapoor (2004) of banks from 1981-2000 indicates that deposit ratio, gross advances, size of banks, gross income and expenses, net interest margin, earning assets, branches networks and numbers of personnel's are showing a decreasing trend in profitability of banks.

The banks have extra ability in a concentrated market so that they can charge more interest margin from their customers to whom they borrow and pay less amount of return on their lending to their depositor, this gap of difference between the lending and borrowing rate is the profit of banks.(Weber, 2005) The study of banks profitability variables is important for institutions directors, financiers and government, as they can evaluate the bank's effectiveness and maintain the government plan, depositors choices and banks mangers strategies to achieve the planned goals described by (E. Mamatzakis & Remoundos, 2003).

Return on equity is net profit before tax over the equity capital.Berger (1995) Explored the association between return on equity and capital adequacy ratio for a group of US banks from 1983-1992 and discovered a constructive link among both factors. Molyneux and Thornton (1992)were prime to examine the states setting by investigating the indicators of banks profitability of a group of 18 countries from 1986-1989. ROE identified a bank administration capability s to use its stakeholders' investment, as most of the commercial banks used monetary control deeply to enhance their ROE to competitive intensity evaluated by(Molyneux & Thornton, 1992).

NIM(net interest margin) is investigation on income make through markup (interest) operations(Hoggarth, Milne, & Wood, 1998).Angbzo (1997)in the study of US banks from 1989-2003 concluded that management effectiveness, credit risk and leverage has a positive association with net interest margin. A study of United State bank by Angbazo (1997) that identified net interest margin has a direct association with capital and inverse association with liquidity risk in addition investigates mainly credit risk. Naceur (2003),in his study of determinants of Tunisian banking industry profitability of 10 banks form 1980-2000 concluded that high net interest margin and profitability are expected to be linked with high quantity of capital and cost. By investigating relationship between the bank net interest margin and profitability it is found that well capitalized commercial banks are most effective and this leads to better profitability in the study of European banking conducted by (Abreu & Mendes, 2001).

International banks have more interest margin as compare to the local banks in poor states and inverse situation is identified. In the advance states a study of 80 countries from 1988-1995 conducted on interest margin and profitability by (Demirgüç-Kunt & Huizinga, 1999). In a study of Latin American by the use of bank level statistics it is concluded that differences are huge because of high interest rates, as less proficient bank and large reserve demand by (Gelos, 2006). After conducting a study on the bank net interest margin of 10 African countries it is concluded that the credit risk clarifies main difference in the area in interest margin as described by(Al-Hashimi, 2007). Deposit has a positive relationship with interest margin as explore by(Baum, Caglayan, Schäfer, & Talavera, 2008).

Assets composition ratio is an internal factor or indicator of banks profitability and efficiency. As deposit and assets are considered the most significant indicators of the balance sheet because these two represent overall ability and financial strength of the bank. After studies may be the people conclude that banks loan is the major source of banks earning and it has a positive relationship with the bank profitability.

Loan to assets ratio has a positive association with banks performance and productivity concluded by (Abreu & Mendes, 2001). In different studies of various people it is discovered that the trend of loans to asset ratio from lower to high has an inverse link with bank profitability by(A. M. a. M. K. H. Bashir, 2003; Staikouras & Wood, 2003). Many researchers and scholars also concluded that the banks which have high non loan earning assets are more profitable as compare to others.

Capital ratio is an important instrument for analyzing the bank profitability and it should detain the general protection and reliability of the bank as different studies trace that banks with high intensity of capital achieve better results as compared to their undercapitalized peers, capital to assets ratio is an independent variable for evaluating the performance of the banks.

It is concluded that well capitalized banks bear a little price of the economic pain and such quality leads to the higher profitability. Illustrated by (Berger, Hanweck, & Humphrey, 1987) Direct and significant association between the capital adequacy ratio and profitability.

In his study, Bourke (1989) describes a positive relationship between bank profitability and capital ratio, as higher the capital ratio the more will be the bank profitability. In the same way the banks which are sound capitalized are more cost-effective as compare to others in USA described by (Berger, 1995).significant link between the capital ratio and profitability is not restricted to USA local banking industry as a study of 18 countries from 1986-1989 explained that Capital ratio impacts bank profitability positively even though such association restricted to state own banks (Molyneux & Thornton, 1992). In the study of 80 developed and developing nations by Demirgüç-Kunt and Huizinga (1999) in which they concluded that the general result identifies a positive association between the capital ratio and bank profitability and overseas banks earn more return as compare to local banks in developing countries, while in developed countries the condition is vies versa, even though in general ending result demonstrates a positive link between the capital ratio and profitability.

Direct causation in both way between capital and profitability evaluated by (Berger, 1995). There exist a direct and significant association between high equity level and profitability in various studies.Athanasoglou, Delis, and Staikouras (2006) Explored a direct association and considerable impact of capital on bank profitability to represent the well-organized position of the bank. Growing at international level banking demand high level of capital to make sure that banks are more capable to take extra risk described by (Hanweck & Kilcollin, 1984).There is a straight connection between the capital and the earnings of the local banks, as well-organized banks are more profitable because they earn more return on their investment concluded by(Demirgüç-Kunt & Huizinga, 1999).

Capital plays vital role in the performance of a bank, as the banks that have higher capitals

perform well as compare to smaller. A direct association between the capital and the bank profit was concluded in a study of European commercial banks by (Staikouras & Wood, 2003). A significant direct link between the equity and profit of banks was found by (Abreu & Mendes, 2001). Several other studies also support direct association between the banks income or earning and equity level as (Goddard, Molyneux, & Wilson, 2004).

There are two major reasons of risks, assets quality and intensity of liquidity as these two reasons create problem in the failure of bank operations. So when there is huge uncertainty then banks will revise their portfolio to reduce their expected risk. Default risk, is inclined by economic development, inflation and Interest rates as they disturb the debtor's reimbursement capacity and the importance of security. Credit risk is ratio of loan to deposits and small term financial support that offer future expectations of bank disclosure to default and assets quality decline, credit risk or loan is the basic mean of earning for the bank and it has positive relationship with profit as investigated in different studies but not final, A. M. a. M. K. H. Bashir (2003)"investigate an inverse association between the credit risk and profitability which identified when an inverse link among them, then it also evaluate that a high risk is associated with high loans which make a problem in the return maximization of the bank".

Duca and McLaughlin (1999),It is concluded that high ups and down in the bank profitability and performance highly correlated with the dissimilarity in credit risk, so raised exposure to the credit risk has a direct link to decline in the bank profitability". A study conducted byAbreu and Mendes (2001),elaborates a significant association between the loan ratio and profitability. Variation in the credit risk may reproduce variation in the financial strength of bank portfolio explore by (Cooper, Jackson, & Patterson, 2003). High credit risk ratio influence inversely bank profitability(Hassan & Bashir, 2003). Many others researchers explored same argues. Credit risk is the most considerable risk that countenances by a bank and its business achievement totally depends on the correct measurement and proficient management of this risk, until a huge level than some other risk explain by (Giesecke, 2004).

Raise in credit risk will increase the marginal cost of the obligation and equity, that will enlarge the cost of finance for the bank (Basel, 2004). Credit risk has its definition as explored byHeffernan (2005). The risk that a property orresource and credit have cannot be recoveredin case of complete default or the risk of impediment in the allocation of credit, the existing price of the assets is decreasing, thereby underestimating the solvency of the bank. Credit risk is important as a few important customers become defaulter, which enhanced the possibility of huge lose that can guide towards the bankruptcy of the bank was described by (Bessis, 2011).

Liquidity risk is bank particular internal determinant that is directly associated to bank risk administration, as risk management is intrinsic in the life of banking concern. Small level of liquidity is ground reality of failure of banking and it draws a great deal of scholars and researchers thinking to identify the influence of this risk on profitability. Liquidity risk also leads towards having problems in generating funds and failure to handle unexpected variations in the sources of financing.

A positive direct link between the liquidity and bank profitability investigated by (Bourke,

1989).An inverse and positive association identify between the liquidity risk and profitability in a study conducted by (Molyneux & Thornton, 1992). As traced by (Molyneux & Thornton, 1992) it is important that a bank watches against the liquidity risk cautiously, the risk that it has not adequate liquid assets, such as cash in hand and rapidly money-making securities to fulfill the current obligations of the depositors in the area of economy recession. In relate with earlier studies also explore the similar results,Guru, Staunton, and Balashanmugam (2002) as inverse and indirect association between the liquidity and profitability. So result is a mixture about the impact of liquidity on the bank profitability is identified. Liquidity risk is created by the variation between sizes of the assets and liabilities and differences between their maturities (Joel, 2002). It refers that current assets value is not enough to fulfill current obligations, from this point of view liquidity is the protection measure that assists to get time under complicated situations in a study conducted (Bessis, 2002).

Size of the bank is also the result of administration policy that cannot grantee the excess profit. (Vernon, 1971) among the first few researchers who found the direct relationship between the banks size and profitability and according to him larger banks have high profitability.

Bank size has direct impact on profitability by reducing the cost of raising the capital for large banks was conducted in a study by (Short, 1979). Smirlock (1985) Describes a considerable and direct association between the bank size and profitability in his study. There is an indirect association between the bank size and profitability in the study conducted by the (Boyd &Runkle, 1993). Banking size has an inverse link with larger banks and direct association with smaller banks profitability but the intermediate size bank earns high return on investment.Berger et al. (1987) Explored a negative relationship between the bank size and return by using a set of scale and product mix on the other hand no association between size and profitability , so slight cost reduction can be achieved by rising the magnitude of the banking firm.

Bank size is introduced to report for present economies and diseconomies of scale in the marketplace a study conducted by (Akhavein, Berger, & Humphrey, 1997). Steinherr and Huveneers (1994), In his study using bank size as an independent factor found that it has mixed impact on the banks profitability.Fraker (2006) Describes a direct association between the bank size and productivity as they establish that more resources can effortlessly their rigid capitals as they have additional funds to offer more loans to borrowers and in this way raise their earning level. As investigated by Kapoor (2004) the fundamental purpose of commercial banks is to enhance their size not to have the benefit of cost approving from the financial system of scale but also to force their existence in the fresh market situation of Europe after introducing euro. The impact of bank size on its performance is different as explored in a study conducted by Goddard et al. (2004) from 1992-1998 of Europe it shows mix association and relationship among size and profitability.

Approve positive impact of bank size on the profitability as taking base cost of capital in different studies, Demirgüç-Kunt and Huizinga (1999) is traced that the scope in which different financial, official and other factors influence bank profitability strongly related to bank size. Viewing same expression by Goddard et al. (2004), Bourke (1989), Molyneux,

and Thornton (1992), Biker and Hue (2002), all these associate bank size with capital adequacy ratio, which they argue that has a direct and significant relationship with size, it indicate as larger bank from small to average then profitability will be more. A study conduct by (Burki, Niazi, Management, & Research, 2006) from 1991-2000 of local and international banks by using data of 40 banks also shows a significant influence on bank size and loans ratio on bank performance and profitability. Large size banks indicate a negative relation profitability described by(Stiroh & Rumble, 2006).

Deposit is the most valuable and significant indicator of the balance sheet as it symbolizes a clue of conventionality banking activities. The deposit structure of banks indicates that banks which are strongly committed to short term and long term deposit are earning lower as compare to banks that depends on demands deposits described by(Heggestad, 1977). Smirlock (1985) explored that short term deposit are more inexpensive source of financing and had significant impact of banks profitability.

The banks which have high   deposits comparative to their assets and using those to strength the equity to enhance the performance of the bank , those are the better developing banks as illustrated by(Naceur & Goaied, 2001). Guru et al. (2002)He tried to elaborate the factors of successful deposits banks for the sake to give a useful guide for enhance profitability performance of these banks, for this purpose in this study included 17 Malaysian banks.

Another problem in Pakistan is high currency risk because of it most of the bank's deposits are in local currency. While Chirwa (2003) described positive association between bank profit and deposit ratio a study conducted from 1970-1994 on time series data in Malawi. As possible as high deposits converted into credit then in return high profit will be expected as deposits are the basic source of financing that they can invest. "Deposit ratio has a direct and significant association with profitability back by various studies" (Alkassim, 2005). Banks that depend on high deposits have less profit because they need to have high network of branches in this way their expenses increase that effect profit inversely.

Expense (cost to income ratio) as it is one of the most significant determinant of income statement which focuses on the management efficiency in minimizing, it is also indicator of cost effectiveness.   Expenses are the operational cost of banks show a portion of banks net earnings and have an inverse relationship with bank profit, as an indicator of bank administration proficiency in its dealings during operations.

In a study of European banks (Abreu & Mendes, 2001) it is explored that the operational expenses of the banks have an indirect correlation with bank profit, even though they have a direct association with net interest margins of the bas. Different studies in different parts of the world found that bank expenses have a negative relations with profitability of the banks as incorporated by (Grigorian & Manole, 2006) in Ukraine.

As expense has inverse relationship with profit, high expense leads to less profitability, this indirect association between expense and profit is investigated by the study of (Bourke, 1989). Positive relation between cost and profitability found by (Jiang, Tang, Law, & Sze, 2003b). Opposite view of (Molyneux & Thornton, 1992) expense factors influenced   European bank profit significantly. They suggest that high earnings produced by the firm in rigid industry

may be proper in the shape of high pay and remuneration cost. Their studies assist the efficiency wage theory, which states that the output of the workers boost with wage rate. Similarly direct and significant association between profit and expenses is explore in Tunisia (Naceur, 2003), and (Guru et al., 2002).

Result of the study identify that proficient cost supervision is one basic pillar that clarify the bank profitability. Bank expenses are also regard as very essential determinant of profitability, directly associated to concept of proficient management. As expected coefficient of cost to income ratio is inverse and positive in different studies, telling that efficiency in expenses management is the strong factors of UK bank performance and profitability (Guru & Staunton),(Pasiouras & Kosmidou, 2007).

A tax is also imposed on the bank profit through business tax and other taxes. It is not the suggestion for the bank to imposed tax on its profit, but the bank administration should be capable to distribute its portfolio to lessen its tax and the customer faces an inflexible demand for banking facilities, most of the banks transfer their tax load to the clients. A constructive association between the tax and profitability is found by (Demirgüç-Kunt & Huizinga, 1999) and (A. Bashir & Hassan, 2004).

It indicates if there is positive association lies between bank tax and profit it can easily transfer its tax cost to its clients by enhancing its interest rate spread.It is discovered that an extensive research has been devoted to the impact of banks denationalization and optimal design of the regulatory environment but the taxation has get very little attention but in fact it is a most important source of earning of the states in a study of (R, 2004). The macroeconomic significance of a tax transfer are evaluated in the principles of financial suppression discussed by(H, 2001). A raise in the tax rate on lending could change the credit and deposit demand schedules, that effects on banks earning directly. So that why it is impossible to set a priori what is the overall impact on the bank return that is depending on perfect market conditions. This can create problems for financial institutions and other credit market features. It also indicates that chance of transfer of tax load to its clients hinge on the effectiveness of the market in which it works.

An increase in tax rate changes capital arrangement and also increase cost of principal. In case of bank the impacts of corporate tax are totally dissimilar since bank is subject to regulation that effect their liability set up. The tax system of banks in European countries is different from us and incorporated; in fact the whole management of the tax rules and procedures is in hands of local authorities that enforced standard on controls in a study explored by (Huizinga, 2004).

Leverage has a positive relationship with return on equity and also has a direct relationship with banks profitability by supposing that stakeholder's equity stays unbroken. A study of factors of Islamic bank profitability from the period of 1993-1998 indicates that higher default risk has a positive and significant relationship with profitability and operations of banks by (A., 2000). It is discovered that debt to equity ratio has positive relationship with profitability ,as it shows how much suppliers, lenders ,creditors are devoted to institute by (Allen, Shaik, Myles, & Yeboah, 2011).

Non-interest income Banks can enhance their income by increasing their services charges and reducing in their interest income financing from their customers which can be influenced by the indirect microeconomic setting. Diversified banks are earning more income investigated by(Jiang, Tang, Law, & Sze, 2003a).   Gischer and Jüttner (2001)explored that the institutes, which provide free services actually exert an adverse influence on banks performance. The businesses which are dealing in trades of derivatives, credit cards suppliers are earning more particularly at worldwide level than those that earn through interest revenue.

External factors identify the outcome of the macroeconomic environment on banks profitability and these are the factors which are not under the control of bank supervision and they signify the measures outside the impact of the bank. However the management can take steps to explore the expected variation in external environment and adjust the organization to get the expected advantages of economic advancement.

Inflation is an important factor of bank profitability as examined by (Revell, 1979),the impact of inflation on bank income or profit depends on whether banks running cost growing higher than inflation rate. This is why the effect of inflation is reliant on the general macroeconomic solidity that permits the accurate forecasting of inflation. Inflation is normally linked with high profitability and efficiency as it suggests extra income from float that inclines to pay for high labor costs incorporated by (Hanson, 1986.)(Bourke, 1989); Molyneux and Thornton (1992) discover a positive link between inflation and bank profitability.

Inflation is a significant factor that impact profitability of bank positively as high inflation is strongly related with the high interest rate on credit and high return on investment as effect of inflation depends whether the inflation is predicted or unpredicted as investigated by (Perry, 1992). If we find inflation as a predictable factor and interest rate is accordingly set, then there is a direct association between the bank profitability and inflation. It is explored byHoggarth et al. (1998) that an unexpected variation in inflation can create problems in the planning of loans and also effect profitability. Increase in inflation has a positive association with performance of bank in a study conducted by (Guru et al., 2002).

Abreu and Mendes (2001)discovered inverse relationship between the inflation factors and profitability of Europe banks. The banks in less advance world are earning low in inflationary atmosphere, at the time   high capital ratio as in these countries bank expenses are more than bank earning was explored by (Demirgüç-Kunt & Huizinga, 1999). Inflation is highly associated with bank profitability; inflation involves high cost as more business operation and large branch network rise cost but also more revenue from bank float, this constructive link shows that bank earnings rise with inflation more than bank cost. Inflation also impact company evaluating behavior as it projected that the trend of rates will increase in future then the corporations will also increase their rates that lead to an additional increment in the profit of   bank as discussed by (Driver, 2008).

High interest rate is directly   related with profitability in less developed nation explored by (Demirgüç-Kunt & Huizinga, 1999). This identified that current deposits pay nothing in developing states. In the related sense the interest rate unpredictability normally infers high interest margins as financial institutions largely able to handover the high risk to their

customers a study incorporate by (Ho & Saunders, 1981).

Interest rate is constructive with profitability in countries where capital market and banking sectors of well advanced and profit earned by banks in their normal activates highly related with the GDP growth rate and interest rate on lending.   High interest rate on lending creates problems for borrowers and their credit risk possibility explored by (Kindleberger). It is accepted that increase in interest rate leads to high commercial banks profit by increasing the gap between the deposits and borrowing rates. It is discovered that more saving and more borrowing both have a positive association that leads to high profitability a study of USA from 1976-1984 and is also explored that decrease in interest rate in the period of recession decrease in growth in loans and enhance in loan loss (Hanweck & Kilcollin, 1984). Find direct and constructive association between interest rate and bank profit by(Staikouras & Wood, 2003).

3. Methodology

3.1 Data and Sources

A number of variables are used and the data that include covered a period from 2004-2010 and include 17 commercial banks of Pakistan that account for more than 90% of Pakistani banking sectors resources .Data of these variables taken from State bank of Pakistan website, commercial annual reports, Lahore stock exchange, and the data of external factors from World Bank (WDI), Pakistan statistics of bureau. All the financial information considered in Pakistani rupees. Panel regression techniques are used to analyze the internal factors as well as external factors. Panel data is used because of many reasons as it has the edge of providing more informative facts as it entails of both the cross sectional material, that detentions individual changeability, and the time series material, that captures forceful modification. In short, panel modeling supports to identity a mutual group of features while, at the equivalent time, taking the account of the heterogeneity which is present between specific units. This study also supports to further study the influence of macroeconomic advancement on profit and effectiveness after directing for commercial bank features which are not as much of correlation between variables, high degrees of freedom and high efficiency.

3.2 Equation for fixed effect model:

$$y_{it} = \beta_0 xi_{it+}\beta_1 x_{it} + \beta_2 x_{it} + \beta_3 x_{it} + \beta_4 x_{it} + \beta_5 x_{it} + \beta_6 x_{it} + \beta_7 x_{it} + e_{it}$$

The basic equation for random effect model

$$y_{it=} u_{it+} \beta_0 xi_{it+}\alpha_{i+}e_{it}$$

$$w_{it=} e_{it+} u_{it}$$

$$y_{it=} \beta_0 xi_{it+} \alpha_{i+}w_{it}$$

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$$y_{it} = \beta_0 xi_{it+} \beta_1 x_{it} + \beta_2 x_{it} + \beta_3 x_{it} + \beta_4 x_{it} + \beta_5 x_{it} + \beta_6 x_{it} + \beta_7 x_{it} + w_{it}$$

y_{it} it Indicates return on equity (ROE), net interest margin (NIM), for bank[e] and time t .test is used.

4. Empirical Result

The practical evidence on the factors of profitability or return on equity is based on panel data, where all the determinants are observed for each time period and each cross-section. In this study, three econometrics techniques are used as polled regression, fixed effect estimators and random effect estimators. These estimators used as these are the most suitable for this type of data, shows well results all times. Brush pagan and Hausman tests also used.

R-Square value table

Techniques	ROEBT	NIM
Polled regression	0.5777	0.6512
Fixed effect model	0.5923	0.6330
Random effect model	0.5699	0.6319

Level of significance:

*, **, and ***, indicates significance level at .01,.05,.10 respectively in percent

DESCRPECTIVE STATISTICS FOR VARIABLES

	Mean	Stand Dev.	Min	Max
REOBT	.124256	.3751639	-1.726689	.7279407
NIM	.0542949	.0283981	-.0223123	.1343584
EOTA	.084058	.0546167	-.0327831	.3321537
LOTA	.5729082	.0997567.	.3440007	.992764
LTD	8.051806	.5223621	6.706962	8.920194
DTA	.7475023	.1236344	.133964	1.13417
PROL	.0757718	.0754916	.001213	.4032527
SQINF	149.3457	121.4007	54.76	412.09
NIGI	.1725545	.0711655	.0139863	.4058875

Correlation Matrix

	EOTA	LOTA	LTD	DTA	PROL	SINFL	NIGI
EOTA	1.0000						
LOTA	-0.3830	1.0000					
LTD	-0.4923	0.0476	1.0000				
DTA	-0.3519	-0.0830	0.3688	1.0000			
PROL	0.5773	-0.1746	-0.3428	-0.1848	1.0000		
SINFL	-0.0091	0.0575	0.0277	-0.0228	-0.0310	1.0000	
NIGI	-0.1637	0.1469	0.0090	0.0840	-0.2150	0.0154	1.0000

VIF Mean =1.42

Results tables

Banks	ROEBT (return on equity before tax) Roebt			Net-Interest Margin (profitability): table 2		
Characteristics	Polled regression	Fixed effect	Random effect	Polled regression	Fixed effect	Random effect
	Coef .	Coef .	Coef	Coef .	Coef .	Coef .
EOTA	1.363832**	1.562757**	1.363832**	.3086574*	.3217752*	.304105*
LOTA	-1.051284*	-1.243012*	-1.051284*	-.0771168*	-.0825025*	-.0775273*
LTD	.2616647*	.3336836*	.2616647*	.0345938*	.0349009*	.0349122*
DTA	-.8600052*	-.7170298*	-.860005*	.0190882	.0203401	.0171094
PRTO	-2.893257*	-2.604471*	-2.893257*	.0002205	-.1588588*	-.1491314*
SQINFL	-.0002306	-.0002109	- .0002306	-.1415167*	-1.03e-06	-3.05e-07
NIGI	1.517599*	.7364276*	1.517599*	.0593166**	-.0453393	-.0567544**
CONS	-.860391	-1.343857	-.860391	-.2020422	-.2017345	-.1996446

Notes: The above table 1 shows the results through various alternative approaches the Husman test suggest the random effect to be more appropriate.

The above table 2shows the results through various alternative approaches, the Husman test suggest the fixed effect model to be more appropriate

Table 1:

- As we used here three approaches and random effect model is most appropriate approach that shows above results as explains a variation of .5699 in dependent variable return on equity before tax, as significance P=0 .000which shows that our model is statistical significant as our EOTA, P= 0.033 this mean p<.005. Coefficient results shows that there a significant positive relationship among REOBT and EOTA. This means EOTA have a significant positive impact on return on equity before tax. This relationship's indicates that more equity to assets ratio reduce the bank outside financing needs that enhance the profit of banks and the banks can invest their surplus capital. Our study indicates that banks profitability and performance can enhance if

banks is well capitalized and borrow very low. As ratio of EOTA is highly significant as it is a sign of higher profitability because banks used very little amount of outside funds to finance it operation and projects and also effective management policies as in the study ofBerger (1995) EOTA show positive relation between the bank management and profitability.

- Our independent variable LOTA, P =0.000 this mean p<.005 which indicates that there is direct association between the ROEBT and LOTA. This affect banks profitability positively because loans are the main source of earning of the banks, which depicts that the higher   the banks will lend higher   will be the profitability as it earn large amount of interest from its short term and long term financing in different sectors of the economy.

- Our independent variable LTD, P =0.000 this mean p<.005 which indicates that there is direct link between relationships the ROEBT and LTD. LTD indicates logarithm of total deposits which represent size of the bank that is highly significant at all levels that shows large banks are performing well as compare to small banks in developing and developed countries over the world.

- As Our independent variable DTA, P =0.000 this mean p<.005 which indicates that there is significant association between the ROEBT and DTA.DTA as deposit is main source of the bank investment that lead to direct earning of the bank but high used of deposit may be risky for the bank.

- As Our independent variable PRTO, P =0.000 this mean p<.005 which describes that there is direct association between the ROEBT and PRTO. The provision ratio indicates a significant positive impact on the bank return on equity as banks are more profitable when they lend more so in Pakistan need of high lending to finance the Govt. and public projects in different sectors of the economy.

- As Our independent variable SQINFL, P =0.232 this mean p>.005 which describes that there is inverse or negative association between the ROEBT and SQINFL. Only inflation has inverse and negative association with profitability but if the inflation is expected then the banks will controlled it by increasing their interest rate on lending as it has a direct link with inflation in this way there will be high income for banks. In our study inflation shows negative relationships with profitability or performance of banks that mean unexpected inflation which will lead to decrease in the earning of the banks which effect profitability inversely.

- As Our independent variable NIGI, P =0.000 this mean p<.005 which shows that there is positive or direct association between the ROEBT and NIGI. Non-interest income of the banks indicates a direct relationship with the profitability because as the banks increase it services charges and fees its income will increase that is major earning of the banking operations perform during fiscal year but if the banks provide free of cost services to its customers that will increase the banks expenses that leads to show a decrease in the profitability of the banks which effect the performance ultimately.

Net-Interest Margin (profitability): table 2

As we used here three approaches and fixed effect model is most appropriate approach that shows above results as explains a variation of. 0.6330In dependent variable net-interest margin as significance P=0 .000 which shows that our model is statistical significant as our Table 2 indicates the impact of independent variable on NIM where we as the results of fixed effect estimators. All the variables have positive and direct association with NIM except SQINFL and NIGI, as SQINFL, inflation is shows negative link with NIM.

- EOTA, P= 0.000 this mean p<.005. Coefficient results shows that there a significant positive relationship among NIM and EOTA. This result indicates that the banks that finance different project in various sectors of economy by using their equity and assets are earning high return on their investment because they have to pay nothing as cost of their financing. This direct relationship enhances the interest earning of the bank that will lead to the increase in profitability of the banks.

- Our independent variable LOTA, P =0.000 this mean p<.005 which indicates that there is direct association between the profitability and LOTA. This affect banks profitability positively because loans are earning source or earning assets of banks, which depicts that the higher the banks will lend higher will be the profitability as it earn large amount of interest from its financing in different sectors of the economy as there is high interest earning and interest paying gap the more will be the profitability of banks for which banks work.

- Our independent variable LTD, P =0.000 this mean p<.005 which shows that there is direct link between relationships the NIM and LTD. LTD indicates logarithm of total deposits which represent size of the bank that is highly significant at all levels that shows large banks are performing well as compare to small banks in overall the world. It indicates that the banks that are large they have more sources to invest and fiancé short term and long term operations of the economy to enhance the pace of development which also increase the earning of the banks that leads to increase profitability. , it indicates market is less competitive and banks which are more efficient taking the advantage of the cost effectiveness indicates efficiency that has a positive on profitability.

- As Our independent variable DTA, P =0.244   this mean p>.005 which indicates that there is indirect association between the NIM and DTA. DTA as deposit is main source of the bank investment that lead to direct earing of the bank but high used of deposit may be risky for the bank ,as it reduce the investment and financing capacity of the banks that leads to reduce the interest income of the banks.

- As Our independent variable PRTO, P =0.000 this mean p<.005 which describes that there is direct association between NIM and PRTO. The provision ratio indicates a significant positive impact on the bank net-interest margin as banks are more profitable when they lend more, because high lending increase the banks earning more than its cost of borrowings in Pakistan need of high lending to finance the Govt. and public projects in different sectors of the economy.

- As Our independent variable SQINFL, P =0.982 this mean p>.005 which describes

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that there is inverse or negative association between the NIM and SQINFL. Only inflation has inverse and negative association with profitability but if the inflation is expected then the banks will controlled it by increasing their interest margin on lending as it has a direct link with inflation in this way there will be high income for banks.   In our study inflation shows negative relationships with profitability or performance of banks that mean unexpected inflation which will lead to decrease in the earning of the banks which effect profitability inversely. It also indicates that the high inflation increase the banks cost that lead to reduce the profit of the banks.

- As Our independent variable NIGI, P =0.017 this mean p<.005 which shows that there is positive or direct association between the NIM and NIGI. NIGI indicates non-interest income to gross income as the financial institutions main earning is their charges on the services provide by them to their customers but when they provide free services then it impact earning inversely, that reduce the bank profitability that have direct impact on performance

5. Conclusion

Banking setup over the world varies in size and operations. Our study suggests that, well sound banking structure is essential for the consistent economic development in Pakistan. As banks in Pakistan facing many problems that is a major challenge for them, thus it is need of the time to search out those factors which impact profitability. This study explores the impact of commercial indicators on bank performance from 2004-2010.

Individual banks characteristics are considered the determinants of bank profitability. The banks with high equity to capital are anticipated to have higher safety and this superiority leads to high profitability and performance enhancement. However our results indicates that high loans to assets ratio higher level of earning, as due to less competitive market and increase in the return rate on investment, which increase the net spread of the bank that have positive impact on profitability, as more spread with a low provisions lead to high profitability.

Our study also shows that banks with large size are earning more as compare to small banks on their equity and assets. Our study shows that the bank free services also have inverse relation with banks profitability because service fees are major earning of the banks. Banks debt to equity or debt risk has negative impact on profitability because as more customers become defaulters the bank will become bankrupts.

6. Limitation of the study:

- This study emphasizes on secondary data that is restricted to information obtainable from the yearly financial statement of banks.

- The variables used in this study based on past studies and no new factors is entered in the new model and limited to past studies in Pakistan.

- Time duration of the study is also very small from 2004-2010 that could influence the results.

- Various other factors which influence the bank performance like customer care,

company image and market strategies are ignored here.

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