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Impact of Bank Specific Variables on Banks Profitability: Moderating Role of Global Financial Crisis

by

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This thesis is dedicated to my parents, teachers and friends who always encourage and support me in my tough time

CERTIFICATE OF APPROVAL

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Abstract

The purpose of the study is to determine the impact of bank specific variables on banks profitability: moderating role of global financial crisis. The target population consists of Islamic, conventional and foreign banks. The sample size of the data consists of 34 banks from total available population. The study explores the impact of bank specific variables on profitability. The proxies used as independent variables are wages, interest rate, depreciation, total loans, income diversification and crisis period is used as a dummy variable. Panel data regression model is applied with different techniques i.e. common, fixed and random effect model. The direction of likelihood and hausman test suggested that fixed effect model is more appropriate for final analysis. The statistical finding of the study indicates that bank specific variables significantly relate with banks profitability. Banks must establish the advance method and strategies to face the financial crisis.

Keywords: Bank Specific, Profitability, Return on Assets, Bank Revenue, Global Financial Crisis.

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Abbreviations

ADVTA	Advance to Total Assets
DIV	Income Diversification
GDP	Gross Domestic Products
ILO	International Labor Organization
IMF	International Monetary Fund
R	Bank Revenue
ROA	Return on Assets
UPFA	Unit Price of Fixed Assets
UPL	Unit Price of Labor
UPLF	Unit Price of Loanable Funds

Chapter 1

Introduction

1.1 Background of the Study

The world financial crisis happened in 2008, it was very harmful for all investors since 1930s and it extremely effected the settings of the world financial structure on overall world economy. Though its primarily evolved in the whole of subprime mortgage division, particularly in the field of real estate market, in United State owing to imprudent and extensive advancing from the financial organizations in this industry, due to the world financial internal link, that it creates a world miracle with ensuing outcomes for all established as a developing nation of the world. Financial organizations, especially conventional banks were certainly the general and direct fatalities of the crisis and this significant influenced their financial shapes, marketing techniques and productive policies. A various financial institute specially in the USA. Any organization would not leave with brunt of world financial crisis were fall down during the remaining ones make much wary and they got drastic evaluation in this paradigm.

Economic collapse spread with different networks like financial incorporation, businesses. World economic crisis had thoughtful consequences. Crisis lead to the liquidity issues and developing countries were more lacking into shortage trap. Global overall output declined importantly as original GDP growing level charged down negative percentage 2009. Global capital market claimed that fall down in stock and bond prices. Policy creativities were took as overall the world by mitigating the influence of crisis. US and Europe level nations declared bail out correspondences volume in trillions of dollars.

Previous studies of world economic collapse lead to the issues of financial systems to attending the mitigating influence of the crisis followed an expansion procedure in any financial institution. Lower interest rate accomplished real estate prices guided to the credit growth. US banks begin to offer loan facility to the clients with weaken credit paradigm. The loan investing ratios in United State financial institutions increase from one to five percent such these rates outcomes in the shape of diverse housing scheme programs. Individuals facing the same level of issues in advance while giving the mortgage payments and further rise in interest rate established extreme issues and various of the shirked on the level of mortgages.

World finance sector crisis expand to the rest of the globe with economic integration beginning thoughtful conflict all over the world. On the level of world economic crisis had serious consequences as IMF published that global in 2009. International Labor Organization reports the extending job seeking and regarding to the International Labor Organization (ILO) if you imagine thirty million individuals lost their jobs.

In the study of Financial integration has been raised in previous several years and economical innovation have been capable to take a financial integration. Financial integration has been imagining as outcome of higher efficiency of the economic sector, increased with comparison and risk sharing section. All this is also linked with greater risk of spreading financial fluctuations all over the world developing nations. Crisis spread to established and emerging countries with help of different financial paradigm. Emerging economy nation banks were influenced as well and they were soiled by the subprime loans. Trade was main network that flow of the crisis to any two established and emerging economic setting. Emerging and worst condition countries had direct trading associations with loan depending economies were assured.

All the under developing weak economic holder are facing a large-scale investor whose shifting their capital investment due to poor economic condition and these countries fell into collapse. Global financial collapse also examined the societal issues as greater unemployment and raise in poor level would offer increase to more criminal. Poor nations are depending upon higher wealth countries for financial support and as a outcome of financial crisis rich whose well settle economic condition cannot afford to pay money to the poor countries as FDI financial support. Decision makers are taking the important steps in emerging and well-developed economical countries.

Impact of Financial Crisis on Pakistan Banking Industry

The financial system of our country was also adversely influenced from the crisis and so all economical institutions in Pakistan. Pakistan faces the serious openness in the area of developing economy and greater fiscal and current account deficits, higher inflation rates, lower reserve volume, a poor currency scenario and a breakable economy put Pakistan in a very difficult to face the world financial collapses. Struggles were made to fall of the macro economic situation by demand the administration consisting tightening of monetary and fiscal policy procedure.

Pakistan capable to borrow outstanding constrained and bond flow is always high. The world economic crisis means that non-official foreigner capital spread maybe more expendable. The contamination influence on country own banking sector would be subunits, hence more pressure analysis recommends that the commercial bank area as overall it was likely to resist the fluctuations. It was majorly due to the recovered health of the financial section based on previous innovations. The world financial crisis disadvantaged Pakistani economic expansion to a higher-level extent. Failing foreigner exchanging reserve level due to the volume of balancing payments collapse examined Govt, foreign investment goes down side in millions of amounts in session of 2008 to 2009. The world economic crisis has also widened the Trade Gap in Pakistan as Trade collapse increased 12.8% in GDP ratio.

In November 2008, to avoid a defaulting on foreigner level amount of debt payments, Pakistan established a well-managed program, such as required by the IMF. In 2007 to 2008 the fast increase in oil prices and food sector commodity prices has led to firstly increasing huge level economic instabilities in Pakistani culture.

Pakistan macroeconomic determinants examined very weak performance as gross domestic product expansion level of economic situation in which stable conditions and putting financial position on the right track. The world economic crisis has bringing the focus among various problems. Crisis has revealed that requirement for knowledge about economy. IMF requires a knowledge and information about the various betterment related to economic structure of the globe.

In achievement of the requirement of financial and economic integration banking system and finance level of the Pakistan initiated to be section of the world economical market. Therefore, the influence and fluctuations of the globally financial short falls were also examined with the help of strictness were can not be predicted in the well managed countries regarding to financial stability.

Immediate shocks were as under:

- Maximum deposits of amount in the shape of local banking account such as foreign exchange of account.
- Capital flight in the form of foreigner level currencies.
- Banking system having a full strong expertise in shape of liquidity and credit crisis.
- Fall down in stock exchange to its deepest level after the maximum year data growth and stability.
- Expansion of interest rate for specific purpose of credit reduction.
- Banks were in panic to retain assurance of stake holders either presented high rate to activate deposits for maintenance of books.
- Profit segment of the banks was significantly influenced.
- Performance of the banking system and investors stock was deliberately minimized considerably.
- Growth of bad loans.

- To manage and avoid further instability of the currency market therefore SBP interlinked with some special steps:
- Currency market consist of 20 to 100 dollars in millions of currency market scenario.
- Liquidity requirements were minimized and cash reserve standards from 34 to 30 percent amount.

The influence of the globally lower progress has also been transmitted via the trading balance, with a lower speed in global requirement and fall down in commodity prices having vary of influences. These effects are examined in below:

The operational environment of the financial division knowledgeable as significant decline in the year of 2007 to 2008, due to the convergence of determinants emanating by the both domestic and international financial position and financial establishment. During the domestic environment were examined by weaken higher level economic measures and the instability caused through the prolonged time frame of political transition, the global economic collapses and the pricing of the commodities go up had a response influence on the financial sector by the real sector of the economy.

In the previous few decades Pakistan economic measures go higher side those are in part of heavy reliance on external debt finance and on expansionary fiscal standard, during revenue and savings continued stagnant.

Belief on external financing left the economy exposed to external shocks, which came in 2007 to 2008 and control to the amount of payable balancing crisis. To minimize the economy vulnerability, expanding domestic revenue mobilization could be important.

The word bank is organized from European and extracted from Italian word BANCO. The word BANCO shows the counter or table. Banks are the finance and economic institutions which deal with credit and money. Pakistan finance and economic segment consisted on regularized commercial banks which include national level, private and foreign banks linked with non-banking financial organizations that involves the establishment finance division, leasing firms, investment banks, real estate financial firms and modarabas.

Banking sector in Pakistan has grown amazing success and mostly work hard also just harder to retain extraordinary successes. A depth explanation of the historical view banking industry in our country is:

In the started days after independence of 1947, SBP was established in 1948. State Bank of Pakistan was principally directed to loan commercial banking channel and sustain monetary reliability so that commerce and business might flourish in the initially created state. However, mostly commercial banks were the ones whose started their operations with the provision of the SBP central bank.

Conventional banking sector growing positively in Pakistan till 1974, under the country policy, the administration acquires over some banks and merged into six national banks. To evaluate national level finance institution, the Pakistan banking council was creating to reducing the State Bank role as a supervisor. These procedures were intended to enhance controlling over the arranged firms.

Moreover, financial area broadcast to serve majorly massive corporate business, political and government level. All the financial organizations concerned with the billions amount of dollars as bad loans. Banks were basically not a supervisor of their objectives while this time period.

The nationalization act was revised and 23 banks were developed. Nationalized banks examined a very weak performance due to internal goods and services that resulted into the private banking sector in 1992. MCB was denationalized in 1991 and the major ownership of Allied Bank was transfer to this management by 1993. By 1997, there were some major domestic banks but now they had to face competition from 21 Pakistani banks and 27 international banks. Additionally, significantly achieved interest rates were modernized, bank wise credit maxima detached and a procedure of auctioning management protections was recognized, convincing the administration to borrow at market unbendable rate.

The State Bank of Pakistan supervision authority was re-established alterations to the banking post components in recovery of bad loans were rationalized in 2001. Maintained through the life of liberalization, the landscape of the area has altered significantly. However, five public commercial banks by 2010 and 25 domestic commercial banks, 6 overseas banks and four special banks. Therefore, initially some banks having a active branches in all over the Pakistan, supplying to the demands of some 28 million credit account holders.

Therefore, two banking structures that occur in Pakistan namely Islamic banking and commercial banking. The Islamic banking and conventional banking is separated on the basis of objectives, Riba and risk sharing techniques. Islamic banks tracking the principles of Sharia'h shown by Allah almighty during private banks follows man created SOPs, Islamic banking makes income as profits that is variable during conventional banking earns from the interest that is fixed, challenge are transfer between lender, borrower and banking of Islamic system is trading oriented unit during commercial banking works as a right financial intermediary in which finalize a foundation of interest.

The numbers of scheduled banks operating in Pakistan were 34 at end June 2019 out of which 29 are Pakistani banks and 05 are foreign banks. There are 20 domestic private banks while 09 banks are government owned banks in Pakistan. The government owned banks are sub-categorized as commercial banks and specialized banks. There are 04 banks which are specialized schedule banks while 05 banks are commercial in nature. In Pakistan there are also 14 micro finance banks and 10 developments financial institutions are operating. In Pakistan banking firm's ordinance could be apply and ordinance could be flow out on overall in Pakistan comes from the power. The provisions of sections six to section 94 of financial institutions firm's ordinance explain the monetary and credit policy of state bank of Pakistan that impose on commercial banks ordinance 1962.

1.2 Problem Statement

The financial crisis in the world was a major source of change in the bank's profitability for Pakistani banking industry. So, it is desirable to investigate whether global financial crisis significantly affected the profitability in Pakistani banking industry or not. Market environment linked to the attraction of the general market in which a business operates. Market situations tend to influence business units, although their capacity to take benefit or reply to changes in market requirements will vary. Global Financial Crisis had thoughtful consequences on profitability. Financial crisis lead to liquidity challenges in the banking sector. Pakistan also grieved from financial collapse as gross domestic product, growth rate decreases and it is additional point to economic uncertainty use to global financial crisis. This investigation anticipates analyzing the linkage between banks specific variables and profitability with moderating role of global financial crisis.

1.3 Significance of Study

The present investigation examines influence of bank specific variables on profitability with moderating role of world financial crisis. Based on the data of Pakistani banking industry our study will provide the evidence about the profitability influenced by the bank specific variables linked with the unit price of labor, per unit pricing of loanable funds, unit price of fixed assets about world economic financial crisis.

The investigation is to addressing a study: impact of bank specific variables on banks profitability: moderating role of global financial crisis. The major objective of this study is to perform an empirical evidence of the banks specific variables on profitability in the Pakistani banking industry with moderating role of global financial crisis.

1.4 Research Question

Question 1:

What is the impact of bank specific variables on banks profitability?

Question 2:

What is the impact of global financial crisis on banks profitability?

1.5 Research Objective

Objective 1:

To determine the impact of bank specific variables on banks profitability.

Objective 2:

To determine the impact of global financial crisis on banks profitability.

1.6 Plan of Study

The present study includes 5 chapters. First chapter consisted on introduction and second chapter consisted on literature review. Third and fourth chapter contain methodology, results and discussions respectively. Chapter five contains conclusions and policy implications.

Chapter 2

Literature Review

First, we explore to fulfil a void in the study literature by providing a comparative analysis of profitability prevailing in the Pakistani banking system of banks sector with effect to global financial crisis. In this study of Dr Umer Chapra (2008), subject related objective reported that the new global financial short fall is dangerous than the great depression of 1929. He additionally explored that more income means extra investing and high leverage is the just specific bases such as ads in excessive investing and resultantly causes an artificial boom in assets prices.
Subsequently, agree to increase in hypothetical investment and consumption pattern. However, different kinds of higher leverage is more hard to calm down and like malicious series of selling finally ends to unexpected fall in prices which eventually consequences in financial crisis.
In the study of Amjad (2010), has find out the valid result on financial crisis globally and this study shows the Pakistan was facing the acute macro level imbalances at the onset of globally financial collapse. The international finance sector crisis deeply explored that macro level economic situation of the Pakistan.
World Bank, 40% number of developing economies are extensively showing the unemployed influence with reason of World financial collapse. World economic crisis outcome in liquidity issues and financial organizations waste their trillion of amount in shape of US currency.
World financial fall down had a simple influence on financial paradigm of any developed and developing nations. Economical world level crisis created from subprime

mortgage collapse in the year of 2008 and frequently outcome in financial turn of oil market all over the globe. Experienced in economical institution battered resulting in fall of huge financial organizations and banking sector. UK economical organizations all over the world lose their 2.8 trillion dollars. Referred by: IMF World Economic Outlook, April 2011.

Main challenge of World economic crisis which have been highlighted are raise in assets rates, credit expansions and default of the regulatory agencies.

Before happing the economical world crisis real estate prices raised extensively in US. Expansion in real estate lands rates was also look in other established nations such in UK and Ireland.

Credit booms were also the outcome of different collapse such as took place before financial crisis in the 2008. Long term session and relatively great sized of credit expansion outcome in financial crisis soon. Credit expansion attended by high leverage of borrowers fuel like financial crisis. Crisis shows that controlling agencies were incapable to predict economic turmoil. This controlling body examined the absence of interest rate. Regulating bodies responsible for oversight miscalculated the collapse. Subprime mortgage collapse lead to other established financial system nations in the globe as advance financial conditions and had direct contact to subprime future economic benefit items and United State financial markets. Few other networks of flowing the crisis are mentioned here.

A fast reduction was proven that economical growing rate regarding to the study taken as exports decreased value of reserves touch the 7 to 8.4 percent of total GDP amount correspondingly in the year of 2008. Workers' remittances also came down from foreign countries and now Pakistan lost 3 million jobs in various fields of economic measures. Study also examines the vital role of fluctuation exist in Pakistan.

Under developing countries who's facing the finance related issues such as portfolio investment foreign direct investors and fiancé come from other countries in shape of remittances came down like outcome of any financial crisis study by (Te Velde et al., 2008) predictions about the fall of financial resources in emerging economies need to be address.

One reason who has been miss lead by different scholars presenting to the global financial crisis is the discrimination. Well managed financial position nations have diverse focus among saving their financial structure during emerging countries are under load of unemployment and macroeconomic uncertainty.

Countries whose hold lower income position such these already in poor conditions, they are facing a rising unemployment, lower financial growth, decreasing in exports and low down in remittances. Some the main determinants were common in both in well established and emerging economical nations are contradictions in exports, raise in commodity prices and fall in foreign investment and also in exports.

According to the study of Hellmann, Murdock, & Stiglitz, (2000), well developed a theory base research model that examined a comparison of banking industry in which bank encourage other banks to appeal clients by providing them higher interest rates on individual bank account balances. These consequences are the high concentration and lower comparison in banking institutions control to the higher stability as great level of profitability act such as cushion against fragility. The requirement to safe the franchise reputation in which offers banks with handsome incentives against excessive risk taking (Hellmann et al., 2000).

According to the investigation of Ashcraft & Schuermann, (2008), determines the primary objective of the international economic crisis was the procedure of collateralization in close to the 75% of subprime in shape of mortgage loans were directly relate with the securitization. Financial securities play a vital role in securities selling business with corresponding of the subprime loans at particular compartment of CDOs collateralized responsibilities.

Lowenstein, (2008) studied about the State Bank of country and other regulators whose permission the recovery of financial crisis in which they fail to exhibit economical control even overview the previous expertise like a clear warning sign and advise to shows that financial standards to avoid recurrence of same collapse in which cannot output as best lesson. It was the surprise requirement to recognize such as advance threat signals for well managed administration of financial securities in addition to safety rather than permitted to upgrade these unsecure businesses.

Blank ben burg and Gabriel, (2009) have described that start of financial crisis and few motives are the main source of crisis. The study examines that economical finance level assets have increased significantly. These sources also show that outstanding debt of United State financial area related has increased from 20% gross domestic product in 1980 to closing the debt amount at larger scale of United State financial sector has shown as one trillion dollars. According to this study IMF reports that global financial condition will slow down in future. It also examines that labor organization has explored the thirty million have lost their jobs.

A stressed global economic environment has held back from the world foreigner investment as it examined a reduction of 47.5% while some months in duration of 2008 to 2009 comparison to the corresponding period of the past some era. Several Asian economies having a witnessed an anticipated down in labor foreign receipts as workless grow up in advance level host economies. Therefore, workers foreign receipts in Pakistan as developing economy remained vigorous and unaffected with the collapse, overall, $6.36 billionagainst 5.32$ billion in the consistent period past year a rise of 19.5%.

A rapid expansion in globally international commodity prices cause higher requirement on Pakistan external level while 2007 to 2008, with the current account widening significantly.

The global challenge has extracted Pakistan strength to adopt global debt amount in capital markets to increase funds. Pakistan presence in the international capital markets during the 2008 to 2009 were restricted to the repayment of European bond amounting to 500 dollars in million make in 2009 with no initial offer at the backdrop of economic collapse overcoming in future of international markets.

Therefore, commercial banking sector of Pakistan remain unaffected through the dangerous influence of the world financial crisis owing to their strict techniques of credit and banking innovations of the past two decades. Moreover, no any other bank and finance level institution in Pakistan fall down but the collapse did exert noticeable influence on the financial profitability patterns and operational techniques of the commercial banking system of Pakistan.

The Pakistan weakness has been characterized through the World Bank as following conditions such as:
Letdown to increase profits in future would further strengthen Pakistan vulnerability to external fluctuation and jeopardize development efforts through restricted resources available for planned investments in human and physical infrastructure.
Crotty (2009), has been explained the reasons of world financial crisis happened. In this study description of crisis shows that very poor condition of financial stability and very special depression like 1930. Moreover, Crotty (2009), describes the financial instability initiated from the 1970 and the new evaluation of financial market inclusion.
In this study shows reason of economical finance level market and the government is responsible for this financial crisis. According to this research article regulatory bodies announces the bailout package for the all financial institutes in recommendation of curtail crisis and frequently bailout package that shows outcome in shape of expansion of financial markets. Financial markets are creating the higher and greater hence on the bailout dimensions. The article moreover discusses the well managed structure of drawbacks in our financial system such these are recognized to be exploring cause of financial and economic crisis. At the completion, this study recommends that enormous expansion of economical markets would be important and divers as standard about the financial assets those are very large as compare to real economic measures cannot create cash flows in which financial economic assets.
According to the valid study of Taylor (2008), has shown in the whole reason of economical financial crisis on the of loose monetary policy of federal reserve's to explore the financial crisis in the world. However, in this study the govt, should take action against the extended the world economic crisis.
It also examines the help to specific financial organizations by the decision of govt, for detail investigation regarding to the world financial crisis. This study shows that global financial structure in which these types of challenges discussed. The past research focus on the policy interest rate would be taken on real track. According to research of Claessens Degryse and Ongena, (2012), have been described

the procedure of implications from the international finance level crisis. The investigation taken out as depicts the emergence of globally financial collapse.
Moreover, it tries to describe the crisis with prospective related to the world level association. It examines that crisis flourished with international relationship. It also examines that country that's directly linked with the US by business and other platforms were the one which were greatly influenced.
Economic growth is not maintainable which creates banks deserted to the business cycle variation. Strength policies will carry on being critical so as to maintain the stable balance among industry fascination and competitor. Commercial banking institutes proactively examining the new trade models in which branchless banking system (Khalabat, 2011).
The banking system of any country perform as a life blood of modern trading in world and commerce to offer them with main reference of finance. The increasing phenomenon of globalization has created the concept of effectiveness more significant in both for the no financial and financial organizations and banks are the part of them. Banks were mostly depends on competitive marketing technique in which factors their success and growth. The modalities of the banking transaction have innovated a portion in the new era comparison of the new sources used in the year bygone (Shar, Shah, & Jamali, 2010).
The present investigation also explores the crisis become tough due to the new financial instruments and intermediaries and internal relationships. As described in this investigation and Europe level banks and directly exposure to United State assets and therefore the issues confront by the United State banking system in depth dropped away from the Europe based banking system.
Different econometric and regression findings has been attempted in this study mean and standard deviation test run as performing indicators whose shows the investigation about the severity of profit, loss and variation in the average growing level in which explanation of group 1 countries like USA, Ireland, Iceland, Estonia and Latvia whose suffered the higher level with reason of financial crisis. The study has also explored the drawbacks with the traditionally macro level economic measures regarding to best policy. The study in findings mostly focuses on the

requirement for coordination between high level economic decisions and regulatory body's policy adjustment.

The present investigation contains and recommends, scholars mostly suggest the development policy about the technical advancement, human resource development and exports of country diversifications would be extracted for managing the world financial crisis.

Usman (2010), study has also determined the financial crisis in global trend in which identification of its influence on Pakistan economy. The study describes the consequences of the world economic crisis. According to the investigation of international trending which directed to the crisis of inflation rate, business, higher commodity prices and unemployment? Study mostly rated on banking system of England analysis and showed that international financial companies engage in loss of 2.8 trillion dollars.

According to the study of Usman (2010) has also described global financial collapse influence on emerging countries. Some of the comparable influence on economies of established nations with contains of poor export level revenues, low investment, unemployment, current account and payable balances issues. Social influence of verified are rose in poverty and more criminal activities. Research work shows the results that stricken monetary policy should be pursued. It examined that cross would be become in expenditure and public sector establishment programs maybe initiated. It also examines the Government should be clarify public and privatization partnership which would raise economic growth.

The comparison and stable position argument assets that higher concentration in banking systems outcomes in more risk taking by the banks (Beck, 2008). According to the Boyd and De Nicolo (2005), suggestion that the viewpoint of market power increasing the income level and therefore, stability removes the potential influence of banks markets power on company attitude.

Arping (2014), explores a framework in which competition creates banking system are additional unwilling to take on extreme risk. The scholar examines the competition of intensifies and marginal decrease, banking system facing the higher challenges then they going toward failure. They reply to such possibilities through minimizing their risk-taking option.

The various literature investigations includes that banking system operates in unchallenged competitive situations (Cheng, Gutierrez, Mahajan, Shachmurove, & Shahrokhi, 2007; Claessens & Laeven, 2005), during the Europe level banking system to be lower completive compare to the United State banking systems, with help of higher banks being a additional competitive compare to small level banks (Cheng et al., 2007).

Moreover, Clerides (2014) creating the use of Lerner and Boone indicators evaluates for a higher amount of the world economies, during (Beck, De Jonghe, & Schepens, 2013), also estimation about the Lerner indices across the numerous countries. In the raise of market concentration was examined to be linked with the greater prices and higher the comparison of normal profitability (Bain, 1951). According to the study of Ho and Saunders (1981), shown as a banking system dealer as a requirement of deposits and supplier of loans. Regarding to this investigation banking system interest margin depending on the four factors:

- The degree of banks management risk aversion.
- Market system of the industry.
- Average size of the banking transaction policy.
- The variance of the interest rate system.

The scholars also make the point that several of limitations and supervisory restrictions have an influence upon the flows. They think that the chances of loan evasions and opportunity cost of keeping the compulsory assets as more factors in which effect the spread flows by these inclusions are not part of this research theory base model. According to the study of Evanoff and Fortier (1988); Smirlock (1985), maintaining the higher profit in concentrated markets could be the outcome of higher creative efficiency. According to the efficiency of hypothetical analysis there could be a diverse linkage between competition and efficiency, hence reversing the causality running from efficiency to the comparison in the exchange commission scenario.

According to the Berger (1995), found that specific prove of efficiency hypothetical relation holds in United State banking system. In European country, in another words structural determinants appear to be additional significance and the SCP theoretical appears to the hold on these type of relations study by (Goddard, Molyneux, & Wilson, 2004).

The non-structure basis techniques recommend that determinants other than the marketing the systems of and concentration maybe influence competitive attitude, like entry and exiting barriers and the major contestability of the marketing scenario study by (Baumol & Panzar, 1982; Bresnahan, 1989; J. Panzar & Rosse, 1977; J. C. Panzar & Rosse, 1987). After this study latter techniques have been established in the context of the newly empirical industrial organization literature. According to the study of Stiroh (2004), shows that banking system can minimize the cyclical fluctuations of profitability through transferring their total revenue among non-interest income depend less on major business environment. To study the either income distribution influence of banking efficiency levels, (Lozano-Vivas & Pasiouras, 2010), found that on average cost efficiency raises the non interest income is used such the output in the world best technique border specific research model.

As recommended by the study of Meslier, Tacneng, & Tarazi, (2014), higher competition in financial markets leads to banks raising the requirement to diversity. Bank systems with numerous diversification techniques could production of information that improves their borrowing amount making by such these activities as securities endorsing, brokerage and other trading services. Definitely, duties that create interest income hence production profit growth and delivering a best risk return trading off segment.

In the valid study of Philip Molyneux and Thornton (1992), determine the profit of banking sector on various countries. They took almost 18 Europe level data while the 1986-89 time period. They examine a significantly positive linkage with the return on equity with different level of interest rating, banking system concentration and Government ownership whiles the investigation. According to the investigation of Phil Molyneux and Forbes (1995), description of market structure and profitability in eighteen Europe level country adopted the study of four year while data consisting from 1986 to 89 with help of pooled regression data techniques.

However, results contain that antitrust or regulatory policy would be structured with innovating market scenario in order to the increasing level of competition and other one was quality of banking profitability. Rising in the concentration of banks marketing agencies should not be restricted by antitrust or administrated evaluations.

By the study of Asli Demirgüç-Kunt and Maksimovic (1998), recognized a bank size whose positively influence the linkage between size and profitability and therefore he explored that high funds could be easily fulfill their rigid capitals so that they have additional capital for denoting debt amount to the borrowers and hence raise their profitability and income level. Havrylchyk (2006), found that a significant and positive linkage in which capital influence the profitability of banking system. It suggests that a more efficient bank should have greater profitability from the ability of reduction and its net interest income level.

The various investigations have been examined the non interest income significantly and negatively influence the profitability of banking structure. In the study of Stiroh, (2004), determined that a negative linkage among the banking system diversification and performance measure in the economy of United State community banking systems. According to Similarly Mercieca, Schaeck and Wolfe (2007), examined that Europe level credit institutes from the period of 1997-03 and explored not directly diversification advantages but in compare to other diverse linkage between non interest profits and banking profitability.

In the study of Berger, Hasan and Zhou (2010), determined the unstable panel of 88 banks from china market from the period of 1996-06 and concluded that diversified outcomes in minimized profitability and greater cost of this scenario. Maudos (2017), determined that a increase in the price of shareholder value of non interest incomes having a negative influence on profit of banks. In the valid study of Miller and Noulas (1997), found that a negative association between credit risk and performance. It examines that whenever there is negative linkage between these determinants and hence identifies that higher risk associate with loans, greater the level of loans loss delivers their and makes a problem in the calculation of profit maximization validity of a banking system.

Bikker and Hu (2002); Asli Demirgüç-Kunt and Huizinga (2001), found that negative linkage between stock marketing capital flow and banking structure performance, it shows that equity and bank finance level department performs as alternatives of the complements. In case of the industrial specification determinants, the structural conducting system and performing measures premise point out that in which grow level of capital market power includes the performance of the banking system. As a right way of analysis Philip Molyneux & Thornton, (1992), highlighted the dominant profitability take out the main glances from the hostile market's structural platform.

In the focused study of L. Li and Zhang (2013), taking the Chinese banking structure data over the period 1986-08 and determined that an increase of non-interest profit has diversification advantages. According to the study of Hirtle (2007), examines that how the expansion of the banking size of the new branch every gender is go down in banks profitability.

Deng and Elyasiani (2008), found that geographical diversification is linked with the banks managing company improvement and risk reduction. Banking system efficiency has bringing as a multilevel determinant conceptually, such it has been explained wide range of previous literature. The real efficient policy of financial services companies and the techniques as taken the followed through all these firms widely attach with this information summarized in final statement of performance. Many researchers and practitioners have taken the data envelopment analysis to determine the profitability and activities of all banks from all over the world. Moreover, there existence of distinction about the choice between the factors of study utilized as internal or external view point scenario.

According to Chen and Yeh (1998), conducted the efficiency of thirty three in Taiwan and conducting the DEA techniques, they obtained a factors such as loan services, diversification investment, interest rate income level and non-interesting income such as output of banking in Taiwan during the many faculty members, bank asset size, total banks branches, operational costs and valid account holder amount in banks were used in the sense of input determinants in their investigations according to the Taiwan banking system.

In the planned study of Abreu and Mendes (2001), measured the factors of banks interest margins and performance of the Europe level country. They found that good managed banks facing the low position holding expected bankruptcy costs and these advantages interpretations into the best performance. However, with a negative mark in all regressions, the jobless rate of relevant in description of banks performance and inflation rate is also linked with it.

Ataullah, Cockerill and Le (2004), create a comparison of findings of commercial banking system in India and Pakistani banks while the data from 1988-98. They show that efficiency ratio in advance borrowing level research model was greater as comparison to the profit-based framework. These two-national country-based banks have been required of improvement in their efficiency performance measures.

In the relevant study of Burki and Niazi (2006), organized the influence of financial changes on the efficient system of state, private and foreigner banking system in Pakistan with use of data about 40 banks from the period duration of 1991 to 2000. They examined that some specific variables positively influence on dependent variables like impact of banking size, interest rate incomes and advance borrowing amount of bank on estimated figure of efficiency scores.

According to the scholar investigation in Nazir, (2012), explored that influence of world economic crisis of 2008 on the finance level banks profitability of the banking industry in Pakistani culture. Major purpose of this investigation was to evaluate the differ factors whose vary among the financial profitability of the banking system in Pakistan. The secondary data have been gathered from some valid survey and annual profitability reviews of SBP.

To extensively findings the data settings multiple regression outputs analysis has been employed in the investigations. It was examined that better quality of capital of banks was mostly significant factors of returns over asset price arranged by the bank size and solvency. The valuation of prepaid and postpaid collapse has applied main influences on the virtual capability of the financial profitability characteristics to elucidate and the variations in return over asset pricing.

It was determined in which lower asset quality and deposits have been diversely influenced the financial profitability of the banks area of Pakistan. On the other word's banks size, creditworthiness, advances, liquidity and the investments have been positively influencing of the financial profitability of the area of banking position in Pakistan. When leading the remoteness between the headquarters and franchises they found that a raised flaw is linked with the company value decline and risk expansion.

According to the study of Goetz (2012), organized that raised in geographical diversity minimized in assessments dependably with the opinion point that exogenous raise in difficulty allows corporate internal to abstract greater private renting system with diverse implementations on company value. As for banking profitability and diversification techniques while the economic crisis, with study of (Dietrich & Wanzenried, 2011), examines the banking system widely depending on the interest income level are less performance compare to additional diversified banks.

DeYoung and Torna (2013), recommend that non-traditional banking assessments had financially meaningful influences on the performance of bank defaults while the crisis. In the setting of the Asian banks structure, (Soedarmono, Machrouh, & Tarazi, 2013), shows that strengthen evidence that the Asian banks creates lower competitive after the 1997 collapse, initially reason of the rapid development of banking consolidation as well as the ratio of merger and acquisitions.

Jeon and Miller (2002), discussed Asian financial crisis spread and its effect across a number of countries. Korea faced serious issues in her financial and corporate sectors. His paper considers the performance of Korean countrywide banks before, during and right away after the Asian financial crisis. Several factors acquire strong correlations with bank performance.

Firdausy (2002) talk about the Indonesian financial predicament which turn into a great economic crisis, transformed the country from one of the world's fastest growing economies into one of its slowest growing economies. The economic crisis had a critically effects the Indonesian economic system, extensively the rise in unemployment.

Huang, Zhou and Zhu (2012) described in his study both the beginning of the financial crisis in 1998 and the striking economic recovery afterwards in Russia and other Former Soviet Union (FSU) economies. Before the crisis banks do not lend to the real sector of the economy and firms use non-bank finance, including trade credits and barter trade, to finance production.

Hayo and Kutan (2005), detail an account in his research work of the financial crisis that took place in Korea from the point of view of the Korean population using survey data collected in 1998 and 1999. Although both, interior and exterior factors were responsible as causes, domestic factors were considered to be of greater significance.

2.1 Supporting Theory

2.1.1 Agency Theory

Agency theory attempt in to focus the issues existing from the linkage among principals and managers. The agency theory shows the companies would make sure the what management are doing is harmony and what type of requirements of the investors has been erased (Mitnick, 2013). The separation of management from the owners shows that expert management is controlling industrial company on the suggestion of (Kiel & Nicholson, 2003).

The issues exist when the owners thought about the managers cannot work in their better interest of increasing profitability. The agency theory investigates and resolves issues among the principals and their brokers mean top management. The perceptions adopted by the agency theory is shows the maximization of wealth of owners is the basic contribution in the financial institution (Mulili & Wong, 2011). The agency is a linkage between the principal and agents such as these acts on behalf of and for the mutual interest of the owners and for its actions the agency taken as a positive award (Suwardjono, 2005). In running the institution operations, management whose offer do not maximization of shareholders capital strengths in which tempted to improve their own wellbeing. This situation will control to the development of changes in interests among the outside shareholders and management internally.

The issue raised by the separation among the ownership and manger characteristics in financial theory is shown the agency conflict. With help of agency issues and problems raised from the conflict of interest and knowledge of asymmetric behavior, the institution must face this cost of agency theory. Agency cost is a cost value incurred as a consequence of the provision of a right deliver by shareholders to the next party who bring out the managers of the firm for the interest of the institution in which protection as well as the interest of owners and shareholders. Minimization in the interest on the valuation of taxable profits and income will decline the proportion of the tax burden so the proportion of net income after the taxes in any company become higher due to the management of profitability level. The investigation linked with the capital structure by (Christianti, 2006), examined that dissimilar interest among the external and internal controlling to the agency cost compare to the management lead to take higher debt is not based on the maximization of firm value but for their own facility interests.

In the active study of Hardiyanti (2012), an evaluating technique taken for the managerial ownerships factor always in percent of shareholder managed by board of directors and commissioners. In the above literature description, it would be determined that management ownership is the percentage of shareholder owns by a firm's management and board of directors.

Jensen and Meckling (1976), have explained the various prospective of agency issues. They examined the agency problem and issues created by the management has lower shares that the firm's total volume. The partial ownership maybe consequences in management lack of work enthusiasm and just additional need of more awards in the shape of luxurious office setup and office furnishing equipment's, vehicles services instead of keeping to face all the charges for it (Rustendi & Jimmi, 2008).

Mitnick (2013), these are the researchers whose first propose the agency theoretical concept and in the sense of economical theory of agency Ross is responsible and other one Mitnick shows the interest in institutional agency theoretical concept, therefore, basic concept primary explain these techniques are similar. Subsequently, approaches could be perceived like consisting to everyone and other techniques such as predictions under the diverse conventions.

The initial assumption in this theory principal sake of earning maybe different from the agent and hence reason of conflicts such these requirements going towards the solution. However, the proprietors are called as principals and the management treaded like agent (Mulili & Wong, 2011). The management activity is to perform owner interests and be independent of the manager role and the single entity of management from the owner perspective it means the mangers will control the all procedures of the company on sake of the owner's mutual interest (Kiel & Nicholson, 2003).

Agency theory examines the solution of problem and issues among the principals with its agents. Problems begin from the company when agent don't get responsibility of their decisions except, they manage goods in the company (Wheelen & Hunger, 2002). Basic threats can be examined from the principal when agency theory is in practical phase so innovation in the interests and the costing of the principals keeps to pay a well-managed interest of management with their agents and other mutual interested parties (Waller, 2004).

Knowledge management is setting a very significant today's and collecting and managing it is a major issue. The managers have all the information about the procedure in the institution and its finances in agreement to the principals who are imperfect information. Owners have no grip on the information from directly so they get the information such it is obtained by the managers (Nan, 2008).

Minimum level of orders requirement has its roots in Maslow's hierarchy of needs and hierarchy of needs theoretical concepts were put forward by the Abraham Maslow in his 1943. The managers in the owners and agent theory having an economical requirement, they are additional concern on the physical need. Managers try to acquire their objectives and want to take more monetary advantages. Managers should need to compile of their job securing through the help of principles (Davis, Schoorman, & Donaldson, 1997). In the concept of trade off balances between incentives and risks to help principal and managers sake of interest and agency theoretical concept always focused and reward contract basis (Stringer, Didham, & Theivananthampillai, 2011).

Agency theory concerns on extrinsic rewards those are tangible, bargaining in the supplies in which accountable for market value. Extrinsic incentives from the foundation of any other prize structure that symptoms of the management of determinants of agency theory (Davis et al., 1997). Agency theory focuses on extrinsic prize that are build and assessable (Merchant, Van der Stede, & Zheng, 2003). Assessments are compensating and penalized its mean registered employees' movements, hardworking and performance outcome performance (Jensen, Murphy, & Wruck, 2004) and therefore payment is an effect of management to influence motivation. Individualism is characterized like a focusing of individual objective on all group objectives.

Hofstede (1980), explain that country could be determined on the foundation of individualism collectivism determinants. Individual behavior is short term concerned with no individual linkage involve in the business. They manage cost benefit analysis to measure the performance of the business and keeping a decision regarding to the reducing the risk. Individual traditions shows to assist agency associations with banking performance (Davis et al., 1997).

Individual level program about the preference of distinct freedom and option, in tradition with resilient individual rule, social links identify themselves generally as single actors. In company level setting, eccentric rules have been linked to the inclinations for particular perception making over the cluster contract (Hofstede, 1980). Social linkage and group level associations are extensively marked as linked to the collectivist culture (J. Li & Harrison, 2008).

The level in which low power of management in nay organization within a nation predict and agree to the unbalance division of power (Hofstede, 1980). In traditions where power distance is higher, there low power of individuals is depending on people having great potential. In higher level power distance, organization are under one umbrella and they have wide range difference in authority, salary and rights among all these are at the high position and all were in bottom side.

There is establishment of hierarchies of line of supervisors. In the study of (Hofstede, 1980). These determinants are explained by Hofstede is same as perceptions are regarding to the self-serving agent explained in agency theory (Davis et al., 1997).

In the study of Amjad (2010), has find out the valid result on financial crisis globally and this study shows the Pakistan was facing the acute macro level imbalances at the onset of globally financial collapse. The international finance sector crisis deeply explored that macro level economic situation of the Pakistan.

A fast reduction was proven that economical growing rate regarding to the study taken as exports decreased value of reserves touch the 7 to 8.4 percent of total GDP amount correspondingly in the year of 2008. Workers' remittances also came down from foreign countries and now Pakistan lost 3 million jobs in various fields of economic measures. Study also examines the vital role of fluctuation exist in Pakistan.

In study of Hellmann, Murdock, & Stiglitz, (2000), well developed a theory base research model that examined a comparison of banking industry in which bank encourage other banks to appeal clients by providing them higher interest rates on individual bank account balances. These consequences are the high concentration and lower comparison in banking institutions control to the higher stability as great level of profitability act such as cushion against fragility. The requirement to safe the franchise reputation in which offers banks with handsome incentives against excessive risk taking (Hellmann et al., 2000).

According to the investigation of Ashcraft & Schuermann, (2008), determines the primary objective of the international economic crisis was the procedure of collateralization in close to the 75% of subprime in shape of mortgage loans were directly relate with the securitization. Financial securities play a vital role in securities selling business with corresponding of the subprime loans at particular compartment of CDOs collateralized responsibilities.

According to the study of Nisar, Wang, Ahmed, & Peng, (2015) examined that non-performing loans significantly influence the bank profitability with the measure of return on assets. In this study return on assets positively influenced by non-performing loans. Before the crisis of 2007-08, bank profitability highly significant but after this crisis profitability insignificantly influenced by the some factors.

Social influence of verified are rose in poverty and more criminal activities. Research work shows the results that stricken monetary policy should be pursued. It examined that cross would be become in expenditure and public sector establishment programs maybe initiated. It also examines the Government should be clarify public and privatization partnership which would raise economic growth.

The comparison and stable position argument assets that higher concentration in banking systems outcomes in more risk taking by the banks (Beck, 2008).

According to the Boyd and De Nicolo (2005), suggestion that the viewpoint of market power increasing the income level and therefore, stability removes the potential influence of banks markets power on company attitude.

According to Arping (2014), explores a framework in which competition creates banking system are additional unwilling to take on extreme risk. The scholar examines the competition of intensifies and marginal decrease, banking system facing the higher challenges then they going toward failure. They reply to such possibilities through minimizing their risk-taking option.

The numerous literature investigations includes that banking system operates in unchallenged competitive situations (Cheng, Gutierrez, Mahajan, Shachmurove, & Shahrokhi, 2007; Claessens & Laeven, 2005), during the Europe level banking system to be lower completive compare to the United State banking systems, with help of higher banks being a additional competitive compare to small level banks (Cheng et al., 2007).

However, Clerides (2014) creating the use of Lerner and Boone indicators evaluates for a higher amount of the world economies, during (Beck, De Jonghe, & Schepens, 2013), also estimation about the Lerner indices across the numerous countries. In the raise of market concentration was examined to be linked with the greater prices and higher the comparison of normal profitability (Bain, 1951).

2.2 Hypotheses

H_1: Bank specific variables have significant impact on banks profitability.

H_2: Global financial crisis has significant impact on banks profitability.

Chapter 3

Research Methodology

3.1 Data Description

This chapter of the study presents the data collection mechanism. Data description and methodology used in this study to explain the different model and tests used for this study and analysis population, sample and source of data which includes for this study. To check the impact, this study considered the banking sector of Pakistan from the time period 2006 to 2016.

Initially, sample was covered of 49 banks. Study skipped 15 banks from the data because of non-availability of complete data. Study concluded dataset consists of 34 banks from Pakistan from 2006-2016.

The study methods are to capture the influence of independent variables (unit price of labor, unit price of loan able funds, unit price of fixed assets, advances and income diversification) on dependent variables (Return on assets and Total Revenue) of Pakistani banks.

3.1.1 Population

The target population of the research consists on banking sector of Pakistan. In this section all the Islamic, conventional, foreign and public holding banks.

Table 3.1: Classification of Population

Sr.No	Bank	Years
1	Allied Bank Limited	2006-2016
2	Albaraka Bank (Pakistan) Limited	2006-2016
3	Askari Bank Limited	2006-2016
4	Bank Al-Falah Limited	2006-2016
5	Bank Al-Habib Limited	2006-2016
6	Bank Islami Pakistan Limited	2006-2016
7	Barclays Bank Limited	2006-2016
8	Burj Bank Ltd	2006-2016
9	Citi Bank N.A	2006-2013
10	Dubai Islamic Bank	2006-2016
11	Duetsche Bank	2006-2016
12	Faysal Bank Ltd	2006-2016
13	First Women Bank Ltd	2006-2016
14	Habib Bank Limited	2006-2016
15	Habib Metropolitan Bank Ltd	2006-2016
16	Industrial Development Bank	2006-2016

Continued Table: 3.1

17	JS Bank Ltd	2006-2016
18	KASB Bank Ltd	2006-2016
19	Meezan Bank Ltd	2006-2016
20	MCB Bank Ltd	2006-2016
21	National Bank of Pakistan	2006-2016
22	NIB Bank Ltd	2006-2016
23	Punjab Provincial Cooperative Bank Ltd	2006-2016
24	Samba Bank Ltd	2006-2016
25	Silk Bank Ltd	2008-2014
26	Sindh Bank Ltd	2006-2016
27	SME Bank Ltd	2006-2016
28	Soneri Bank Ltd	2006-2016
29	Standard Chartered Bank Pakistan Ltd	2006-2016
30	Summit Bank Ltd	2006-2016
31	The Bank of Punjab	2006-2016
32	The Bank of Khyber Limited	2006-2016
33	United Bank Limited	2006-2016
34	Zarai Tarakiati Bank Limited	2006-2016

3.1.2 Sample Size

Sample size of the study were 34 banks from the different types of banking sector such as Islamic, public, foreign and private commercial banking divisions. Sample size should be the representative of population. Sample size for this study includes data of those banks which provide complete information related to this study. The collection of samples is decided on the basis of the availability of data. Finally, in this study 34 banks are selected from the Pakistani banking institutions operating from the 2006 to 2016.

Table 3.2: Division by Section

Sr.No	Section	No. of Banks
1	Private Commercial banking institutions	17
2	Islamic Banking Institutions	5
3	Foreign Commercial Banking Institutions	3
4	Public Sector Commercial Banking Institutions	5
5	Specialized Banking Institutions	4
	Total	34

Panel data is included in this study and data is collected for Eleven (11) years from the year 2006 to 2016. The data includes 17 private commercial banks, 5 Islamic banks, 3 foreign banks, 5 public sector commercial banks and 4 specialized banks.

3.1.3 Sources of Data

The present investigation based on secondary data, which is already available and ready for use. Sources of secondary data include financial reports of banks, website of The State bank of Pakistan, The World bank.

3.1.4 Descriptive Statistics

Statistical behaviour of data is captured by using the descriptive statistics. Descriptive statistics includes mean which provide the average measures of data, median which divide the data setting into two equal segments and it is the mid value of data set, standard deviation provides the information that how much the management of data from its mean value. Mean and standard deviation must be used together if used separately both will be meaningless.

The descriptive statistics test shows summary of data that include average value of (mean), lower value in data sheet (minimum), higher value in data set (maximum) and measure of dispersion (standard deviation).

The mean value tells about average of data, standard deviation tells about spread and measure of dispersion in the value of the data from the mean in which values shows that how much data deviate from the average value of mean and mean has low due to the used as separately. Positive and negative flow of data captured by using the skewness and kurtosis infers linked with the flatness of data spread. By using these statistical figures, we capture the acute infers of study factors.

3.1.5 Correlation Analysis

Correlation analysis examined to check the strength of association among study variables. The present analytical tool also deals with the way of linkage between research variables. Correlation analysis among variables indicates positive and negative relationship among different variables. Its range lies from -1 to +1. Low correlation between two variables shows low chances of multicollinearity while high correlations between two variables indicate high chances of multicollinearity.

3.2 Econometric Model

3.2.1 Graphical Representation

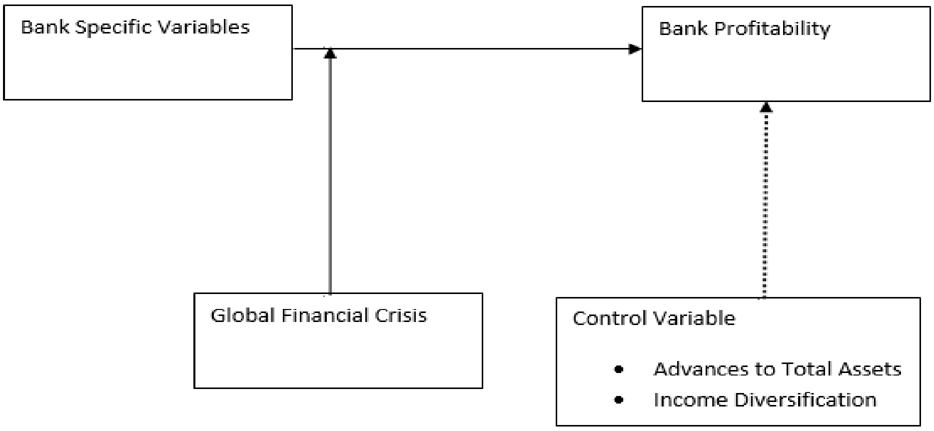

Figure 3.1: Research Model

3.2.2 Panel Data Analysis

Panel data set rely on both of time-series data and cross-sectional data.
When panel data have same series of time observations for each cross-section of variable it known as balanced panel. When series of time observations differs among cross sections the panel is known as unbalanced panel (Gujarati & Porter, 2003). During other data analysis techniques, whose consisting on time-series and cross-section data.
In time series, one or more determinants were analyzed on one observation unit within a specific time period. In the duration of cross-section data is the observation of various units of observation in a single time period. In this study three different models were tested in panel data analysis.

3.2.3 Common Effect Model

A panel data model approaches most simple because it combines only time series and cross section data. In the present research framework is not analyzed as time (t) and individual determinants, so it is assumed that the behavior of corporate data is the similar in numerous periods. In this tool use of Ordinary least square (OLS) tool or the least square techniques to measure the panel data model.

The form of panel data regression equation is similar to ordinary least square, i.e:

$$Y_{i,t} = \alpha_0 + \beta_i X_{it} + \varepsilon_{it}$$

Where:

Y representing the dependent variable

X representing the independent variables

The first step included is to test for profitability using the sum of input price resistances from the projected profit equation by taking Return on asset as dependent variable as a determinant of profitability. The year 2008 is viewed as the event year in which the global economic crisis occurred in the world.

The early three years, from the year 2006-08, are viewed as pre-crisis years while the later eight years, from 2009 to 2016, are viewed the post-crisis year. The post-crisis years are predictable to manage the supposed influence of the global financial crisis while association of pre-crisis years.

For this, study estimating the following two dynamic profit equations:

$$\mathrm{ROA}_{it} = \alpha_0 + \beta_1 UPL_{it} + \beta_2 UPLF_{it} + \beta_3 UPFA_{it} + \beta_4 ADVTA_{it} + \beta_5 DIV_{it}\varepsilon_{it} \ldots\ldots (3.1)$$

$$\mathrm{ROA}_{it} = \alpha_0 + \beta_1 UPL_{it} + \beta_2 UPLF_{it} + \beta_3 UPFA_{it} + \beta_4 UPL_{it} * (crisis)_t + \beta_5 UPLF_{it} * (crisis)_t + \beta_6 UPFA_{it} * (crisis)_t + \beta_7 ADVTA_{it} + \beta_8 DIV_{it} + \varepsilon_{it} \ldots\ldots (3.2)$$

The equation (1) provides the statistics for the whole study model for the period (2006-2016) then every input prices variable is interrelated with the dummy variables crisis to form the interaction variables in model (2) and to basic statistic for the pre- and post-crisis period.

For the pre- and the post-crisis periods shows the different states of market disequilibrium on the basis of the outcomes (Sunil Kumar & Rachita Gulati, 2018). The widely empirical outcomes validate the occurrence of long-run market disequilibrium in Indian banking industry over the study period from 1998/99 to 2015/16 (Sunil Kumar & Rachita Gulati, 2018).

After having established banks profitability, we projected Equation (3) and (4) for both interest-making assessment and overall banking activities by taking revenue as dependent variable.

$$\mathrm{R}_{it} = \alpha_0 + \beta_1 UPL_{it} + \beta_2 UPLF_{it} + \beta_3 UPFA_{it} + \beta_4 ADVTA_{it} + \beta_5 DIV_{it} \varepsilon_{it} \dots\dots (3.3)$$

$$= \alpha_0 + \beta_1 UPL_{it} + \beta_2 UPLF_{it} + \beta_3 UPFA_{it} + \beta_4 UPL_{it} * (crisis)_t + \beta_5 UPLF_{it} * (crisis)_t + \beta_6 UPFA_{it} * (crisis)_t + \beta_7 ADVTA_{it} + \beta_8 DIV_{it} + \varepsilon_{it} \dots\dots (3.4)$$

Where R = total bank revenue (Interest plus non- interest income)
Equation (3) is estimated for the whole study period (2006-2016) using the common effect model approach then each input prices variable is interrelated with the dummy variables crisis to form the interaction variables in model (4) and to derive equation for the pre- and post-crisis period.
Study of the Sunil Kumar & Rachita Gulati, (2018) concluded that the unit prices of labor and unit price of fixed assets are positively and significantly affecting the total revenue and interest income, during the influence of unit price of loanable capitals is significantly alternative side. As far as the bank-specific control variables are concerned, Ratio of loans to total assets seems to have a significantly positive effect on the bank revenue. As expected, the influence of income variation on total revenue is positive and significant. Moreover, the effect of income diversification on interest income is negative and insignificant.

3.2.4 Fixed Effect Model

The fixed effect model is differing from the common effect model, but still it uses the ordinary least square principal. Fixed effect model study the effect variables over the course of time. It is also recognized as first difference model. Fixed effect model examines that each variable may have any effect on other variable or not, or is there any relation between endogenous and exogenous variables. Every entity has its own features and characteristics so it's not necessary that every independent variable can influence dependent variable. For instances independent variables have influence on return on assets or not.

In the study of single entity fixed effect, model is not varying over the time. In fixed effect model Even, a single entity should not be correlated with properties or else fixed effect model will not be appropriate. Fixed effect model describes that intercept is different for all cross sections. Fixed effect model determines that changes between individuals (cross section) can be accommodated from different intercept. In order to calculate fixed effect model with different intercept between individuals and dummy variable technique was used.

The first step included is to test for profitability using the sum of input price resistances from the projected profit equation by taking Return on asset as dependent variable as a determinant of bank's profitability. The year 2008 is viewed as the event year in which the global economic crisis occurred in the world.

The early three years, from the year 2006-08, are viewed as pre-crisis years while the later eight years, from 2009 to 2016, are viewed the post-crisis year. The post-crisis years are predictable to manage the supposed influence of the global financial crisis while association of pre-crisis years.

For this, we estimated the following two dynamic profit equations:

$$\text{ROA}_{it} = \alpha_i + \beta_1 UPL_{it} + \beta_2 UPLF_{it} + \beta_3 UPFA_{it} + \beta_4 ADVTA_{it} + \beta_5 DIV_{it} \varepsilon_{it} \ldots\ldots (3.5)$$

$$\text{ROA}_{it} = \alpha_i + \beta_1 UPL_{it} + \beta_2 UPLF_{it} + \beta_3 UPFA_{it} + \beta_4 UPL_{it} * (crisis)_t + \beta_5 UPLF_{it} * (crisis)_t + \beta_6 UPFA_{it} * (crisis)_t + \beta_7 ADVTA_{it} + \beta_8 DIV_{it} + \varepsilon_{it} \ldots\ldots (3.6)$$

Where i denotes banks i = 1, 2. . .N; t denotes time t = 1, 2 . . . T;

The equation (1) provides the statistics for the whole study model for the period (2006-2016) then every input prices variable is interrelated with the dummy variables crisis to form the interaction variables in model (2) and to basic statistic for the pre- and post-crisis period.

Market is expected not to be in long term equilibrium which recommends that the hypothesis of long run equilibrium is rejected. For the pre- and the post-crisis periods shows the different states of market disequilibrium on the basis of the outcomes (Sunil Kumar & Rachita Gulati, 2018).

The widely empirical outcomes validate the occurrence of long-run market disequilibrium in Indian banking industry over the study period from 1998/99 to 2015/16 (Sunil Kumar & Rachita Gulati, 2018).

After having established banks profitability, we projected Equation (3) and (4) for both interest-making assessment and overall banking activities by taking revenue as dependent variable.

$$\mathrm{R}_{it} = \alpha_i + \beta_1 UPL_{it} + \beta_2 UPLF_{it} + \beta_3 UPFA_{it} + \beta_4 ADVTA_{it} + \beta_5 DIV_{it}\varepsilon_{it} \ldots\ldots \quad (3.7)$$

$$\mathrm{R}_{it} = \alpha_i + \beta_1 UPL_{it} + \beta_2 UPLF_{it} + \beta_3 UPFA_{it} + \beta_4 UPL_{it} * (crisis)_t + \beta_5 UPLF_{it} * (crisis)_t + \beta_6 UPFA_{it} * (crisis)_t + \beta_7 ADVTA_{it} + \beta_8 DIV_{it} + \varepsilon_{it} \ldots\ldots \quad (3.8)$$

Where R = total bank revenue (Interest plus non- interest income)

Equation (3) is estimated for the whole study period (2006-2016) using the fixed effect model approach then each input prices variable is interrelated with the dummy variables crisis to form the interaction variables in model (4) and to derive equation for the pre- and post-crisis period.

Study of the Sunil Kumar & Rachita Gulati, (2018) concluded that the unit prices of labor and unit price of fixed assets are positively and significantly affecting the total revenue and interest income, during the influence of unit price of loanable capitals is significantly alternative side. As far as the bank-specific control variables are concerned, Ratio of loans to total assets seems to have a significantly positive effect on the bank revenue. As expected, the influence of income variation on total revenue is positive and significant. Moreover, the effect of income diversification on interest income is negative and insignificant.

3.2.4.1 Redundant Likelihood Ratio Test

This test plays the role of decision maker between common effect analytical model and fixed effect model. If the F- stat and Chi-square of cross-section is less than

0.05 than fixed effect Model is used if P-value is insignificant than common coefficient model will apply.
Here,
Null hypothesis results show that: Common effect is more appropriate
Alternate hypothesis results show that: Fixed effect is more appropriate.

TABLE 3.3: Result of Likelihood Test Ratio

Effects Test	**Statistic**	**d.f.**	**Prob.**
Period F	3.89724	-10,141	0.0001
Period Chi-square	39.535	10	0

As the result of likelihood ratio (Chi-square =0.0001) indicates that a Null hypothesis is accepted which means fixed effect model is appropriate over simple least square model.

3.2.5 Random Effect Model

In the results of random effect model intercept considered as error term and it does not with the cross sections (banks). This model explains the variation among the different banks.
It offers following benefits.

- Random effect model has fewer parameters to estimate with comparison to fixed effect model.
- It provides the permission for additional independent variables with same number of observations.

General equation of random effect model:

$$\mathrm{Y}_{i,t} = \alpha_0 + \beta_1(X)_{1it} + \beta_2(X)_{kit} + (V + \mu_{it}) \dots\dots\dots\dots\dots \quad (3.9)$$

Where,
Y= is dependent variable like Return on assets, Total Revenue.

X= is the list of independent variables (Unit price of labor, Unit price of fixed assets and Unit price of loanable funds).

X (k)= explanatory variables are as (advances and income diversification).

i =represent different banks

t= shows the Time

u= represent error term.

3.2.6 Hausman Test

This test is used to choose between random effect model and fixed effect model. If the F stat. and Chi-square of cross-section is significant or less than 0.05 than fixed effect model is used. If p value is insignificant or higher than the range of 0.05 than random effect model is applied.

Here,

Null hypothesis: Random effect is more appropriate

Alternate hypothesis: Fixed effect is more appropriate

Table 3.4: Result of Hausman Test Ratio

Effects Test	**Statistic**	**d.f.**	**Prob.**
Period F	3.89724	-10,141	0.0001
Period Chi-square	39.535	10	0

In final result of Hausman test ratio (Chi-Sq = 0.0000) indicates that Null hypothesis is rejected which means another hypothesis is accepted which conclude that fixed effect model is appropriate over random effect model.

3.3 Measurement of Variables

The below table shows the measures of all independent, dependent and control variables.

Table 3.5: Description of Variables

Variables	Abbreviation	Measurement	Reference
Return on Assets	ROA	Profit after tax divided by total assets	Kumar et al.(2018), Chiorazzoet al. (2008)
Bank Revenue	R	Log of net income	Matousek et al.(2016), Chronopoul et al. (2011)
i- Interest Income, ii- Noninterest income			
Unit Price of labor (Wages)	UPL	Payments and provisions to employees divided by total employees	Beccali et al., 2006),
Unit Price of loan able funds (Interest rate)	UPLF	Interest paid on deposits and borrowings to total loan able funds	Badawi et al.(1964), San-toos et al.(2000)
Unit Price of fixed assets (Depreciation)	UPFA	Total operating expenses - personnel expenses/-fixed assets	Oluwa-seun Ariyibi et al.(2018)
Advances to total assets (Loans)	ADVTA	Ratio of loans to total assets	
Income diversification	DIV	1-(Net loans-Other earn-ing assets)/total earning assets	Laeven and Levine (2007),
		1-(net interest income-other operating in-come)/total operating income 2008	Abdul Latif Alhassan , (2015)
Dummy variable	CRISIS		

Chapter 4

Results and Findings

This chapter has two subsections. In first section, we discuss description analysis. It has two subsections, first one is descriptive statistics and the second one is correlation matrix. Second section shows the results of fixed effect model.

4.1 Descriptive Statistics

In the descriptive statistical **Table: 4.1**, explains behavior of data about all variables of the research model from the period of 2006 to 2016. Data behavior was studied to explore its accuracy before performing other statistical tests. Descriptive statistics shows the general behavior of the data, including the dependent, independent and control variables.

The descriptive statistics test shows summary of data that include average value (mean), lower value in the data (minimum), higher value in data (maximum) and measurement of dispersion (standard deviation).

The mean value tells about average of data, standard deviation tells about spread and measure of dispersion in the value of the data from the mean. Minimum and maximum tells about current series of data. Descriptive statistics are from the period of 2006 to 2016.

Table 4.1: Descriptive Statistics

	Mean	Median	Maximum	Minimum	Std.Dev.
ROA	0.011767	0.011101	0.037189	0.000202	0.007649
R	6.351815	6.446693	7.545327	3.907089	0.760201
UPL	7.438100	7.575500	9.418700	1.453400	1.213300
UPLF	0.093054	0.092105	0.186450	0.012156	0.032483
UPFA	1.049617	0.988610	1.967522	0.160673	0.396383
ADVTA	0.487161	0.505095	0.722355	0.248523	0.104552
DIV	0.621052	0.637012	0.999781	-1.713035	0.285005

Table: 4.1, explain the descriptive statistics of all variables. First of all the study has discuss the descriptive statistics of dependent variables (Return on assets and Total Revenue) which shows that Return on assets have an average return of (1.17%) during the period at average risk of (0.76%), the maximum return on asset during the study period is (3.71%) whereas minimum return on asset is (0.02%), return on assets has median return of (1.11%). Total bank Revenue shows that average bank revenue for the period is (6.35%) at average risk of (0.76%), Maximum bank revenue for the study period is (7.54%) and minimum bank revenue is (3.90%), known as lower minimum revenue incurred for the period.

Secondly, study has discussed the descriptive statistics of independent variables which contain (Unit price of Labor, Unit price of loanable funds and Unit price of fixed assets). Hence descriptive statistics shows that Average Unit price of Labor is (7.4381) which means average wages of labor is (74381 Rupees) per year with minimum price of labor is (14534 rupees) and maximum price of labor for the specific period is (94187 rupees), Unit price of labor deviated from its mean with the value of (1213 rupees).

Average Unit price of loanable funds is (0.0930*10000) with minimum price of (0.012156*10000) and maximum price of the loanable funds for the specific period is (0.1864*10000) at a risk of 3.24%. Unit price of fixed assets with the average price is (1.0496*10000) with minimum price of (0.1606*10000) and maximum price of fixed assets for the specific period is (1.9675*10000), Unit price of fixed assets deviated from its mean with the value of (0.3963*10000).

4.2 Correlation Analysis

To find out the co-linearity in the analysis, the study conducted the Pearson correlation test of independent variables. The analysis examines the direction of the association in the form of positive and negative between two variables, starting from the highest correlation +1 and the lowest correlation -1 between independent variables. The value of correlation zero its shows the no correlation exist among the variables and the value of correlation one means that there is perfect correlation exist between variables.

For every variable, direction of the relationship among variables is provided by the coefficient sign. An increase or decrease in the variables in the similar direction shows that coefficient is positive. But on the other hand if variables are increasing or decreasing in the opposite direction then there is a negative relationship. Correlation analysis explains the dependencies of different variables at a time.

Table 4.2: Correlation Analysis

	ROA	**R**	**UPL**	**UPLF**	**UPFA**	**ADVTA**
ROA	1					
R	0.685959	1				
UPL	-0.085176	0.267771	1			
UPLF	-0.332809	-0.110215	0.055336	1		
UPFA	-0.224973	0.023198	0.286252	0.194856	1	
ADVTA	-0.043634	-0.236336	0.088205	-0.504654	-0.17516	1
DIV	-0.110539	0.247327	0.173954	0.286069	0.319484	-0.103914

In **Table: 4.2**, the study has explained correlation analysis into four phases. Firstly, the study has discuss the relationship of Dependent variables on all other variables, thus correlation analysis indicates that Return on assets (ROA) with coefficient value 0.68 is positively linked with Total revenue (R) which direction of both variables move in the same direction.

Return on asset is not positively correlated with any other variable of the study and negatively correlated with unit price of labor, unit price of loanable funds, unit price of fixed assets, advances and income diversification with coefficient values (-0.08, -0.33, -0.22, -0.04, -0.11) respectively.

Revenue has positive relationship with Unit price of labor (0.26), unit price of fixed assets (0.02) and income diversification (0.24), while revenue has negative relationship with unit price of loanable funds (-0.11) and advances (-0.23).

Secondly, the study has explained the relationship of the independent variables with other variables, therefore the results explores that unit price of labor is positively related with unit price of loanable funds (0.05), unit price of fixed assets (0.28), advances (0.08) and income diversification (0.17) while unit price of labor is not negatively related with any other variable of the study.

Unit price of loanable funds is positively related with unit price of fixed assets (0.19) and income diversification (0.28), while unit price of loanable funds has negative relation with advances (-0.50). Unit price of fixed assets has positive relationship with income diversification (0.31) while negatively related with advances (-0.17).

Finally, the study has explained the relationship of control variables, As the results shows that advances has no positive relationship while result shows negatively relationship of advances with income diversification (-0.10).

4.3 Diagnostic Test

For panel data analysis it is compulsory to check which model is more appropriate in our study. There are two different tests on the basis of which appropriate model is selected either likelihood ratio test and redundant for hausman test.

To determine between common coefficient model and fixed effect model we applied fixed effect redundancy test and to determine between fixed effect and random effect model we applied hausman test.

4.4 Fixed Effect Model

Analysis includes independent variables Unit price of labor, Unit price of loanable funds, Unit price of fixed assets, advances and income diversification while dependent variable is Return on assets. F-statistics predict the effect of the whole model. R square shows that level of variation is explained in dependent variable due to independent variables.

Modification or adjustments in other factors are shown by the adjusted R^2 statistics is all about the appropriateness of the hypothesis.

Table: 4.3, explores the results of fixed effect model. Relationship between return on assets and Independent variables for whole study is explained in the table 4.3.

We perform the fixed effect model to ascertain whether the bank specific factor has impact on banks profitability or not. If the null hypothesis is rejected then it is assumed that the bank specific factor has impact on banks profitability.

Table 4.3: Results of Fixed Effect Model

Dependent Variable: Return on Assets				
Variable	**Coefficient**	**Std.Error**	**t-Statistic**	**Prob.**
C	0.04047	0.007793	5.192876	0.0000
UPL	-0.003306***	0.005406	-3.410317	0.0007
UPLF	-0.294308***	0.036335	-8.099754	0.0000
UPFA	0.004678*	0.002581	1.812201	0.0714
ADVTA	-0.022466*	0.011734	-1.914555	0.0569
DIV	0.006674*	0.003874	1.722568	0.0864
R-squared	0.64413			
Adjusted R-squared	0.498372			
F-statistic	7.5206			
Prob(F-statistic)	0.0000			

Note: The table depicts the results for linear panel data regression model with using the banks data and 11 years fixed effects. ROA is the dependent variable that is Return on assets, UPL positions for Unit price of labor, UPLF stands for unit price of loanable funds, UPFA is unit price of fixed assets, ADVTA is advances.
DIV stands for income diversification while C shows the constant term of the equation in the model. In further statistically significant level is 1% (***), 5% (**) and 10% (*) respectively.

4.4.1 Effect of Bank Specific Variables on Return on Asset for Whole Sample Period (2006-2016)

The above **Table: 4.3** explained the findings of whole sample period (2006-2016) with dependent variable return on assets. Results interpret that value of R^2 (0.6441) in the model which includes 64.41% change in the dependent variable is occurring due to independent variables, in other means the variation in dependent variables is due to the independent variables.
Unit price of labor has negative coefficient value of (-0.003306) and their p-value is (0.0007) which is lower the level of ($p<0.01$) which means unit price of labor is negatively significant with the return on assets. Unit price of loanable funds has coefficient value of (-0.2943) and their p-value is (0.0000) which is significant at the level of ($p<0.01$).
Result shows that unit price of loanable funds is negatively significant with the return on assets. Unit price of fixed assets is positively significant with return on assets and the result shows that Unit price of fixed assets has coefficient value of (0.0046) their p-value is (0.0714) which is significant at the level of ($p<0.10$).
Advances are also negatively significant which means advances and return on assets moves in opposite direction. Advances has coefficient value of (-0.0224) and p-value of advances is (0.0569) which is significant at the level of ($p<0.05$).
Income diversification is positively significant which shows the coefficient value of (0.0066) and p-value is (0.0864) which is significant at the level of ($p<0.10$).
However, many previous studies Stiroh & Rumble et al., (2006) examines that

greater variation of the banking business does not essentially interpret into a development of the bank's profitability. Similar results have been showed in the findings of previous study of (Sunil Kumar & Rachita Gulati et al., 2018).

H1 Bank specific variables have significant impact on banks profitability.

The result in **Table: 4.3** shows that during the whole sample period from 2006 to 2016 the bank specific variables significantly linked with the return on assets.

4.4.2 Effect of Bank Specific Variables on Return on Asset

Table 4.4: Results of Fixed Effect Model

Dependent Variable: Return on Assets				
Variable	**Coefficient**	**Std.Error**	**t-Statistic**	**Prob.**
C	0.040456	0.007787	5.19525	0
UPL	-0.003290***	0.000964	-3.413885	0.0007
UPLF	-0.285171***	0.036884	-7.731519	0.0000
UPFA	0.005416**	0.002635	2.055665	0.0410
UPL*CRISIS	-0.001375**	0.000661	-2.081259	0.0383
UPLF*CRISIS	-0.143091	0.106615	-1.342122	0.181
UPFA*CRISIS	-0.011443	0.009598	-1.192243	0.2345
ADVTA	-0.0219*	0.011728	-1.867413	0.0632
DIV	0.006591*	0.003857	1.709064	0.0889
R-squared	0.661426			
Adjusted R-squared	0.507207			
F-statistic	6.666093			
Prob(F-statistic)	0.000000			

Statistically significant level is 1% (***), 5% (**) and 10% (*) respectively.

The above **Table: 4.4** shows the result of entire study with the induction of crisis period as dummy variable with input prices (2008). Result shows that value of R^2 (0.6614) in the study which includes 66.14% change in the dependent variable is occurring due to independent variables in the pre and post crisis period.

Unit price of labor has negative coefficient value of (-0.003290) and their p-value is (0.0007) which is less the level of ($p<0.01$) which means unit price of labor is negatively significant with the return on assets. Unit price of loanable funds has coefficient value of (-0.2851) and their p-value is (0.0000) which is significant at the level of ($p<0.01$).

Result shows unit price of loanable funds is negatively significant with the return on assets. Unit price of fixed assets is positively significant with return on assets and the result shows that Unit price of fixed assets has coefficient value of (0.0054) their p-value is (0.0410) such as shown significant at the level of ($p<0.05$).

Unit price of labor during the crisis has negative coefficient value of (-0.001375) and their p-value is (0.0383) which is significant at the any level of significance (0.05) which means unit price of labor during the financial crisis is negatively significant with the return on assets. Which means unit price of labor and return on assets moves in the opposite direction means if 1 unit increase in the price of labor will decrease the return on assets. Unit price of loanable funds during the crisis is also negatively insignificant with return on assets with coefficient value of (-0.1430) and their p-value is (0.1810).

Unit price of fixed assets during the crisis is also negatively insignificant with return on assets and the outcome explores that unit price of fixed assets during crisis period has coefficient value of (-0.0114) their p-value is (0.2345). The results of the Crisis period are predictable because 2008 financial crisis badly affected the banking industry globally. Result also indicates that during the financial crisis Unit price of labor, unit price of loanable funds and unit price of fixed assets has no any effect on return on assets.

Findings of previous study of Sunil Kumar & Rachita Gulati et al., (2018) also show the same results. Advances are negatively significant which means advances and return on assets moves in opposite direction. Advances has coefficient value of (-0.0219) and p-value of advances is (0.0632) which is considered significant at the level of ($p<0.05$). Income diversification is positively significant which shows the coefficient value of (0.0065) and p-value is (0.08) which is significant at the level of ($p<0.10$).

H1 Bank specific variables have significant impact on banks profitability.

Above **Table: 4.4**, shows that the independent variables have significant relationship with dependent variables for pre and post crisis period, But as the result shows when the bank specific variables interacted with the Crisis period (2008) the Unit price of labor is significantly related with return on assets and unit price of loanable funds and unit price of fixed assets has no effect on return on assets with the interaction of crisis period.

4.4.3 Effect of Bank Specific Variables on Revenue

TABLE 4.5: Results of Fixed Effect Model

Dependent variable: Revenue				
Variable	**Coefficient**	**Std.Error**	**t-Statistic**	**Prob.**
C	9.22021	0.462584	19.93195	0
UPL	0.228147***	0.048687	4.685949	0.0000
UPLF	-11.3123***	2.081588	-5.434457	0.0000
UPFA	-0.357608***	0.134875	-2.651406	0.0088
ADVTA	-4.833644***	0.702823	-6.877471	0.0000
DIV	0.770553***	0.192632	4.000119	0.0001
R-squared	0.664884			
Adjusted R-squared	0.507838			
F-statistic	6.396279			
Prob(F-statistic)	0.000000			

Note: All variables are significant at the level of ($p<0.01$).

The above **Table: 4.5** explores the findings of whole sample period (2006-2016) with dependent variable as Total Revenue.

Results show that value of R^2 (0.6648) in the model which shows 66.48% change in the dependent variables is through the independent variables, in another sense variation in revenue is due to the independent variables. Moreover, the R squared value build a suitable source for the model of Revenue and independent variables.

Unit price of labor has positive coefficient value of (0.228147) and their p-value is (0.0000) which is less the level of ($p<0.01$) which means unit price of labor is positively significant with the revenue. The result shows there is increase in revenue due to Unit price of labor.

Unit price of loanable funds has coefficient value of (-11.3123) and their p-value is (0.0000) which is significant at the level of ($p<0.01$) Result examines unit price of loanable funds is negatively significant with the revenue which means there is decrease in revenue due to loanable funds.

Unit price of fixed assets is negatively significant with revenue and the result shows that Unit price of fixed assets has coefficient value of (-0.3576) their p-value is (0.0088) which is significant at the level of ($p<0.01$) which indicates any raise in the price of fixed assets will decrease the revenue.

Advances are also negatively significant which means advances and revenue moves in opposite direction. Advances has coefficient value of (-4.8336) and p-value of advances is (0.0000) which is significant at the level of ($p<0.01$).

Income diversification is positively significant with revenue which shows the coefficient value of (0.7705) and p-value is (0.0001) which is significant at the level of ($p<0.1$) which indicates any change in the income diversification will result as the increase in the value of revenue.

H_2 Global financial crisis have significant impact on banks profitability.

As the above **Table: 4.5** shows that the bank specific variables are significantly linked with the revenue which suggests that the Global financial crisis has impact on banks profitability for the whole sample period (2006 to 2016).

4.4.4 Effect of Bank Specific Variables on Revenue as Dependent Variable Interacted with Crisis Period

Table 4.6: Results of Fixed Effect Model

Dependent Variable: Revenue				
Variable	**Coefficient**	**Std.Error**	**t-Statistic**	**Prob.**
C	9.247304	0.462471	19.99545	0.0000
UPL	0.000188***	3.43E-05	5.479353	0.0000
UPLF	-10.67155***	2.128923	-5.012654	0.0000
UPFA	-0.352361**	0.136904	-2.573782	0.0109
UPL*CRISIS	-0.013070	0.031638	-0.413103	0.6799
UPLF*CRISIS	-9.65517*	5.831519	-1.655687	0.0997
UPFA*CRISIS	-0.19227	0.534806	-0.359513	0.7197
ADVTA	-4.87406***	0.699636	-6.966565	0.0000
DIV	0.741504***	0.193616	3.829766	0.0002
R-squared	0.68475			
Adjusted R-squared	0.517222			
F-statistic	5.697677			
Prob(F-statistic)	0.000000			

The above **Table: 4.6**, examines the result of whole sample with the induction of crisis period as dummy variable with input prices (2008). Result shows that value of R^2 (0.6847) in the study farm which includes 68.47% change in revenue is through the independent variables in the pre and post crisis period, in other words 68.47% variation in revenue is due to the independent variables. Moreover, the R squared value build a suitable source for the model of revenue and independent variables.

Unit price of labor has positive sign of value (0.000188) and their p-value is (0.0000) which is less the level of ($p<0.01$) which means unit price of labor is positively significant with the revenue. As results indicates any increase in the unit price of labor will increase the revenue because Unit price of labor and revenue both moves in same direction.

Unit price of loanable funds has coefficient value of (-10.6715) and their p-value is (0.0000) which is significant at the level of ($p<0.01$) Result indicates unit price of loanable funds is negatively significant with the revenue before and after crisis. Unit price of fixed assets is also negatively significant with revenue before and after crisis and the result shows that Unit price of fixed assets has coefficient value of (-0.3523) their p-value is (0.0109) which is significant at the level of ($p<0.01$). Unit price of labor during the crisis has negative coefficient value of (0.013070) and their p-value is (0.6799) which is greater than the any level of significance which means unit price of labor during the financial crisis is positively insignificant with the revenue. Unit price of loanable funds during the crisis is negatively significant with revenue with coefficient value of (-9.6551) and their p-value is (0.0997) which is significant at the level of ($p<0.10$) and shows any increase in the value of loanable funds will decrease revenue. Unit price of fixed assets during the crisis is also negatively insignificant with revenue and the result shows that Unit price of fixed assets during crisis period has coefficient value of (-0.1922) their p-value is (0.7197) which means unit price of fixed assets has no effect on revenue during the financial crisis.

The results of the crisis period are predictable because 2008 financial crisis badly affected the banking industry globally. Result also indicates that while the financial crisis unit price of labor and unit price of fixed assets has no impact on return on assets. Advances are also negatively significant which means advances and revenue moves in opposite direction. Advances has coefficient value of (-4.8740) and p-value of advances is (0.0000) which is significant at any level of ($p<0.01$) Income diversification is positively significant with revenue which shows the coefficient value of (0.7415) and p-value is (0.0002) which is significant at the level of ($p<0.1$) which means any rise in the value of income diversification will consequence to increase in the value of revenue.

H_2: Global financial crisis has significant impact on banks profitability.

As the above **Table: 4.6** shows that the bank specific variables are significantly linked with the revenue before the financial crisis but as the crisis period is interacted with the input prices (bank specific variables), financial crisis has no impact on unit price of labor and unit price of fixed assets, but unit price of loanable funds is still significantly related to revenue as the crisis period interacted with unit price of loanable funds.

It is concluded that before the interaction of crisis period global financial crisis has impact on banks profitability because bank specific variables are significantly related with revenue but as the global financial crisis occur bank specific variables are insignificantly related with revenue which concludes that after the interaction of crisis period global financial crisis has no impact on banks profitability.

Chapter 5

Conclusion and Recommendation

5.1 Conclusion

The study determines the impact of bank specific variables on banks profitability: moderating role of global financial crisis by focusing on data from 2006 to 2016. The study tries to investigate the link among banks specific variables and banks profitability with moderating effect of world financial crisis which has been considered valuable in the area of finance through literature support and empirical evidence. So, the objective in the background of the research work is to analyze either crisis recorded as globally and economically has any meaningful influence on banks profitability of Pakistan.

The current investigation purpose was to explore the direct influence of global financial crisis practices on dependent variables. The study investigate to measure global financial crisis by getting to the extensively accepted variables like unit price of labor, unit price of fixed assets and unit price of loanable funds. For the conformation of outcome and analysis accuracy study also included control variables; advances, equity, efficiency, income diversification, inflation and growth rate but in our model only advances and income diversification were fit to the requirement. In this study panel data analysis technique have been applied, so statistical and fundamental conclusion of this research work showed that significant connection among global financial crisis and banks profitability. In this study panel regression model were applied, study was applied with likelihood and hausman ratio test so these tests suggests that fixed effect model is more appropriate for final analysis so, for the further analysis and discussion study has considered fixed effect model. First, of all study found the impact of bank specific variables (unit price of labor, unit price of loan able funds, unit price of fixed assets) on banks profitability (Return on assets). We use return on asset as a proxy of banks profitability, the results showed Unit price of labor has negative and significant linkage with return on assets. It means if 1 percent increases in the price of labor, return on asset will be decrease by 0.03 percent.

Unit price of loanable funds has also negative and significant linkage with return on assets. If 1 percent increases in the price of loanable funds it will decrease return on assets by 2.94 percent. Unit price of fixed assets has positively and significantly associated with return on assets it means both moves in same direction. It means if 1 percent increases in price of fixed assets the return on assets will be increase by 4.67 percent.

Results also indicates control variables (Advances and income diversification), advances has negatively and significantly linked with return on assets while income diversification has positive and significant linkage with return on assets. These study results supported to the study findings in developing countries, significant relationship among the bank specific factors (unit price of labor, unit price of loan able funds, unit price of fixed assets) on banks profitability (Return on assets).

The results showed that bank specific factors have impact on banks profitability for the whole sample period from 2006 to 2016, therefore for the whole sample period H0 was rejected and H1 is acceptable.

In addition results also shows that unit price of labor during the global financial crisis has negative and significant association with return on assets. Unit price of loanable funds has negative and insignificant linkage with return on assets during the global financial crisis. Unit price of fixed assets has negatively and insignificantly associated with return on assets during the global financial crisis.

Therefore, the results of the pre and post crisis periods indicate that before the global economic crisis bank specific variables were significantly linked with the return on assets before the crisis interaction. Therefore, it is concluded that before the global financial crisis market was in equilibrium condition. But during the crisis period bank specific variables were insignificantly linked with return on assets which concludes that during the global financial crisis market was in disequilibrium condition.

This presence of market disequilibrium does not seem to be surprising, specifically when the market experiences significant structural variations due to government financial regulations are relaxed, technological developments and the driver for merger and acquisitions. All this is happenings in the Pakistani banking industry during the sample period.

Secondly, the study has explored the relationship among the bank specific factors (unit price of labor, unit price of loan able funds and unit price of fixed assets) on Total bank revenue (Interest plus non-interest income). The results examined that unit price of labor has positive and significant relationship with Bank revenue. Results explored if 1% increases in the price of Labor, Bank revenue will also rise by 0.22 percent. Unit price of loanable funds has negative and significant linkage with bank revenue.

Findings indicate if 1 percent increases in the price of loanable funds, bank revenue will be decrease by 11.31 percent. Results also shows that unit price of fixed assets has negatively and significantly linkage with bank revenue it means if 1 percent increases in the price of fixed assets, bank revenue will be decrease by 3.57 percent. Results also indicates control variables (Advances and income diversification), advances have negatively and significantly associated with bank revenue while income diversification has positive and significant relationship with bank revenue.

One possibility of these findings are found in recent era, income diversification techniques at bank level moves to an rise in the income from fee-based non-traditional assessment. These results are also in arrangement with Tahir et al. (2016). The most reasonable purpose for these results is that the banks financial industry in the country is stumble under the burden of rising intention of non-performing loans due to higher rate of non-repayment of loans and interest which hold the

bank's total income. These actually doings in Pakistan and the ratio of net Non-performing loans to net loans grew from 8.8% to 16.7% in the sample period.
Depending on the results, it is concluded that for the entire sample period 2006 to 2016 global financial crisis have impact on banks profitability as the bank specific variables were significantly linked with revenue.
Results also shows that unit price of labor during the global financial crisis has positively and insignificantly associated with bank revenue. Unit price of loanable funds has negatively and significantly linked with bank revenue during the global financial crisis. Unit price of fixed assets has negatively and insignificantly associated with bank revenue during the global financial crisis.
A few extensive improvements that have contributed previously mentioned change in the state of banks profitability particularly in revenue generating activities includes; Shifting of deposits from private banks to public sector banks, Noticeable decrease in the off-balance sheet assessment among bank groups, particularly in foreign banks during the financial crisis globally, These services of the banks to concern on traditional assessment more than before to sustain their amount of revenue.
These above-mentioned factors may have influenced the bank's profitability in the banking sector of Pakistan while the crisis era and bear strong suggestions on the level of competition in the fallout of the finance regime international crisis.
In the comparison of past investigations on bank's profitability in Pakistan, we used larger data setting and employed fixed effect model as suggested by likelihood and hausman ratio test to access the impact of banks specific variables on banks profitability with moderating role of global financial crisis in Pakistani banking sector. On the basis of fixed effect estimations input price resistances, we attained the presence of equilibrium in the market for whole sample period and justifying the market in disequilibrium whiles the global financial crisis.
We also found strong evidence that Pakistani banks earned high revenue for the whole study period but banks profitability changes during the global financial crisis. Pakistani banking sector viewed a high level of decline in the income from interest related assessments than in overall banking services and working.

These results; there is low level of revenue incurred from off balance sheet activities by banks. The findings imply that the leading market form in Pakistani banking sector is dominant competition looks to be constant with the pas investigations struggling to access degree of comparison in the developing and emerging economies, such as Pakistan.

5.2 Recommendations and Policy Implications

The study conclusion suggests that the Impact of Bank Specific Variables on Banks Profitability: Moderating role of Global Financial Crisis is encouraged near from dominant disequilibrium to the exact disequilibrium. The perceive change in the bank's profitability can mainly be allocate to recent policy regulatory obstruction on the mark of business assessment, minimum entry hazards for national, private and foreign banks and increasing the operations independently to the banking supervisions.

In future macroeconomic variables may also include to the study to outcome the economic involvement in the global financial crisis. The directly role of policy suggestion for this study from the banking regulation managing authority is that the current regulations of reinforcing the regulatory and managerial essential. Its need to continue in future and order to minimize the unexpected consequences influence of any possible similar crisis and to rises the strength of bank's profitability in the Pakistani banking sector.

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