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Effects of Industrial Diversification on Banks Performance: Evidence from Pakistani Banking Sector

by

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I want to dedicate this achievement my parents, teachers and friends who always encourage and support me in every crucial time

CERTIFICATE OF APPROVAL

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Abstract

The purpose of this study is to provide new evidence on banking profitability by interacting with variables such as concentration measure and risk and other variables such as Size, Personnel cost and EQ ratio. Furthermore, risk factor is taken with square to find out the direction of profitability. The study uses a panel data set on Commercial banks of Pakistan from the year 2006 to 2019. The procedure of the study is comprised of two phases. In first phase Profitability with five variable are estimated that includes Concentration measure, Risk, Size, Personnel cost and EQ ratio and in second phase by adding another variable that includes risk factor with square and concentration measure. The result indicates that risk with square factor indicates an inverse effect on profitability. These findings are useful for regulators in formulating measures to ensure the stability of commercial banking sector for profitability.

Keywords: Concentration Measure, Risk, Size, Personnel Cost, Eq Ratio Profitability.

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Abbreviations

CM   Concentration Measure

EQ   Equity Ratio

PER Personnel Cost

ROA Return on Asset

Chapter 1

Introduction

In this chapter, introduction of the study tells about the theoretical background of the study on the "Effects of industrial diversification on banks performances". In the end of this section, problem statement, research questions, objectives and significance of this study is also explained.

Industrial Diversification may take the form of integrated Industrial diversification, which includes the creation of a corporate enterprise while at the same time considering the potential of the company. It can be achieved either by vertically or horizontally convergence (concentric strategy). Industrial Diversification could also be accomplished by incidental Industrial diversification including the production of goods and services outside the existing capability as well as value network – a company tactic (Johnson and Whittington, 2008).

Most commercial banks have implemented an Industrial diversification policy for three key factors. Firstly, the plan can seek to achieve productivity by optimizing the company's resources and making use of new goods to new consumers and geographical locations. Secondly, the commercial bank can follow this strategy in order to be able to expand its corporate leadership capability to new markets and services or products. And thirdly, the commercial bank may use this strategy to increase its market power by offering a broad variety of products and services (Luo, 2009).

The financial performance of commercial banks is two-fold and hence attracts much interest. Abnormally high financial performance hinder financial intermediation due to the banks exercising strong market power and collude in charging high interest on loans and paying minimal returns on deposits. Low profitability on the other hand discourage the depositors and shareholders from banking with the poorly performing banks due to fear that it may not be able to meet depositors liquidity demand and generate adequate returns. This results in banks not being able to have adequate financing to undertake operations, liquidity problems, bank panic and collapse (Olweny, and Shipho, 2011).

1.1 Theoretical Background

Initially, banks were centered and there were traditional transactions such as cash deposits and cash withdrawals, and some other relevant banking operations, but over time, things are changing from emphasis to various roles that are now referred to as Industrial diversification. Now this new term of diversification in banking industry is new to both of us. There will be some advantages and disadvantages of this latest term and some impacts on various banks located in various nations. Competitions among banks are in lending by their performance which is a good sign for customers as they are getting lot of services.

There are lots of researches enduring on the topic of Industrial diversification on bank performance with their relevant counties. Results are dissimilar in different countries, mostly are due to high cost in Industrial diversification method as compare to focus but there is no similar reason for all countries as far as different researchers point of view. Industrial Diversification facilitates its customers by getting lot skills under one roof. Nowadays most of banks in Pakistan are under this concept of Industrial diversification and is popular everywhere in the Pakistan. Some of the studies mentioned here on banking sector in East Asia Banks, US banks and Indian banks are as under. How they reached of rebuilding of banking sector from focus to Industrial diversification and their pros and cons as well. In the beginning of 1997-98, the financial frameworks of numerous nations in the East

Asia district, and particularly the emergency influenced nations, have experienced major rebuilding activities, regularly with significant government inclusion. A few banks in some countries were taken over by the State, while others got government support. At this point, a large number of these nationalized banks converted to Commercial Banks, Subsequently, the financial frameworks of most countries in the district look notably unexpected today in comparison to before the emergency. Laeven, L. (2005) also suggested that from the past studies, we presently know from the ongoing emergency involvement with East Asia that banks were facing different challenges to a great extent obscure to little financial specialists and investors, despite the fact that bank execution changed particularly across banks relying upon such factors as the nature of the executives and the sort of possession.

1.2   Traditional Banking Theory

Aarflot, S., &Arnegård, L. (2017) suggests that under diversification method, lot of researchers have their point of view in favor and against of this method. There are two useful aspects, firstly, that it overcomes the risk factor by diversifying the risk due to investing in different sectors and secondly, it facilitates the customers as well by giving services to them with portfolio strategy. As per the study, diversification method is more useful to the society as it observe the monetary cycle from different point of view in banking sector. There are lot of literature with pros and cons in this regard.

As per the Diamond (1984) suggested thathow the cost can be minimize by diversifying the loan. Banking industry that gives services to its community and the cash that is monitored by bank on behalf of client.As per his model, there are two parties' depositor and the borrower. The depositor is the one, who is the investor and get the interest of the deposited amount whereas the borrower is one who gets loan from bank and further invest on different sectors. The loan which is given to the borrower without any restrictions. Due to which, those non-restriction has no cost and in this way, bank can expand their investment. Marinč (2009) also

analyzed on same views as of Diamond's (1984) in his research paper. As per their views, banking industry examines the depositor and borrower behavior. On basis of their behavior, diversification can be channelized in better way which is under observation by banking Industry. In case, the flow of cash in market is not observed by banking sector than that can have a very uncertain effect in market economy. Which will be not favorable to investors in such market. Observing the economy by banking sector will cause some cost but when situation is out of control than heavy cost will be incurred to control the situation which can exceed to any limit. So low the profitability is more preferred than heavy losses to the economy of the country.

Ramakrishnan and Thakor (1984) describe how banking industry work on investments on behalf of depositor and further stated that the diversification strengthens the system which actively participates on behalf of depositor by investing on borrowers. It also tells us that banking industry is pool of expert advisors, who directs the investment according to requirement of the market whereas individual investor can't be that productive. One another cost which is discussed by the researcher is agency problem. One of the major sources of information before investing in any project is through getting facts within organizations which leads to agency problem and this is the primary source for individual investors whereas banking industry does not relay on agency cost due to which even that cost also reduces as well.

1.3 Corporate Finance Theory

In the paper Aarflot, S., &Arnegård, L. (2017) mentioned different theories of Corporate finance related to specialized banking industry. In this method, banks are focused to single activity to its finest to advice its clients and customers.

Denis, Sarin, and Denis (1997) suggested that different firms must deal with specialized banks to reduce the problem of agency issue and that cannot be possible in diversified banks. Secondly, that may not deal with defaulter. As per the study of Mishkin et al.(2013), he discussed on specialized banks, where he suggested that

they have the edge over diversified banks by getting more knowledge of particular clients and customers and due to this reason, they can perform better as well.

There are different views by different researchers on the concept of corporate finance. One of the researcher Martin and Sayrak (2003), suggested that bankers who have incentives on his outperformance is only possible in specialized banking system, as the managers grooms in such environment where the individual knows all the pros and cons of the firm before investing and what are the indicators that will reduce the performance of the firm and ultimately, the bank will be the loser.

One another reason is that they will not invest in any firm that can be jeopardize easily. Secondly, the higher chance of default firm or businesses have less chances to pay back for which diversification is the better option.

Aarflot, S., &Arnegård, L. (2017) has further used the term diversification discount, which means that the stock value of the company is less in figure than the total value of the company. This concept is in the light to discuss that all companies do not outperform and sometime such situation occurs.

On another researcher Servaes (1996) mentioned the concept of mergers and acquisitions where the actual value of a company is deteriorated under such conditions. So there are lot of concepts that evolves around the banking industry. But most of the literature in banking industry is between specialization and diversification.

1.4   Consistency with Portfolio Theory

In the research paper of Aarflot, S., &Arnegård, L. (2017) has mentioned the theory of Harry Markowitzin which he stated that how to manage portfolio relation in such a way that can have a positive impact on overall business. The losses can be overcome by investing in different sector and industries so if one drop down so the other invest can be profitable.

Similarly, Bodie, Kane,& Marcus, 2014 has suggested the relationship of risk and return and that must be on upper edge of efficient frontier. On bases of that study, all banking industry also run under such standards by investing in different

industries and businesses to avoid any risk that can be threatening to banking industry. In such environment, where investment is in different sector can be protected in every situation.

1.5   History of Banking Industry in Pakistan

Each nation of the world has its acknowledgment because of its particular strict connection, socio-social highlights or financial characteristics. Monetary flourishing and sound economy is the image of accomplishment in nowadays. Likewise, monetary sufficiency is the main result of positive communication of macroeconomic factors to accomplish explicit goals achievements of assets such as HR and monetary assets. Banking area is a significant segment of monetary area for legitimate administration of monetary assets over the globe.

This examination presents a glossary of verifiable advancements in financial area of Pakistan to a refined financial arrangement of ongoing age. At first, Pakistan couldn't control its monetary framework because of nonattendance of sound financial framework and in the end it turned into the most appealing financial industry of the globe. It is accounted for that banking and monetary administrations are the vital piece of administrations industry and its commitment is expanding with the progression of time (Mishkin, 2001).

However, Commercial Banks in Pakistan additionally displaying side effects of comparable monetary discomfort brought about by broad progression, just like in the Western countries. Pakistan's involvement in monetary advancement in the financial area is immeasurably restricted when contrasted with the western countries. A short glance at the historical backdrop of banking industry in Pakistan that has made amazing accomplishments yet has far to go.

1.5.1   Nationalization of Banks

There are radical changes in Pakistani financial area because of solid rivalry among public, private and unfamiliar banks. Private area banks overwhelmed during

1950s and 1960s yet they were nationalized in 1974 because of detachment of Bangladesh and awful financial conditions. Nationalized banks indicated exceptionally horrible showing because of substandard items/benefits that came about into the privatization of banking area in 1992 (Ahmad et al. 2010).

1.5.2 Privatization Process of Banking

Monetary progression and liberation during 1990s empowered nearby financial specialists and inspired unfamiliar banks to begin their tasks in Pakistan. It animated the opposition among banks because of a development of the financial business. Countless banks have started their tasks in Pakistan and attempt to draw in the greatest number of clients. It is accounted for that administration responsibility for could be debilitate because of more slow monetary turn of events, low profitability and moderate financial advancement (La Porta et al. 2002).

Also, State Owned banks can't screen their advancement because of nonappearance of clear destinations and obligation (Clark et al. 2003). Notwithstanding, it is discovered that privatization may not be fruitful because of the restrictions and ecological requirements of a particular economy. It is accounted for that privatization of banks in low and center pay nations didn't made enhancements due to overstaffing and obligation trouble (Otchere, 2003). Curiously, it is discovered that there is lesser improvement in the monetary strength of banks as aftereffect of monetary advancement and privatization in Pakistan (Khalid, 2006).

1.5.3 Inception of Islamic Banking Practices

In this era, there are six public business banks, 34 private banks and four foreign banks. Banking Industry has a manageable monetary development. Banks are proactively investigating on new plans such as branchless banking. However, more progress should be made prior to existing arrangements such as Easypaisa or UBL Omni that arrive at a minimum amount of clients. Changes have helped banks made some amazing progress, yet except if the national bank stays self-governing, and keeps on deciding in favor of alert, advancement may immediately

turn into a severe pill to swallow. The beginning of 21st century increased the opposition among banks with respect to support quality to have fulfilled clients for better benefit. SBP assumes a functioning part to set up a sound Islamic financial framework in Pakistan as indicated by standards of Sharia'h as referenced in its statement of purpose that read "To advance and create Islamic Banking industry in accordance with best global works on, guaranteeing Sharia'h Compliance and straightforwardness". In 2002, Islamic banks have begun their tasks in Pakistan and experienced firm rivalry from its friends just as from ordinary banks. Islamic bank offers a wide scope of items based on benefit and misfortune as indicated by standards of Sharia'h. It builds up the feeling of aggregate government assistance by sharing the danger among various partner. While the premium is the focal principle of the regular banking and it boosts the return even at the expense of different partners by moving the weight of danger to different gatherings. Islamic banks are basically worried to dispose of Riba from the economy by advancement of danger sharing practices for monetary thriving.

SBP has attempted various securities from banking, straightforwardness and adaptable enactment. The monetary area development, enhancement and advancement; solid rivalry and danger taking to guarantee a feasible and forceful revenue source; open doors for upgrading the establishment estimation of banks; reasonable conduct and successful danger the board and credit provisioning prerequisite are sufficiently tough to debilitate disease of the advance portfolio; protecting social commitments and purchaser interests" (Economic Survey of Pakistan, 2007-08).

1.5.4   Current Status of Pakistani Banking Sector

Presently bank customers are quite concerned to the administration of banking industry because of expanded mindfulness. They keep on managing their present bank just on the off chance that they feel fulfilled; else they feel no wavering to change to different banks. Islamic banks work inside the cutoff points endorsed by Sharia'h to animate business and exchange exercises. It encountered an extension in its organization, size and structure because of delightful mixing of business banks, miniature account foundations and Islamic banks in the nation.

The presence of two bank streams for example customary banks and Islamic banks suggests some conversation starters about assistance quality and clients' fulfillment in Pakistan. Islamic banks have opened new roads for acknowledgment of stores on revenue free-premise and broaden credit offices barring revenue for example Qarz-e-Hasana and so on (Najajmabadi, 1991).

It was discovered that associations with bank staff are significant models for determination of bank (Abratt and Russell, 1999). Likewise, it is archived that Islamic banks have indicated a fantastic execution and they ought to enhance their items/administrations to live up to clients' desires (Ebrahim and Joo, 2001). Nonetheless, there is a huge connection between administration quality and monetary execution (Duncan and Elliot, 2002).

So it is presumed that unrivaled conveyance of administrations results into predominant benefit (Kotler, 2003). Pakistani financial area saw a significant change because of key part of private area having about 80% of banking resources (Economic Survey of Pakistan, 2007-08). It encountered an extension in its organization, size and structure because of delightful mixing of business banks, miniature account foundations and Islamic banks in the nation.

This investigation portrays a verifiable foundation of Pakistani financial area since its freedom on August 14, 1947 from British principle. It demonstrates the excursion of Pakistani financial area from the foundation of SBP on July 1, 1948 as national bank to help and screen the financial area. During 1950s and 1960s financial area got extension because of improvement ventures and a functioning support of private area. In 1974, banks working in Pakistan got nationalized and went under the immediate control of the Govt. of Pakistan. Nationalized banks have indicated lackluster showing because of Govt. insurance and absence of rivalry. Islamic banks have opened new roads for acknowledgment of stores on revenue free-premise and broaden credit offices barring revenue. The Govt. of Pakistan is needed to take out interest based exchanges from the nation as indicated by all the constitutions (first constitution 1956, second constitution 1962 and the third constitution 1973). Likewise, in 1992 the Supreme Court of Pakistan additionally requested to prevent interest based exchanges from the economy.

1.6   Profitability of Banking Industry in Pakistan
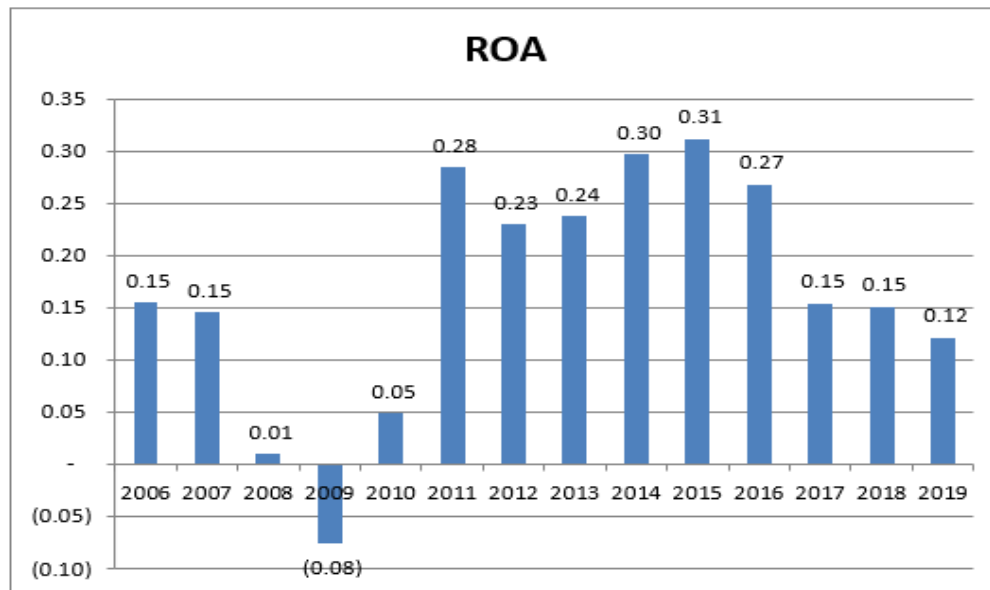
FIGURE 1.1: Profitability on Banking Industry of Pakistan Year 2006-2019

The above Graph-1 shows the profitability of banking industry of Pakistan of fourteen years from 2006 to 2019. This tells that in 2008 and 2009 was a critical time for banking industry in Pakistan. One of the reasons of this crisis as US banking industry take part in hedging and other derivatives, all banking industry across the world affected by it. Aarflot, (2017) suggested that the regulatory bodies of the country has a very vital role in country's economy. One of the examples mentioned in his paper is on US housing crisis in 2008 to 2009, which has nothing to do with focus or diversification banking system. That was only due to the ignorance of the regulatory body even the whole world has suffered due to that. Regulatory body is responsible for the stability in the economy or if any unusual activity diagnoses that need to be addressed by these authorities.

Bank economic performance seems to be of special significance given the fact that bad financial performance will result to liquidity issues for banks and other financial institutions, contributing to despair among borrowers and in turn, to banking collapse. The implications of a single bank collapse are severe and could have an effect on multiple sectors and thus adverse repercussions for economic development (Makokha et al, 2016). Based on the fact that banks are massive economic

intermediaries, sources of finance and are the main creditors of investments in developing countries like Pakistan; their significance is much more prominent. To order to succeed to commercial banks, it is important to continuously analyze their market dynamics (Baum and Wally, 2003).

1.7 Profitability and Risk Factor on Banking Industry in Pakistan
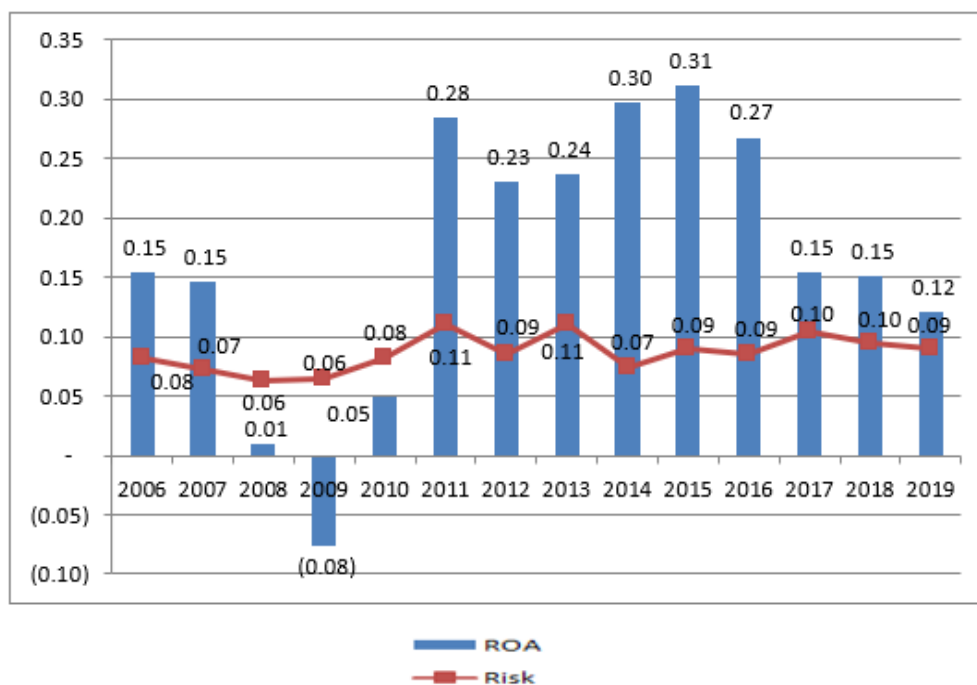
FIGURE 1.2: Profitability and Risk Factor of Pakistan Year 2006 -2019

In Graph- 2, there is a dip of risk in the year 2008 and 2009 clearly shows that when profitability decline, risk factor also declines. This study is on risk factor, how will that effect on profitability when risk is doubled. Different studies have being concluded on different countries.

1.8 Personnel Cost of Banking Industry in Pakistan
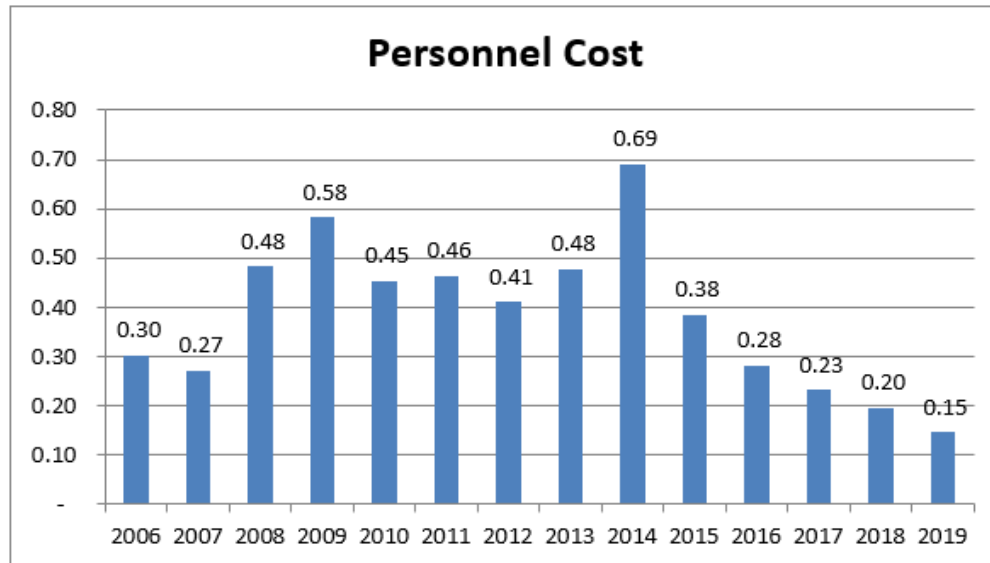
FIGURE 1.3: Personnel Cost on Banking Industry of Pakistan year 2006-2019
Graph-1.3

In Graph- 1.3, there is a rise of Personnel cost in the year 2008 and 2009 because losses were increased and expenses is reflected very clearly in above graph.

1.9 Concentration Measure of Banking Industry in Pakistan
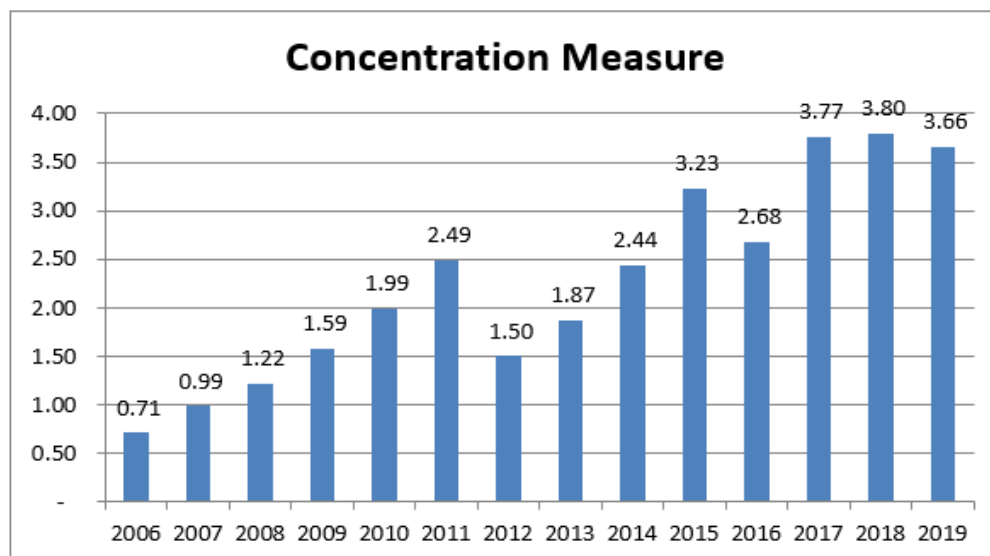
FIGURE 1.4: Concentration Measure on Banking Industry of Pakistan year 2006-2019 Graph-1.4

In Graph- 1.4, there is a rise in concentration measure for the period of 2006 – 2019. That indicates that concentration measure has upward trend in Pakistan banking sector. This is a good sign for Pakistan economy.

1.10 Size of Banking Industry in Pakistan
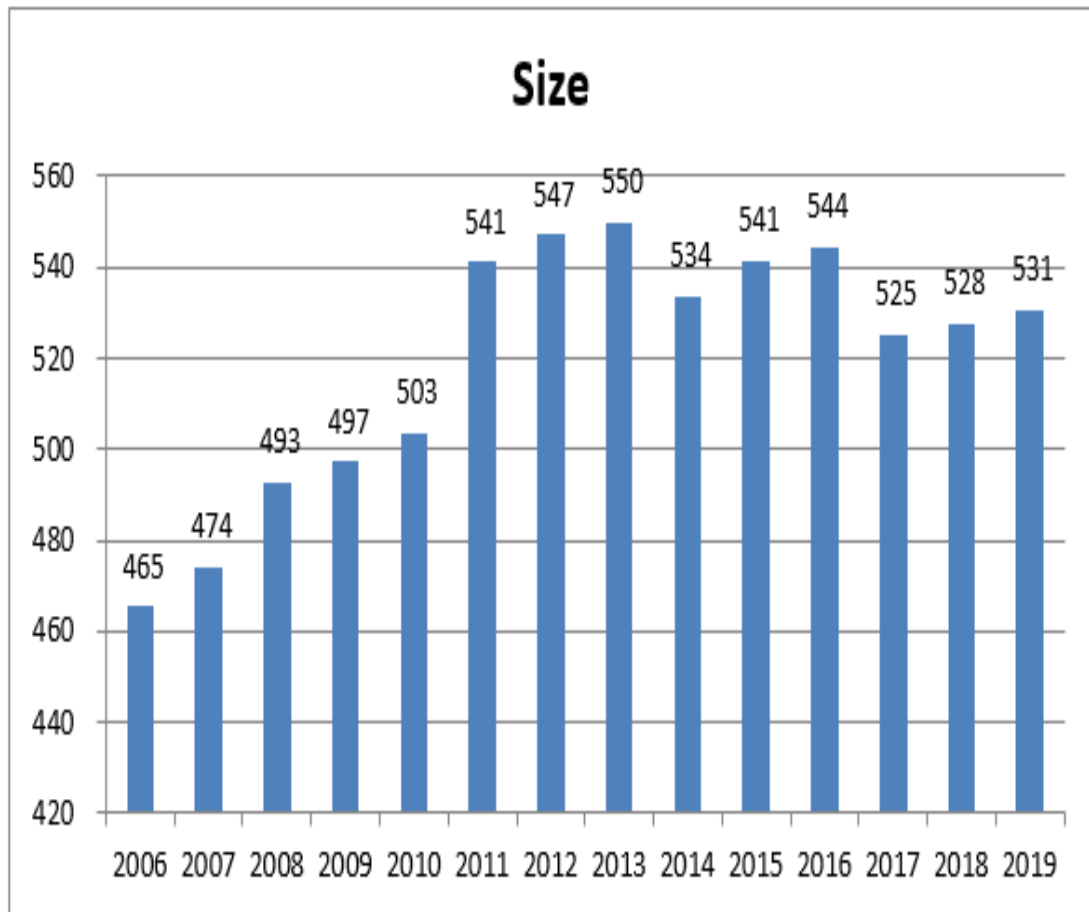
FIGURE 1.5: Size on Banking Industry of Pakistan year 2006-2019 Graph-1.5

In Graph- 1.5, there is a rise in size of Banking Industry in fourteen years. It indicates that size trend is rising. This is a good sign for the Industry.

1.11 Equity Ratio of Banking Industry in Pakistan
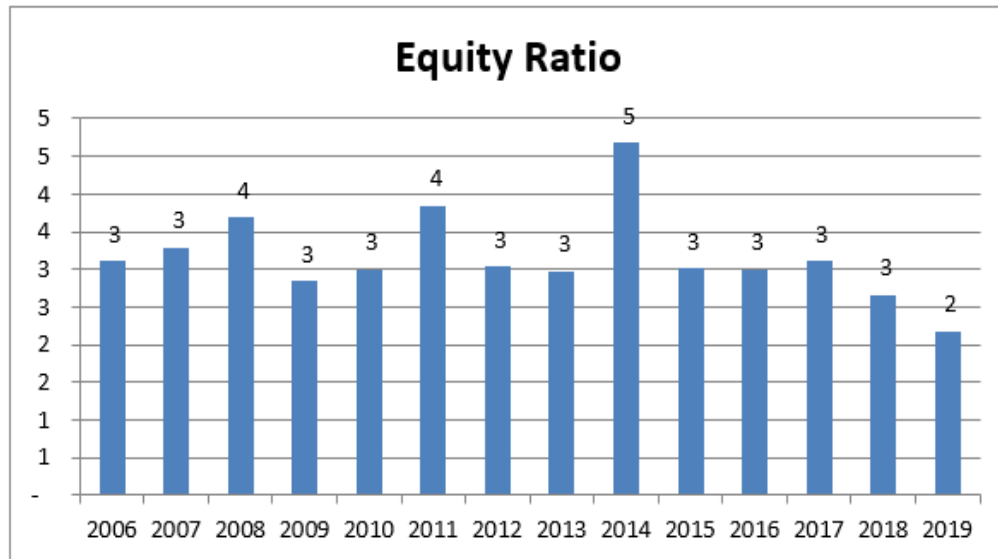
FIGURE 1.6: Equity Ratio on Banking Industry of Pakistan year 2006-2019
Graph-1.6

In Graph- 1.6, there is moderate trend in equity ratio. This is due to accumulated losses in different commercial banks in last fourteen years.

1.12 Problem Statement

Banking sector that switched from focus to diversification have better results in some countries however some countries are overlooking the process of diversification such as Aarflot (2017) suggested that in Norway, when Industrial diversification is higher, there is a better performance in banking sector. The finding of this study is on perspective of Pakistan Banking sector. How Industrial diversification will effect on banking performances in Pakistan. The return on asset factor will determine whether diversification is favorable or not. Similarly, risk factor will determine how much investment is saver in Pakistan economy.

1.13 Research Questions

The research questions of this study are;

Research Question 1

Does concentration measure have a significant impact on profitability?

Research Question 2

Is there a significant impact of risk on profitability?

Research Question 3

How the size has a significant impact on profitability?

Research Question 4

Do the personnel cost has a significant impact on profitability?

Research Question 5

Is the EQ ratio has a significant impact on profitability?

Research Question 6

How does industrial diversification affect the financial performance of commercial banks in Pakistan?

Research Question 7

Does Portfolio concentration and return as function of risk exist?

1.14 Research Objectives

The research objectives of this study are;

Research Objective 1

To study the impact of concentration measure on profitability.

Research Objective 2

To check the impact of risk on profitability.

Research Objective 3

To study the impact of size on profitability.

Research Objective 4

To study the impact of personnel cost on profitability.

Research Objective 5

To study the impact of EQ ratio on profitability.

Research Objective 6

To check the impact of industrial diversification on commercial banks in Pakistan.

Research Objective 7

To check the impact of between Portfolio concentration and returns as function of risk.

1.15   Significance of Study

An effective finance structure, it is important for fostering development and stability in the society. As financial market mediators, banks perform a vital role in this by channeling funds from depositors to lenders with profitable investment incentives. This study will tell us the relationship between Pakistan economy and Industrial diversification in banking performance. The profitability variable have an up way trend in banking sector though the economic condition of Pakistan are not that well off still banking sector is expanding in Pakistan. People of Pakistan have trust on banking sector. They closely analyze each and every bank of Pakistan and they also welcome all the complaints from the client and inter banks issues that can be directly communicated to them. Another reason of upward trend in banking sector is that the risk is minor. That also motivates people for investment. This study will build a concept of how banking sector face the challenges and how they support the society and what is the relationship of profitability with the size, concentration measure, personnel, risk and EQ ratio.

1.16   Plan of the Study

The rest of the paper is organized as follows: Chapter 2 describes the literature review. Chapter 3 describes the methodology. Chapter 4 presents the Results &

Discussion and finally Chapter 5 presents the conclusion and limitations as the last section of the paper.

Chapter 2

Literature Review

The banking Industry run in many methods, the popular one is diversification and the other one is specialized method. You will find lot of debates on these two topics in research paper, one of the paper by Aarflot, S., & Arnegård, L. (2017) also argued in detail on above two topics. As per there analysis, there is no unanimity among researchers, which one is better. Both of them are better under its own way.

In paper of Aarflot, S., & Arnegård, L. (2017), diversification method is also called traditional banking theory whereas specialization method is called Corporate finance. The diversification method is used to finance to different portfolio due to which the risk will be overcome. Whereas in specialization method, it suggests that bank must be specialized on one profession and scope of work is limited to that.

2.1 Diversification in Banking Industry

As per the researcher Winton (1999) suggested that there are two style of banking industry, firstly, specialized banks and second method of diversification banking. As per his study, specialized banking industry, the risks of losses are lower as they are specialized for one particular industry. However, in diversification banking industry, they are higher risk level and benefits are not that high.

Due to which that can be collapses of non-profits. As per the researcher, it is more beneficial when risk is normal when diversification banking method is used. The researcher further stated that when return is higher, the risk level also increases. For that purpose bank must take precautions that may not lead to failure. When there is investment in new sector than they must have know how about to market reaction and how return and risk is calculated.

By another researcher Mishkin et al. (2013) suggested in his paper that specialized bank has the better results as compare to diversified banks as they have superior knowledge over industries and companies whereas diversified banks may lead to failure in case of higher risk factor.

As per the research paper of Aarflot, S., &Arnegård, L. (2017) that he find no clue which among two strategies the focus strategy or the diversified strategy are the best. Both are supported by researchers in their papers with supported examples as well.

In the paper of Kotrozo, (2006) suggests that one of the most well-known advantages related to Industrial diversification is enhancement of lower cost of capital. Concerning Commercial banks, those with some degree of worldwide enhancement approach distinctive capital markets which could prompt a lower cost of funds on huge deposits.

As per the researcher Berger, (2010) stated that conventional banks ought to be as enhanced as could reasonably be expected. By different studies, it is stated that banks could decrease their expenses on monetary distress by spreading tasks across various items and financial situations. This argument is upheld by different observational investigations. It proposes reduces risk chance for banks when they move into non-bank product offerings. In paper of Kotrozo, (2006) suggested that banks are one of the most commonly known enhancement-related benefits were lower capital rates, whereas others with a degree of global enhancement seek complex financial markets that may contribute to lower equity costs on big deposits. In fact, the exhausted bank has a better advantage over the fewer developed banks by providing the sales potential of less qualified operations relative to the extended branch.

In the research paper of Hayden, (2006) suggested that Specialists of monetary organizations investigated that banks which are larger borrowers must diversify to reduce the risk of uncertainty. Likewise, a few models recommend that Industrial diversification makes it less expensive. He contends that the advantage from broadening ought to be most prominent when banks' advances have medium degrees of drawback chance.

There is no reasonable unanimity on whether banks ought to Industrial diversification or focused their credit portfolios. From a conventional portfolio and banking point of view Industrial diversification is viewed as the most favored methodology suggested by Ragnhildstveit, (2019).

Expressed by Ismail, A., (2015) that banks in US are getting advantages of diversification and diminished hazard through moving their income producing exercises from premium to non-premium income. At total level, non-premium income is seen as more unstable than premium income and both are profoundly connected; while, at bank level hazard and returns are adversely related with increase in non-premium income. It is revealed that a higher instability of non-premium income is a drawn back in Industrial diversification.

In the paper of Gurbuz, (2013) suggested that Industrial diversification in any banking sector is most liked in variety of literature and one of the reasons is that, all of the charges in banking sector have a mutual connection with net interest income. However, in some literature on Industrial diversification which have an inverse relation in Bank performance.

The consequences of studies analyzing this relationship are blended. Suggested by Molyneux, P., (2013) that Industrial diversification has blended relationship; some studies are in favor of Industrial diversification and rest are vice versa. That may depend on countries demographics.

However, theoretical underpinnings support the Industrial diversifications impacting positively on the corporate financial performance. Synergy theories for example indicate that firms that are diversified by acquiring other firms or combining with other firms (corporate diversifications) perform much better than firms which are

not diversified due to synergy. Thus, relationship between Industrial diversification and financial performance would u-shaped where synergy leads to positive financial performance but for up to certain level after which Industrial diversification leads to high operational costs and inefficiencies (Adamu, et al, 2011).

Supporting the argument by synergy theories, Palich et al. (2000) established that Industrial diversification influences the market performance but only to a limited extent. Studies have also established that Industrial diversification and business performance have no relationship between them. Adamu et al (2011) conducted a study on the product Industrial diversification on financial performance of selected Nigerian construction firms. They found that undiversified construction firms performed much better using various performance measures like Return on Total Assets and Profit Margin. This was attributed to mainly inadequate efficiency in the asset utilization by the organizations having well diversified in generating profits.

In the banking industry, Baele, Jonghe, Vennet (2006) found that revenue Industrial diversification could lead to reduced risks; exceeding high Industrial diversification could lead to negative consequences on financial performance. Positive relationship has also been found between components of business Industrial diversification and financial performance.

Makokha et al, (2016) explored the impact that portfolio Industrial diversification has on commercial banks' financial performance in Kenya. The findings were that portfolio Industrial diversification was positively related to improvements in the performance while the Industrial diversification in investments enabled banks to increase profits and performance in the past years.

The banking sector performance and the economy of a country are closely related (Katrodia, 2012. Notably, the soundness of the commercial banks is largely dependent on their financial performance which is normally used to indicate the strengths and the weaknesses of such a commercial bank (Makkar and Singh, 2013). The financial performance of any business organization is normally evaluated by determining their profitability. This is due to the banks need to generate the necessary

income in order to be able to cover their costs of operations which are incurred as they go about their work.

The main purpose of banks is to give loans and earn profit from it. There are different methods in both the focus and diversified banks; one is to invest in different sectors and earn from it and other is to be focused and must be specialized in all the activities that occurs.

In banking sector, they prefer to have banking activities in different part of the countries which gives them the advantage to diversify their risk. Similarly, if banking activities by investing on different sector it further gives the advantage of less risk. So as a whole its in the betterment of banks to diversify.

In the paper of Diamond (1984) suggested that diversification of loan can reduce the cost. As per his theory, Bank works on behalf of depositor and as the investment is made in different independent firms, the cost even goes to zero. This way, they can spread investment as much as they want. Marinc (2009) worked in the lines of Diamond (1984), as he supported this theory as presented by Diamond and he further added that all the expenses are same as even without diversification. And there will be fewer chances of losses as compare to non-diversified banks.

In his research paper of Ramakrishnan and Thakor (1984) tells us that's banking sector translates the behavior of investor and how that will get better in diversification. As per their point of view, investor when work together, it will create a synergy same way in banking sector, by adopting diversification, they will be in advantage.

Focused banks are more skillful as they have expertise at one specific industry and in long run, risk will also be less as compare to diversification suggested by Mishkin et al. (2013). As per the recent theory of Harry Markowitz 1952, that there is a positive relation with risk and return, if it's a efficient frontier and will have no effect whether it's diversified or not. And the same is supported by (Bodie, Kane, & Marcus, 2014) as well; this is also called Consistency with portfolio theory.

As per the Winton (1999) showed that the level of risk among the focused and diversified banks, tells how much is more risky from one another. As per his theory,

focused banks are less risky and have a lower level of probability of breakdown but in case of diversified banks have more facilities compare to focused banks but have more risky as well. He explained that the comparison between risks in focused and diversified banks, the risk is not that high and can be valid.

U.S. banks are not simply getting greater; they are additionally getting more extensive with enormous bank holding organizations spreading their tasks across numerous business sectors inside and over the U.S. Comparative with those writing, the subject of how width influences bank execution has been moderately understudied. Geographic expansion across business sectors as an improvement in banking sector suggested by Morgan, D. P., & Samolyk, K. (2003).

The structuring in Indian Banking Sector resulting in local and foreign banks have rivalry on the performance among banks. This has brought about an impressive change in the targets, methodologies and tasks of the banks. As a key reaction to the changing economic situations, strategies and guidelines, a significant number of the banks working in India have taken the course of differentiating their tasks to diminish the variances in their monetary exhibition. Deregulation and the subsequent escalated rivalry have constrained the banks to take part in chance taking exercises for their piece of the overall industry or net revenues, enhancement of activities may help them in spreading the dangers of tasks across various administrations, and along these lines settling money related execution. Moreover, enhancement of tasks may likewise add to the soundness in money related execution by giving chance to pick up non-premium salary, participating in exercises where returns are defectively corresponded, and weakening the effect of need area loaning suggested by Mishra, (2012). By studying various research papers, one cannot determine whether which is best among focused and diversified banks. As both these concept have a very supportive research papers, so have to work out as from Pakistani point of view, as which is best option for Pakistan.

2.2 Independent Variables and Profitability

In this study, there are six variables, in which dependent variable is return on

asset and independent variable includes concentration measure, Risk as proxy of risk, size, personnel cost and EQ ratio respectively.

2.2.1   Concentration Measure and Profitability

In the paper of Akbaş, H. E. (2012) suggested that for measuring Concentration Measure and profitability, "Herfindahl–Hirschman Indexes (HHI)" is used. As per the research, debt has a positive relationship with profitability. And to enhance in ROA, credit management must be increased as well. When Herfindahl–Hirschman Indexes (HHI) moves downward means that competition among competitors are decreasing, however, when figure moves upwards means that there are lot of organizations competing each other and have lot of room for competition suggested by Gajurel and Pradhan, (2012). Deltuvaitė, V., (2007) suggested that concentration measure calculations tell us the whole market of banking industry that is why any fundamental change can affect the whole market. However, Marfels (1971b) suggested that few banks have any structure change cannot be identified with this method but that will affect the banking industry as a whole. This method is also used in implementing the banking legislation and when any new laws are required or implemented only when a favorable results in concentration measure is measured. He also suggested that when calculating concentration measure, there must be weight assigned for different range of banks in such a manner that large banks have the higher figure than smaller banks to know the actual worth of the banking industry. Davies (1979) suggested that when calculating concentration measure with help of Herfindahl–Hirschman Indexes (HHI) is very useful but as in banking industry, there are different size of banks which becomes less sensitive when difference among banks are very huge. Large banks include the National bank while small banks may be limited to few cities, which are not comparable.

H1: Concentration Measure has a significant impact on Profitability.

2.2.2   Risk and Profitability

Akbaş (2012) suggested that the liquidity of banking must not be that low so

that can be cause reverser to profitability of banking industry. As per different researchers also concluded on this view that lower cash can cause chaos in banking industry. Whereas in case of high liquidity ratio, can make the economy stable in longer run.

As per the research paper of Sufian (2009) suggested that banking industry which are larger in size has the opportunity to invest on borrower and have lot of assets to get more profitability and less chances of risk, however banks with lot of liquidity and increase in expenses have inverse relation to profitability. And that can cause to bankruptcy as well to th banking industry. This study is conducted on China banking industry as there economic growth is in upward trend and the inflation is in downward trend which helps the banking sector in increase in profitability and betterment to the China economy as a whole.

Similarly, the study conducted by Sufian and Habibullah (2009) also worked on the profitability of banking sector came up with the results that risk is increased, asset is higher and liquidity is also increased will have higher profitability. Then another study shows which stated that risk is increased and the expenses are reduced by banking industry will also have profitability as well. However, according to them, when huge size bank with higher assets and cost are also higher will have low profitability ratio. Whereas banking industry with huge assets but have experience in diversification method also has a positive relation to profitability.

Tan and Floros (2012) suggested that on China banking sector, where the economics of scale will be higher when tax rate is reduced which will ultimately reduce the risk factor as well. This is only possible when diversified banking industry worked with the latest facilities and empowerment.

Similarly, Tan, Y. (2016) suggested that in banking industry when risk is higher that will have inversal effect on profitability. And will also give advantage to competitors of banking industry where investor may invest on other project other than banking industry. And when bank is effected this may also effect on other variable which are directly perpetual effect on the economy of the country such as inflation of the country, GDP and other variables as well. Suggested by Tan, Y. (2016) that there are indicators to test the risk and find the bank's profitability

which can be evaluated by different ratios specific for banking industry. These ratio can be match to find the comparative studies among banking industry to test the direction of industries. These studies will tell us the direction and also tell how to take preventive actions to be taken to be at par in competition. They have also calculated the risk used to measure risk of banking Industry of Pakistan.

In the paper of Miller and Noulas, 1997 suggested that the bad debt ratio variable tells us the how much risky the project is for the specific course of time. Further stated that when the risk is higher, that will lead to low the profitability as well. This may have a very negative effect to China banking Industry. There must be risk management system that can monitor each and every transaction of banking to evaluate and take precaution measures to be secured from bankruptcy.

These researchers such as Iannotta et al., 2007; Liu et al.,2013; Liu and Wilson, 2013 find the risk factor with help of Risk to find out how much stable the economy is in China. They have also concluded that when the figure of Risk is upward will lead to stability of the economy whereas in case of down ward than results will be vice versa.

Fang et al. (2011) suggested that the risk factor of economy cannot be evaluated with help of Risk but the standard derivation can figure out the economy conditions. This will tell how much risk is there in the banking industry. As per the researchers such (Diamond and Dybvig, 1983; Molyneux and Thornton, 1992; Bangia et al., 1999; Diamond and Rajan, 2001; Allen and Gale, 2004; Kosmidou, 2008; Drehmann and Nikolaou, 2009; Bissoondoyal-Bheenick and Treepongkaruna, 2011) has also emphasis on the view that there must be risk management in the banking industry so that each and every transactions are under observation.

As per the researcher Roman, A., & Sargu, A. C. (2015), there are many risk ratios and studies in literature as well but are not much in practice in banking industry. It is hazardous when bank take more risk at time of catastrophe era with same ideas where bankruptcy can be occurred. The policy makers give directions in every country about the policies that are going on in any country in banking industry. All the strategies of banking industry is also derived by the State bank as well. That can have lot of pros and cons as well because when strategy goes

wrong that will affect the whole economy at once which will ruin the economy. In big countries such United States can even affect the world economy as well because all countries' economies are connected the United States economy. The countries which are backward in nature have very less risk management precautions however; European countries have very vast experience in risk management.

Gieseche, 2004suggested that banks are the facilitators for the depositor as well as to the borrower that helps to stable the economy of the country and also invest in form of giving loans for projects and get profit from it. The survival for banking industry is to invest otherwise banking Industry will be bankrupted in the country; this is there source of income.

As per Chen and Pan (2012) suggested that loans that are given to borrower is an investment for banking industry and that becomes threat when the borrower becoming defaulter and more defaulter will lead to bankruptcy as well. Similarly, Coyle (2000) as on same lines that when due payment is not paid will make bank under stress. Risk management team must calculate the defaulter ratio, so they cannot lead any pressure on banking industry. And on longer run that will also effect on profitability as well.

(Kithinji, 2010) suggested that when the institution have poor performance in risk management than there are chances of default. There are lot of thing which can lead to poor performance such as weak standard operating procedures, the credit risk ratio is too high and similarly, the things which are not practice properly than possibility of bankruptcy is very high.

When the provision of loan risk is high will lead to lower profitability and that will also compromise the standard of banking industry than those bank industry with low loan risk will have is in safe zone and have high profitability ratio suggested by Ahmed, Takeda and Shawn (1998). In the view of Felix and Claudine (2008) that banks with weak risk management team have a direct effect on their profitability. When corrective actions are not taken by risk management that has a very serious issue which will lead to bankruptcy. Down fall of profitability is an indicator before it get bankrupt. In the paper of Kithinji (2010) suggested that banking industry of Kenya where profits of banking industry are mixed together in such a way that

can be a scapegoat for those who do not perform well in the banking industry but as a whole that effect on profitability.

In his research paper of Kargi (2011) suggested that in Nigerian Banking Industry, the profitability can be opposite in direction with credit risk which is retrieved from banking annual reports. That means with high credit and advances have a very inverse effect on profitability.

Similarly Epure and Lafuente (2012) studies on Costa Rica banking industry, where result are same as in Nigerian Banking Industry. That also effect there capability when banks are not performing well. Kolapo, et al.,(2012) suggested that there are many ways to protect banking industry from bankruptcy with different methods such as through method of derivations in form of hedging or swap, secondly with help of insurance, thirdly by making such policies that are strictly followed by banking industry that must be very effective and protective or another way by creating such institution which only deals to review all the transaction in banking industry and overcast on monthly basis to increase profitability.

H2: Risk has a significant impact on Profitability.

2.2.3 Size and Profitability

Researcher Demirguc-Kunt and Maksimovic (1998) researched in his paper about the relationship of variables of return on asset and size. They both have positive relationship in banking industry. Due to high reserved of their enormous size, they have addition funds for investments in future projects and they can gain a lot.

Researcher Gul, S., Irshad, F., and Zaman, K. (2011) in his paper, concluded to the view that huge banks are more trusted by the clients than those of small banks. Secondly, it is also beneficial because transactions turnover is higher and so much of transactions leads to high profits as well. In his paper Molyneux and Thornton (1992), Bikker and Hu (2002) and Goddard et al. (2004) discussed about size, how that interpreted the firm in relationship to profitability. As per his views, large banks have economics of scale which helps by lowing the costs and also increase the profits as well. In most of the research papers, size is always used as proxy

who helps to calculate easily. Suggested by Naceur (2003) stated that the higher loans and large size banks have an inverse effect on return on asset. Similarly, higher loans and profitability of a banking industry also increases the expenses as a whole. In research paper by Bashir and Hassan (2003) and Staikouras and Wood (2003) supported with other researcher that higher loans has an inverse relations with return on asset.

Goddard, et al. (2004) has worked on banking industry of five different countries on size and return on asset. As per his study, bank gets bigger with continuous flow of profit with passage of time; however any negative effect will have very little effect on bank on financial terms.

As per study of Flamini et al. (2009) which is published in IMF on the topic of Determinants of Commercial Bank Profitability in Sub-Saharan Africa on 41 countries which tells us that profitability has a direct relation with the size of the bank. And the huge bank size will have high profitability rate.

Burki and Niazi (2006) also analyzed on banking Industry of Pakistan of 40 banks in which he found that there is a positive relation with profitability with size of banks. Large banks from financial point of view have large impact and smaller banks have less impact on banking industry. And he further stated that the overall profitability has impact on banking industry as a whole. The author also focused on the impact of banking industry which differs from country to country demographics. As per different researchers such as Short (1979) and Bourke (1989) and (Gungor, 2007) also wrote on bank sector and its profitability. There studies shows that there are two types of determinants which has lot of effect in making banking industry smooth, firstly the determinants which are working within the banking industry and secondly, the determinants which are working outside and not the part of banking sector but that do effect the banking industry.

The inside determinants are a lot, some of them are asset of bank, size of the bank, overall performance of the bank and the determinants which effects from outside the banking industry such the law, which they has to follow, then the economic crisis which have a very significant effect on banking sector of every country. Researcher Mamatzakis and Remoundos (2003) discussed on banking

industry about the profitability and the features which are used for the profitability are the further investment on borrowers in shape of loans of assets. Similarly, the larger the size of the bank will have the effect of economics of scales which will reduce the cost and lot of profit. In this way, when banking industry is based on this method will flourish the economy of the country. When the size of the bank is extended, that will have a positive impact in the country.

Suggested by Atasoy (2007) that on Turkey banking industry in which he discovered that the profitability of banking sector and the size of the banking sector has a positive relation in it. Whereas the inflation has a negative impact on profitability in banking sector. And the larger banks will impact according as all the state economy is in hands of banking sector.

Olson and Zoubi, 2011 stated that the bigger banks have high cash flow in form of loans to be received and loans to be invest on borrowers and lastly, the cash in hand which is available at the moment. Banks have all the dependences on the loans which is invested on the borrower, to get profits out of it. However, when banks have the policy to give loan on larger scale than the chance of bad debt may have in high probability which is not a good sign for bank sector. Bank needs to be very careful to be bailout from bad debts.

H3: Bank size has a significant impact on Profitability.

2.2.4   Personnel Cost and Profitability

Feyzioglu (2009) suggested that the personnel cost in China banking industry is 30% of its cost as compare to rest of the world. Even in crisis, China banking industry management did not reduce this expense. In China, there are big five banks which lead the banking industry, their profits are completely dissolved due to high personnel cost.The China corporate industry are all depended on China banking industry and their performance are far more better than the rest of the world and there cost are also very low, all they need to do is lower personnel cost to be more profit efficient. The researcher also discovered by comparing to other banks with China bank such as Deutsche Bank reveals that they pays more than 6

times higher salary than China bank and China banking industry strength is more than 2 times higher than Deutsche Bank. So in this case China banking industry is much more cost efficient than Deutsche Bank.However, after such a high strength employees will have salary increase on yearly basis and other facilities that directly affect banking cost will reduce the profitability.

This may tell that they have negative relationship as the personnel cost increase will reduce the profitability. The one way to be more proactive and high profitability is to reduce the personnel cost of banking industry. Another way is to welcome new businesses to invest to keep the profitability upward. Business diversification will further enhance to profitability, but business needs to be in abundanceto reduce the cost as well.

Lustsik, O. (2004)explains the personnel cost which is all the benefits that employees gets from organization as return of his services or duty that he performs for organization. These are the expenses that organization incurred to run the organization. Employees must not be too much that directly affects the profitability of the organization. To motivate employees of organization, they always give bonuses, salary increase on annual basis; business trips similarly, phone facility, car facility and much more.

The smaller banks can lower their expenses especially personnel cost by redistribution there services and operations to main central bank. All operations will dependent on internet. This will help in reduction of employees which will lead to reduce cost as well. In Switzerland, all bank services have managed to low cost with high technology and superior services.

Since the job of representatives is additionally of extraordinary importance as every single action of a bank is straightforwardly identified with the demeanor, inspiration and work culture of the representatives and worker profitability is a significant factor while estimating generally speaking effectiveness and efficiency of banks, Yadav et al (2015) suggested that the representative profitability by the methods for various boundaries among five groups of banks. Supporting this view, Chaturvedi et al (2012) say that the capacity of the bank workers can convey expeditious and respectful support of the clients thus, to assess benefit of banks

regarding its representative's efficiency is essential. Assessing the monetary situation of Punjab National Bank and Central Bank of India as far as their workers Chaturvedi et al (2012) show the endeavors of the chose banks in expanding their feasibility in chose study time of a long time from 2002 to 2011. Kumar (2016) additionally assesses worker efficiency in open area business bank of India and Nepal utilizing two fundamental boundaries like 'Business per Employee' and 'Benefit per Employee' and for discovering the secret actuality some factual instruments like normal, accumulate yearly development rate, Anova, co-connection and co-efficient of assurance have been utilized on arranged information and discovers that representatives assume a significant part to accomplish high profitability in financial area.

Pandit (2017) says that advancement in innovation will cause about 30% of banking occupations vanishing in the following five years as on the grounds that computerized reasoning and mechanical technology lessen the requirement for staff in jobs, for example, administrative center capacities Bank are pushing the limits of innovation by carrying out advanced mechanics to concentrate tasks and for snappier turnarounds in things like advance preparing and offering monetary items to clients, along these lines diminishing the requirement for a manual laborer at the back end.

As a quick developing innovation, Mali (2018) says that few ventures have effectively received Artificial Intelligence (AI) for different applications, improving and more astute step by step and furthermore sees that in the previous few years, the financial area has likewise gotten one of the main adopters of Artificial Intelligence. Despite the fact that there are significant professionals of AI as seen by Mali (2018) in financial like better client assistance, upgraded banking administrations, trick acknowledgment, progressed information examination, there are perilous cons of AI likewise in financial area like joblessness supplanting of the labor force with machines can prompt wide-arriving at joblessness. Noticing this matter, Meena et al (2020) additionally construe that in financial area, 70% of front office occupations are dislodged by Artificial Intelligence (AI) like tellers, advance officials, client support delegates and representative are supplanted by

chatbots, voice partner and mechanized validation and biometric innovation and account director and consistence officials are laid off because of Artificial Intelligence based enemy of illegal tax avoidance and hostile to misrepresentation and along these lines say that with the fast development of digitalization in financial area, industry specialists expect in any event a 15% increment in employing, 25% of occupations were in peril stage. Seen by Meena et al (2020), it is come to realize that because of digitalization there are 15 to 20% of new position job and 55 to 60% of occupation has no change in existing in job. Meena et al (2020) say that because of broad utilization of digitalization, banking activities like asset move, account opening, charge installment, getting account explanation, getting ATM card, charge card, Mastercard, check book, advance subtleties and so forth can be performed without visiting bank offices.

Consequently the impact of digitalization in financial area prone to decrease human intercession and make a large portion of the work excess driving the bank labor force to apprehensive about their work danger on the grounds that the purpose for their stir is that the everyday financial activity, for example, passbook refreshing, money store, confirmation of realize your clients subtleties, compensation transfers, should be possible without reliance of labor force at the branches and made danger almost 20-25 percent occupations in financial area (Meena et al, 2020).

Meena et al (2020) say that the critical factor adding to routine nature of occupations that require less and compromised positions are Data passage, Data check, Teller, Cashier and Underwriter and as indicated by PwC report 2017, 32% of occupations in the financial area could be delivered old because of progression in mechanization and computerized reasoning (Meena et al, 2020).

H4: Personnel cost has a significant impact on Profitability.

2.2.5 Equity Ratio and Profitability

Akbaş, H. E. (2012) suggested that EQ ratio is equity to total asset, which tells us any unexpected financial distress can be resolved. The higher the EQ ratio is better for the organization. The relationship of EQ ratio and profitability is

positive. That means when profit increases the EQ ratio also increase. Higher the EQ ratio is also beneficial because no need to debt is required for the organization or easily to pay back for its dues and loans. Equity to Asset Ratio determined by separating absolute value by all the resources. A higher proportion shows generally safer and higher portion of proprietorship in all resource of the bank. Furthermore, the clients' gives benefits in of form of cash and also complete liabilities as well.

In Hsieh and Lee, (2010) proposed that revealed a negative relationship between equity to asset and productivity. Thus, Gill, Biger, and Mathur (2011) found no huge connection between long term obligation to total asset to resources and benefit for a gathering of organizations in help ventures. Obligation and equity are the two primary outcomes of capital for financing speculation and other activities.

Equity to Asset ratio is also called common equity to resources. It estimates capital as a level of all out resources. Equity to Asset proportion gives rate insurance managed by banks to its interest in resource. It gives a cushion for all the risk for banking industry from potential credit resource misfortunes.

The higher the proportion of Equity to Asset proportion, the more noteworthy is the limit with regards to a bank to continue the resources misfortunes.

As indicated by Shamki et al. (2016) that high capital, making banks moderately more secure in case of liquidation, and diminish reliance on outside subsidizing and afterward to expand benefits. Capital alludes to the measure of own subsidizes accessible to help the bank's business and in this manner go about as a wellbeing net in the event of unanticipated conditions (Ilosca, 2016). Sufian (2011) that when banks are all around promoted, banks face lower expenses to become bankrupt and afterward lower financing expenses and reliance on outer subsidizing to produce higher benefit. Value Ratio is a monetary pointer that used to quantify connection or inspiration from the proprietor of the business progression of the bank concerned. This proportion show size capital own which is utilized to finance the entirety of the organization's resources.

The higher it is extent capital own it will be progressively high additionally connection or inspiration proprietor of the bank's business congruity, so the higher the

part of the proprietor in impacting the administration of execution improvement or effectiveness of his bank in a more expert way. All things considered, the generally low extent of own capital will causing the proprietor don't feel too hurt if the bank bankrupt or bankrupt (Ambarriani, 2003). Also, with the presence of high capital can shielding clients from misfortunes and keeping up open trust because of accessible money to watch their assets (Hendrayanti, 2013. This proportion is acquired by contrasting the measure of value and absolute resources (Hanafi: 2008)

Equity Ratio is taken as the proportion of value funding to add up to resources. It's fascinating to take note of that higher capital level varieties higher productivity level since by having more capital, a bank can undoubtedly cling to administrative capital norms so abundance capital can be given as credits (Berger, 1995). The capital proportion which is estimated by complete value over all out resource, uncovers capital sufficiency and should catch the overall security and adequacy of the monetary establishment (Gull, 2011). It shows the capacity of a bank to assimilate misfortunes and handle hazard openness for investors. Past investigations have tracked down a positive connection between Equity proportion and benefit (Hassan and Bashir, 2004). Equity Ratio is required to have a positive connection with execution since all around promoted banks are safer and more beneficial (Bourke, 1989). Equity Ratio is incorporated as an autonomous variable to analyze banking productivity.

Equity Ratio is likewise discovered to be another significant inner determinant of bank benefit. Bourke (1989), Molyneux and Thorton (1992), Berger (1995), and Goddard et al. (2004), showed that there was a positive connection between bank capitalization and productivity. Athanasoglou et al. (2005) and Berger (1995b) recommended that capital is better demonstrated as an inside determinant of bank benefit, as higher benefits may prompt an increment in capital and it likewise suggests that all around promoted banks face lower dangers of failing, which decreases their expenses of financing. As per Kosmidou (2008), the capital sufficiency can be estimated by the value to add up to resources proportion. The higher the capital-resources proportion, the lower the influence and along these lines the lower the

danger. Although leverage (capitalization) has been indicated to be essential in describing the performance of financial institutions, its effect on bank profitability is equivocal. As lower capital ratios suggest a relatively risky position, one might expect a negative coefficient on this variable (Berger, 1995). An enhancement in capital may increase expected earnings by decreasing the expected costs of financial distress; including bankruptcy (Berger, 1995). Capital is measured as total capital and reserves as reported in the balance sheet.

Capital sufficiency of a bank is estimated by Equity proportion. Capital ampleness alludes to the adequacy measure of banks value to ingest any stuns that the bank may insight. Value proportion mirrors the capacity of the bank to withstand misfortunes or monetary danger. A save money with a high Equity proportion has a solid capacity to withstand the monetary danger, bring down the need to outer subsidizing, and thusly bring about higher benefit. Also, very much promoted bank can peak more business oppor-tunities. It is capable and adaptable in dealing with the danger and brings down the danger of going wiped out which will decrease the need of acquiring and in this manner expanded bank benefit.

Demirguc-Kunt and Huizingha (1999) found that all around promoted banks have a more noteworthy Net non premium edge and brought about high benefit. Berger (1995b), Mamatzakis and Remoundos (2003), Staikouras and Wood (2003) and Athanasoglou et al. (2008) tracked down that the Equity proportion has a positive relationship with benefit. This demonstrates that the contention of very much promoted banks accomplish in higher benefit is upheld. In this way, we anticipate that the connection between Equity proportion and benefit is positive.

A huge part of a bank's resources and obligations in non-industrial nations are typically designated in unfamiliar monetary forms like US dollars, euros. Thusly, banks are presented to unfamiliar trade hazard or just swapping scale hazard, as variances of the conversion standard are probably going to influence their total assets. The value proportion is a significant marker of banks' monetary abundance (Basel Committee on Banking Supervision 2014). It estimates the extent of complete resources that are financed by investors. From one viewpoint, a positive value proportion demonstrates that the bank can reimburse every one of its

obligations with the assumed worth, of every one of its resources. Then again, a negative value proportion demonstrates that the bank can't reimburse every one of its obligations with the presumptive worth of every one of its resources, which is an obvious sign of monetary trouble. Thus, national banks have exacting standards of capital necessity sufficiency or influence proportion rules (Jarrow 2013; Ong 2014).

Typically, these standards oblige banks to keep a base level of the value proportion both on and cockeyed sheet things. Notwithstanding this guideline, a few nations force cutoff points or limitations on unfamiliar trade net open positions. The last reason for these prerequisites and limitations is to shield contributors from a bank's likely misfortunes and accordingly keep up the trust in the monetary framework (Cayazzo et al 2005). Lately, because of the last monetary emergency, stress testing has become a compulsory strategy used to assess the weakness of monetary organizations.

H5: Equity ratio has a significant impact on Profitability.

2.2.6 Risk on Banking Industry

Aarflot, S., & Arnegård, L. (2017) suggested that for studying non-linear effect on banking industry, Hirschman Herfindahl Index (HHI) is used. This study is on profitability with relation to risk and concentration measure is calculated.

In calculating the above effect, a linear effect occurs. However, when risk is doubled and concentration measure with relation to profitability, a non linear effect popup on graph.

H6: There is industrial diversification affect the financial performance of commercial banks of Pakistan.

H7: There is a relationship between Portfolio concentration and returns as function of risk.

2.3 Research Model
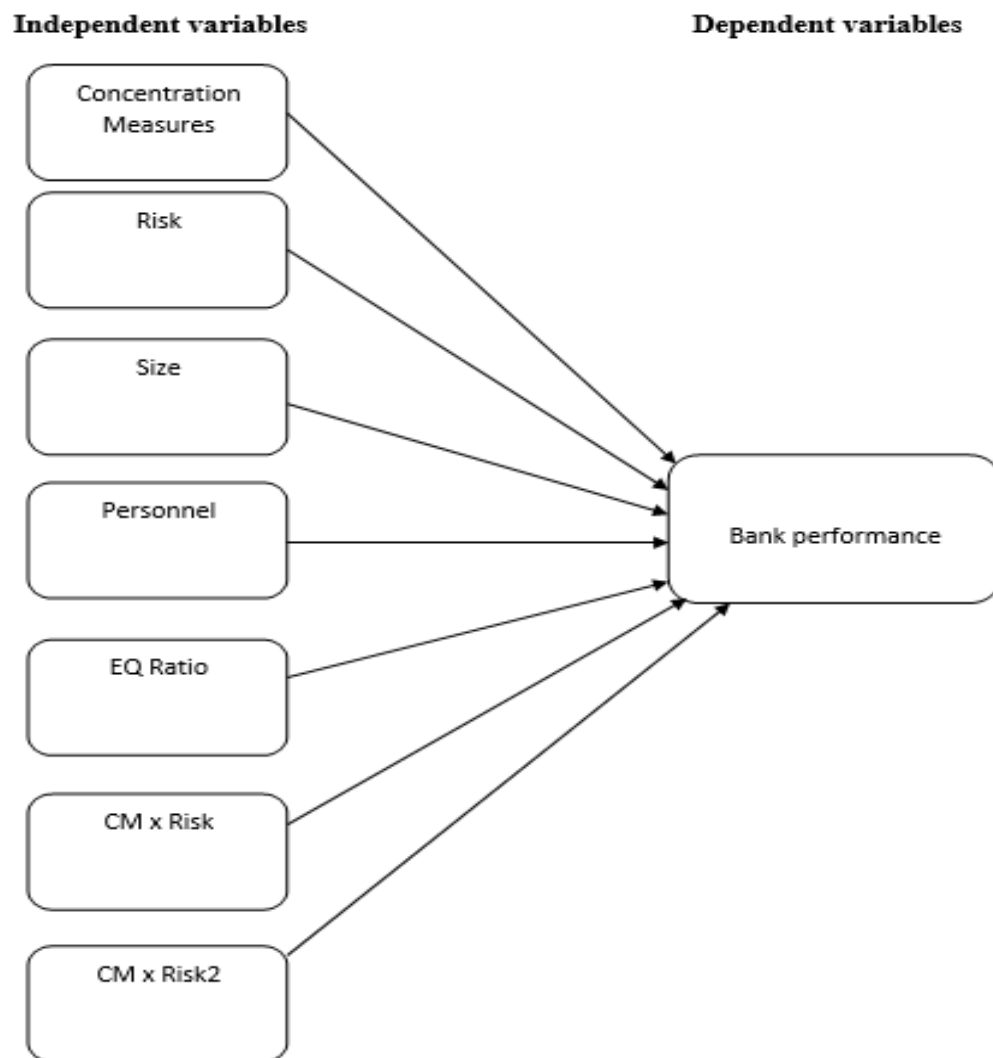
FIGURE 2.1: Theoretical Framework

Chapter 3

Data and Methodology

For analyzing the data of banking industry, the independent variables includes Concentration Measure, Risk as proxy for Risk, Size, Personnel and EQ – ratio and the dependent variable is Return on Asset respectively. Every variable has an impact on profitability in different way and has consequences on the economy of the banking industry. Each of these methods is calculated to find the impact on Pakistan economy and this study will also help the researchers for further analysis.

3.1 Data Description

3.1.1 Population

Population of this study includes all Commercial Banks of Pakistan. The data are the financial statements retrieved from respective Banks. All the numerical values of different banks are extracted from the Annual reports which are published on annually basis.

3.1.2 Sample

The sample size represents; the part of whole population. That also includes the completeness of data from all expects. With this definition, a close observation was conducted on all commercial banks of Pakistan; in this study 20 commercial

Banks were included in this study. The total number of years for this study is Fourteen years from 2006 to 2019 and panel data is used.

3.1.3 Source of Data

The study is based on secondary data and all the data has been collected from financial statements on annual basis from their respective websites and financial statements analysis of financial sector from State Bank of Pakistan. The study is on diversified banking industry for that reason all the commercial Banks of Pakistan were selected for this purpose.

3.2 Econometric Model

3.2.1 Common Coefficient Model

The Common Coefficient Model has constant intercepting among the cross sectional and Time series data. This study has worked on two equations, to find out the risk factor, how much that affects the bank performance. The equation - 1 is linear equation.

$$ROA_{i,t} = \beta_o + \beta_1 CM_{i,t} + \beta_2 Risk_{i,t} + \beta_3 Size_{i,t} + \beta_4 Per_{i,t} + \beta_5 EQ_{i,t} + \varepsilon_{i,t} \quad (3.1)$$

And Common Coefficient Model is also used in equation – 2 as well. It is a non-linear equation. Non-linear equation is a curve line on a graph. Any equation having a square in its variable is non-linear equation.

In this study, it is used to find the risk factor on banking industry.

$$\mathrm{ROA}_{i,t} = \beta_o + \beta_1 CM_{i,t} + \beta_2 Risk_{i,t} + \beta_3 Size_{i,t} + \beta_4$$

$$(3.2)$$

$$Per_{i,t} + \beta_5 EQ_{i,t} + \beta_6 CM_{i,t} * Risk_{i,t} + \beta_7 CM_{i,t} * Risk^2 \varepsilon_{i,t}$$

3.2.2 Fixed Effect Model

In fixed effect Model, the data is confined to the selected data given and that can be used for estimation and testing as well.

The equation - 3 is linear equation.

$$ROA_{i,t} = \beta_i + \beta_1 CM_{i,t} + \beta_2 Risk_{i,t} + \beta_3 Size_{i,t} + \beta_4 Per_{i,t} + \beta_5 EQ_{i,t} + \varepsilon_{i,t} \quad (3.3)$$

And equation – 4, is a non-linear equation.

$$ROA_{i,t} = \beta_i + \beta_1 CM_{i,t} + \beta_2 Risk_{i,t} + \beta_3 Size_{i,t} + \beta_4 Per_{i,t} + \beta_5 EQ_{i,t} + \beta_6 CM_{i,t} * Risk_{i,t} + \beta_7 CM_{i,t} * Risk^2 \varepsilon_{i,t} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (3.4)$$

In the above equation 4, where $\beta_6 CM_{i,t} * Risk_{i,t} + \beta_7 CM_{i,t} * Risk^2$ is added to find the return on concentration measure with different level of risk occurred. Further stated that, in this study, profitability is not limited just on concentration measure, rather than, the concentration measure is a one sided effect in low risk level and other sided effect on high level of risk. In short, bank must focus by increasing the level of concentration measure to sustain in market in every level of risk.

3.2.3 Random Effect Model

In random effect Model, the data is random to the selected data given and that having no assumptions. This model has also the access by adding the additional independent variable in the study with same number of observation.

The equation - 5 is linear equation.

$$ROA_{i,t} = \beta_o + \beta_1 CM_{i,t} + \beta_2 Risk_{i,t} + \beta_3 Size_{i,t} + \beta_4 Per_{i,t} + \beta_5 EQ_{i,t} + \varepsilon_{i,t} \quad (3.5)$$

And equation – 6, is a non-linear equation.

$$\text{ROA}_{i,t} = \beta_o + \beta_1 CM_{i,t} + \beta_2 Risk_{i,t} + \beta_3 Size i,t + \beta_4 Per i,t +$$
$$\beta_5 EQ i,t + \beta_6 CM_{i,t} * Risk_{i,t} + \beta_7 CM_{i,t} * Risk^2 \varepsilon_{i,t} ..... (3.6)$$

3.3 Difference between Pooled OLS and Fixed Effect Model

The Pooled Ordinary least square (POLS) is used for linear equations and the mean of the variable need not have much difference otherwise estimation will not be significant. There is one issue in this method, that if data have more errors or any uncertainty, results will not show the unbiasedness. On other hand, in fixed effort model, the estimation is fixed not random.

It is completely opposite to random effect model. The mean in fixed in this model. This model is better for those data which is biased will not be calculated, and the actual picture will is presented. And Likelihood ratio test is used to make selection between POLS and FEM. The study use likelihood ratio test to differentiate between POLs and FEM significance value indicate that FEM is appropriate.

3.4 Hausman Test

This test tells us that whether fixed or random test is used. The difference is that if F Stat. and Chi Square is less than 0.05, Fixed effect model need to be used otherwise Random effect is used.

TABLE 3.1: List of Variables with Description

Dependent variables				
Variables	**Symbol**	**Description**	**How to measure**	**Reference**
Profitability	ROA	The return on average assets	$\frac{NetIncom}{TotalAssets}$	Aarflot, S., & Arnegård, L. (2017).
Independent variables				
Concentration Measures	CM	Concentration measures measured by Herfindahl Hirschman index	HHI= $\Sigma MS^2 * 1000$ where M = Total number of Banks S = Share of the banks	Mahmood-ul-Hasan Khan, & Riazuddin, R. (2009), Akbaş, H. E. (2012) Gajurel and Pradhan, 2012 Deltuvaitė, V., (2007)
Risk	Risk	The possible risks a bank might have that could impact its performance, as in credit risk		Aarflot, S., & Arnegård, L. (2017), Akbaş (2012),

Continued Table: 3.1 List of Variables with Description

Dependent variables

Variables	Symbol	Description	How to measure	Reference
			$\frac{EQRatio + ROA}{\bar{\sigma}ROA}$	Sufian (2009), Sufian and Habibullah (2009)
Size	Size	Size of Banking Industry impact on profitability and trust of customers. Larger banks are better than smaller banks		Aarflot, S., & Arnegård, L. (2017), Demirguc-Kunt and Maksimovic (1998),
			In(Total Asset)	Gul, S., Irshad, F., and Zaman, K. (2011)
Personnel Cost	Personnel	Employees benefit over the period of time.	$\frac{PersonnelCosts}{TotalAsse}$	Aarflot, S., & Arnegård, L. (2017), Feyzioğlu (2009) Lustsik, O. (2004)
Equity Ratio	EQ	This ratio tells that how much the firm is liable by dividing with total asset which the firm has.	$\frac{Equity}{TotalAssets}$	Aarflot, S., & Arnegård, L. (2017), Akbaş, H. E. (2012)
				Hsieh and Lee, (2010)

Chapter 4

Results and Discussion

This Chapter covers the result and discussion which includes all the testing and interpretations on collected data from secondary source. All the data has been collected from annual reports of commercial banks of Pakistan. The tools used for testing the data are as follows:

1. Descriptive Statistics

2. Correlation Matrix Analysis

3. Hausman Effect Model

4. Effect of Industrial Diversification on Return on Asset

4.1 Descriptive Statistics

Descriptive Statistics helps to organize the data in such a manner that can easily be interpreted from the collected information. It is used to get sample from population to represent the entire population.

In this study, variables are of two types; dependent and independent variables in which Mean, Median and standard derivation is calculated. These calculations are very essential as it tells the average of variables. Mean, which helps to measure the central tendency, which states average value of the data. That can help to

find any abnormality in the available data. Similarly, Median is used to find the middle value of the data. Standard derivation is used to find how much data is spread from the mean. The closer to mean is better than spread away from mean.

In Descriptive Statistics Table – A as shown below, tells us that all the variables are used including dependent variable "Return on Asset (ROA)" and independent variable includes "Concentration Measures (CM), Risk (Risk), Size (SIZE), Personnel (PER) and EQ Ratio (EQ)". Mean and Standard derivation are calculated of all the variables. The mean of Concentration Measure is 0.096956 and standard derivation is 0.177884.

The minimum and maximum values are 0.001000 and 0.985000 respectively. Similarly, the mean of Risk which is used for Risk proxy, its value is 0.038193 and standard derivation is 0.204575. The minimum and maximum are -1.293000 and 2.795000 respectively. The mean of Size is 18.92104 and standard derivation is 1.364892. The minimum and maximum are 15.127000 and 21.12700 respectively.

The mean of Personnel is 0.016165 and standard derivation is 0.017773. The minimum and maximum are 0.001000 and 0.227000 respectively. The mean of EQ ratio is 0.112243 and standard derivation is 0.132023 The Minimum and maximum are -0.031000 and 1.913000 respectively. The mean of Return on Asset is 0.004844 and standard derivation is 0.022431. The minimum and maximum are -0.264000 and 0.041000 respectively.

In the variable of Risk, the minimum value is -1.293; this is due to the negative sign with Equity or Return on asset, it varies bank to bank. Risk formula comprises of Equity and ROA with Standard derivation. When any of these figures are negative that will resultant negative sign of the variable.

In Equity, there is negative sign in minimum column. That is only negative when losses are accumulated with number of years. Such as in "The Bank of Punjab" losses are accumulated for 3 years from 2010 to 2012.

In ROA, the mean of minimum is negative. In the formula of ROA is Net profit or losses divide by total asset. All those banks which have losses will resultant negative sign. In Risk variable, the Skewness and Kurtosis is also calculated and

the result of Skewness is 4.219924 and Kurtosis is 87.50743. This shows that it is positive Skewness as figure is higher 1. Similarly in Kurtosis, it is Leptokurtic as it is higher than 3.

TABLE 4.1: Descriptive Statistics

	CM	RISK	SIZE	PER	EQ	ROA
Mean	0.096956	0.038193	18.92104	0.016165	0.112243	0.004844
Median	0.017000	0.029000	19.08800	0.012000	0.081000	0.008000
Maximum	0.985000	2.795000	21.12700	0.227000	1.913000	0.041000
Minimum	0.001000	-1.293	15.12700	0.001000	-0.031	-0.264
Std. Dev.	0.177884	0.204575	1.364892	0.017773	0.132023	0.022431

4.2 Correlation Analysis

Correlation Matrix Analysis finds the relationship among variable. How strengthful a relationship it is and the two set of variables with highest figure is the most correlated one. The sign with the variables tell us the direction of variable. Negative sign means opposite in direction whereas the positive sign means the movement of variable are in same direction.

In Correlation Matrix Analysis Table – B as shown below shows the detail analysis of variables and their strengths among variables. The correlation between Concentration measures and risk shows a positive sign which means that variables are in same direction.

The correlation between Concentration measures and Size means shows a positive sign which means that both the variables are on same direction. The correlation

between Concentration measures and Personnel have a negative sign which means that variables are in opposite in direction. The correlation between Concentration measures and EQ ratio shows a negative sign which means that variables are in opposite in direction.

The correlation between Concentration measures and ROA means shows a positive sign which means that both the variables are on same direction. The strongest correlation among Concentration measures with other variable is with Size with 0.639342.

Similarity the correlation between Risk and Size ratio shows a positive sign which means that variables are in same direction. The correlation between Risk and Personnel shows a positive sign which means that variables are in same direction. The correlation between Risk and EQ ratio shows a positive sign which means that both the variables are on same direction.

The correlation between Risk and ROA shows a negative sign which means that variables are in opposite direction. And the strongest correlation among Risk with other variable is with Personnel with 0.315002.

The correlation between Size and Personnel ratio shows a negative sign which means that variables are in opposite in direction. The correlation between Size and EQ ratio shows a negative sign which means that variables are in opposite in direction.

The correlation between Size and ROA shows a positive sign which means that both the variables are on same direction. And the strongest correlation among Size with other variable is with Personnel with (0.490934) but with negative sign means opposite in direction.

The correlation between Personnel and EQ shows a positive sign which means that variables are in same direction where as in ROA has negative sign which means variables are in opposite direction. And the strongest correlation among Personnel with other variable is with EQ with 0.709536

The correlation between EQ ratio and ROA is opposite in direction respectively. The correlation of ROA and Equity ratio always has a positive sign, which is good

for the Banking Industry. However, when accumulated losses occur that will lead to negative sign. Smaller banks are more sensitive than larger banks and that is due to the fluctuation that smaller banks can't absorb than that of larger banks. Another reason is that the accumulated losses may occur with one bank in different years and other bank with different time period the losses occurs.

TABLE 4.2: Correlation Analysis

	CM	RISK	SIZE	PER	EQ	ROA
CM	1					
Z	0.058962	1				
SIZE	0.639342	0.066058	1			
PER	-0.143048	0.315002	-0.49093	1		
EQ	-0.153846	0.016479	-0.41492	0.709536	1	
ROA	0.212548	-0.152491	0.440997	-0.50167	-0.06952	1

4.3   Hausman Test

As discussed in Methodology section about the Hausman Test. Hausman test is used to see which test is most suitable for further data testing and analyzing the data. The two models are fixed effect model and random effect model. In Hausman test as shown below **Table: 4.3** , shows that fixed effect model will be used because when value is less than 0.05, then fixed effect model is used, where P –value, F Stat. and Chi square is 0.0000.

TABLE 4.3: Hausman Effect Model

Test Statistic	Value	df	Probability
F-statistic	11.15636	(7, 254)	0.0000
Chi-square	78.09451	7	0.0000

4.4 Effect of Industrial Diversification on Profitability

There are two equations in this paper and three approaches of Panel data are used. The calculations are shown in Table – D and Table – E are as below. The significance of taking both these equations in this study is to see how much robust banking industry is operating in the economy of Islamic Republic of Pakistan. In Equation – 1, 3 and 5 the Return on Asset as dependent variable with different independent variables including Concentration Measures, Risk, Size, Personnel and EQ ratio.

The independent variable such as "Concentration Measure" tells us that how much of market share each bank is contributing in banking industry. The higher the contribution will have more impact on banking industry and that is beneficial for the banking industry and in same way lower the amount of concentration measure will have inverse effect on banking industry.

In Table – D as shown below, the Concentration Measure (CM) have coefficient value of (0.032810) and P value is 0.0000 is significant which is less than 0.05. But negative sign means opposite in direction. That means that higher the profitability will have inverse effect on concentration measure respectively.

Risk variable is used as a proxy of risk in this study. By calculating the risk of each bank as shown below in **Table 4.4**, Risk (Z) has coefficient value of 0.009826, there P value is 0.0576 and it is also significant as its value is 0.05. It means that the higher the profitability will also increase the risk factor as well.

Similarly Size variable is significant as coefficient value of 0.010890, there P value is 0.0000 and has a positive sign, which means that the larger banks will have higher ROA. Similarly Personnel variable is significant as coefficient value of -1.484674, there P value is 0.0000 and has a negative sign, which means that higher the ROA will inverse effect on Personnel variable. Personnel variable deals with employees salaries and there benefits. It means that when there is increase or decrease in ROA will have vice versa effect on employees monetary benefits.

And EQ ratio (EQ) variable is significant as coefficient value of 0.168651, there P value is 0.0000 and has a positive sign, which means that higher the ROA will have higher the EQ ratio.

TABLE 4.4: Impact of Diversification on Profitability

	Fixed Effect Model		
Variable	**Coefficient**	**t-Statistic**	**Prob.**
C	-0.193326	-7.129514	0.0000
CM	-0.03281	-4.834231	0.0000
RISK	0.009826	1.90631	0.0576
SIZE	0.01089	7.61476	0.0000
PER	-1.484674	-14.83729	0.0000
EQ	0.168651	15.31403	0.0000
R-squared	0.701841		
Adjusted R-squared	0.667558		
F-statistic	20.47195		
Prob(F-statistic)	0.0000		

4.5 Impact of Risk on Profitability

In Table: 4.5 as shown below, this working is on equation – 2, 4 and 6 is calculated and again three approaches of Panel data are used, where fixed effect model is best among all. In equation – 1, 3 and 5, the results are linear in nature but in equation – 2, 4 and 6, its non linear in nature due to adding variable with square, that Concentration Measure is multiple with Risk and again multiple with Risk

square to see how robust banking Industry is by doubling the risk factor with same Concentration Measure.

In **Table: 4.5** as shown below, Concentration Measure (CM) variable is significant and coefficient value of -0.056720 which has almost same result as in equation 1, 3 and 5. Secondly, Risk is significant and coefficient value of 0.009756 which has almost same result as in equation 1, 3 and 5. Positive in nature means that with higher the profitability will increase the risk factor as well.

Similarly, Size is also significant and coefficient value is 0.011405. Its positive in nature that means the higher ROA will also effect on larger bank more than smaller banks. Same as equation 1, 3 and 5 have same direction and results.

Personnel (PER) variable are also significant and coefficient value is -1.488448 that means that higher ROA will inverse effect on employee benefits. Same results were also seen in equation 1, 3 and 5. EQ ratio variable are also significant and coefficient value is 0.169919 that means that higher ROA will same effect on EQ ratio. Same results were also seen in equation 1, 3 and 5.

The results of Coefficient "CM x Z" shows that a significance results and coefficient value is 0.728512. That means increase in ROA in also increase "CM x Z". And "CM x Z2" shows a significance sign. That means that when risk is doubled in nature than return will be decreasing due to negative sign as shown below in Table – E.

Aarflot, S., & Arnegård, L. (2017) have also suggested the same expected results in Norway based study and same as in Pakistan. Banking Industry is robust in nature but in case of double the risk than the results were opposite in direction. In his studies on Norway Banking sector and have significant results with negative sign. This study has also similarly results, which prove that all banking sectors have same behavior as in Pakistan.

R Squared value is a tool that is used to find out, how much data is close to regression line. The higher the value is better as it shows that variables are close to its mean value. In Fixed effect model, R Squared value shows that 70.67% of variance will occur as shown in below table.

TABLE 4.5: Impact of Risk on Profitability

Fixed Effect Model			
Variable	**Coefficient**	**t-Statistic**	**Prob.**
C	-0.202623	-7.412303	0.0000
CM	-0.05672	-4.411037	0.0000
RISK	0.009756	1.898722	0.0586
SIZE	0.011405	7.894755	0.0000
PER	-1.488448	-14.91602	0.0000
EQ	0.169919	15.43976	0.0000
CM*Z	0.728512	2.176541	0.0303
CM*Z2	-4.310314	-1.840566	0.0667
R-squared	0.706765		
Adjusted R-squared	0.670754		
F-statistic	19.62621		
Prob(F-statistic)	0.0000		

4.6 Summary of Hypotheses Accepted or Rejected

Hypotheses	Statements	Status
H1	Concentration Measure has a significant impact on Profitability.	Yes
H2	Risk has a significant impact on Profitability.	Yes
H3	Size has a significant impact on Profitability.	Yes
H4	Personnel cost has a significant impact on Profitability.	Yes
H5	EQ ratio has a significant impact on Profitability.	Yes
H6	Portfolio concentration measure has significant impact on Profitability.	Yes

H7	There is a relationship between Portfolio concentration and returns as function of risk.	Yes

In the above table 4.6 tells that all hypotheses are significant in this study.

Hypothesis 1 is on concentration measure has a significant impact on profitability. That means that the commercial banks in Pakistan have a strong competition among each other. That is a good sign for banking industry.

Hypothesis 2 is on risk has a significant impact on profitability. That means that when profitability has an upward trend that will also increase the risk affect as well.

Hypothesis 3 is on size has a significant impact on profitability. That shows that when profitability has an upward trend that will more effect on big banks than to smaller banks. The reason behind is that the circulation on transaction in bigger banks are higher than smaller banks.

Hypothesis 4 is on personnel cost has a significant impact on profitability. That shows that when there is increase in man power which will lead to increase financial cost will decrease the profitability. So to be cost effective in banking industry, lower staff and effective personnel will increase the profitability with lower financial strain.

Hypothesis 5 is on EQ ratio has a significant impact on profitability. That tells that banking industry can give back all its dues clear on time. It is a good sign for every industry.

Hypothesis 6 is on concentration measure multiplying with risk factor has a significant impact on profitability. It shows a linear equation with positive sign.

Hypothesis 7 is on concentration measure multiplying with risk square has a significant impact on profitability. It shows a non linear equation with a negative sign.

Chapter 5

Discussion and Conclusion

5.1 Conclusion

The focus of this study is to see the profitability in Banking Industries with different variables and factors to be under consideration, as per the study of Bello, M, (2014) suggested that the negative concentration measure is not good for banking Industry and further stated that positive sign need to be achieved and for that matter, all the commercial banks of the country must increase their competition to that extent so that the ratio of market concentration lead to positive sign. In this study, the area of scope is Pakistan, and concentration measure indicates a negative sign which means that all the Commercial banks of Pakistan must focus to increase their competition.

EQ ratio is a beneficial tool which tells us that how much capability the organization has to pay back all its dues in how much time. And high figure is better for the organization however, low figure will create problem for organization. In this thesis, the result shows that there is significant relationship with profitability

Risk has a very vital role on banking industry. Bank cannot even survive, if they don't invest. They have to borrow from depositor and invest in shape by giving loans and the interest is there profit. In this study, risk has a direct and positive relation with profitability. When profitability increases, the chances of risk also

increases. Most of researchers who have studies on banking industry from different countries have almost same results as in this Pakistan.

There are two equations in this study of fixed effect model; the difference among these two equations is that the first equation is a linear model whereas equation is nonlinear equation in other words it is the expansion of equation 1. The reason behind the expansion of equation is that if we do not expand equation 1 which will resultant the same as before the adjustment of Industrial diversification. So for that reason interaction terms i.e. β 4CMd R1d & β5CMd R1d^2 are added and β is given value as $\beta 4 < 0$, $\beta 5 > 0$ which will tell us how much concentration will be effected in high or in low risk.

5.2 Limitations

In this study, there are number of variables that are not discussed, some of them are known and some are unknown to the researcher. The aim of this study is to see how banks in Pakistan are robust in any uncertain situation that is prevailing in Pakistan. And how banks fight back and how Commercial Banks counter the situation. One of the major variables which are not discussed in this study is loan losses. How that act upon the Commercial Banks of Pakistan.

5.3 Future Directions and Policy Recommendations

Concentration measure is a tool that the researchers need to find out different methods that will help the banking industry to increase their competition with help of diversification method which as a whole will be beneficial for the economy of the countries.

Similarly Personnel cost is helpful tool for those who want to see by calculating the maximum number of staff to be hired and that also enhance the profitability as well. This method will help to boost the economy of the country in two

ways. Firstly, the opportunity of the employment will increase and secondly, the opportunity of investment on different sectors in Pakistan will also be available.

In the study of Aarflot, (2017), suggested that bank must enhance their incentive policy, however under the context of Pakistan, Commercial Banks has significant results in Personnel cost variable. Lot of research has being conducted on personnel cost, where China banking industry is on lead by giving lot of benefits to its staff and lot of staff is also hired. To cover this cost, they have to maintain the profitability as well of same ratio; they need to work on diversified nature of banking industry which will help them to work with all type of businesses across the world.

To calculate EQ ratio, they must focus to find that what tools and methods to be implemented to have significant result, which will help the banking industry in decision making in future. The study of Aarflot, (2017), also has insignificant results.

Size of banking industry matters a lot, when large banks invest in crisis, how size can help them to be stable in market and move along with its routine work? Size has impact in the decision making of the customer. Like in China banking industry, there is a famous term used as "Big Five", these are large banks in China, where they invest in huge volume within and outside China.

Similarly, in Pakistan, State Bank, National Bank have huge reserved and people in Pakistan have lot of confidence on these banks. Same goes to private banks, where big size banks will have high profitability and fear of bankruptcy is less as compare to small banks. In this study, size has a significant result with profitability which means that in Pakistan large banks have high profitability as well. However, lots of researchers are with the view that large banks have low profitability as compare to small banks because of high cost.

Risk factor in developed countries has a positive relation between profitability however in underdeveloped countries they may have same scenario but they can be differ too. Research on these lines will help the investors whether to invest or not.

Islamic banking is new concept for Muslims community as well as for non Muslim community. This concept must be clear to everyone before investing. It is very difficult to make a non believer understand about riba and why Islam religion is against it. They may not even understand even after teaching each and every concept of Islam. The only eye catching for non believer is how much risk free is Islamic banking? And how more one can earn from Islamic banking than from conventional banking system.

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