

**CAPITAL UNIVERSITY OF SCIENCE AND
TECHNOLOGY, ISLAMABAD**



**Impact of Monetary Policy on
Islamic and Conventional Bank
Financing: Evidence from
Pakistani Banking Sector**

by

Samina Naz

A thesis submitted in partial fulfillment for the
degree of Master of Science

in the

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This thesis is dedicated to my father, who taught me that the best kind of knowledge to have is that which is learned for its own sake. It is also dedicated to my mother, who taught me that even the largest task can be accomplished if it is done one step at a time.



CERTIFICATE OF APPROVAL

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Abstract

The aim of the study is to determine the impact of monetary policy on conventional and Islamic banking sector of Pakistan. The target population of the study were Islamic and conventional banks of Pakistan and sample size consist of 27 conventional and 5 Islamic banks from the period of 2006 to 2016. The study is using the panel data approach for examine the impact of monetary policy on conventional and Islamic banks. Independent variable monetary policy measured as short term interest rate others independent variables such as size, liquidity and capitalization are used. Dependent variable measured through bank financing and also macroeconomic variables gross domestic product and consumer price index are used in this study. The data were collected from the annual reports of conventional and Islamic banks are published on bank official website the State Bank of Pakistan. The panel data regression technique has been used with different test such as common, fixed and random effect model and the study were applied fixed effect model for final interpretation with recommendation of hausman and likelihood test. The statistical findings of the study were shows that significant negative relationship between monetary policy and overall bank financing and in conventional bank shows that also significant and negative relationship and Islamic banks shows that significant but positive relationship between the specific characteristics and bank financing with respect of monetary policy. The interaction term short term interest rate significantly linked with the bank specific characteristics. The results of panel regression estimation explore that significant association among Islamic and conventional banking behavior in Pakistan. The Islamic bank financing is better more than conventional bank financing as interest rate because when (KIBOR) interest rate change an increase so the conventional bank financing will be decrease and Islamic bank financing increase because Islamic banks do not deals with credit or interest based instrument. The evidence suggest that bank specific characteristics are important for Islamic banking financing. The purpose of this investigation is to tell about how Islamic bank efficiently perform their role as supplier of capital for entrepreneur and business. The study suggest the Islamic and conventional banking sector should makes the policies regarding to

the sustainability growth of bank financing in Islamic and conventional banking sector.

Keywords: Bank Financing, Monetary Policy, Islamic and Conventional Banking.

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Abbreviations

CRR	Cash Reserve Ratio
CPI	Consumer Price Index
GDP	Gross Domestic Product
NIM	Non Interest Margin
ONR	Overnight Policy Rate
PBT	Profit Before Tax
ROA	Return on Asset
ROE	Return on Equity
SLR	Statuary Liquidity Requirement

Chapter 1

Introduction

In the last few decades, monetary policy has taken the attention of political, social and economic decision-making consideration. Monetary policy always playing the vital role to stable the economic output of the country. The purpose of the recent study is to examines the influence of monetary policy on Islamic and conventional banks in Pakistan. Some recent studies related to discussed the effect of monetary policy on Islamic bank financing with banks characteristic in both banking sector in Malaysia. The purpose of this investigation is to tell about how Islamic bank efficiently perform their role as supplier of capital for entrepreneur and business. Many researchers researched about the influence of monetary policy in a both banking system. Ito (2013) and also, El Hamiani Khatat found that Islamic deposit return and conventional interest rate correlated in Malaysia. The researcher explores in this result as the existence of significant common in both banking activities. The present study contributes the investigation about the influence of monetary policy on both banks financing with banks characteristic with the banks lending behaviour.

Through monetary policy, central bank of any country leading the stability of the economy and growth. Monetary policy increases the financing cost of the organizations and in that way decreases the investment. The primary purpose of the monetary policy is to handle the stabilize output, inflation and interest rates. The policy to manage the interest rates known as the interest rates targeting policy directed by decreasing or increasing interest rate. The monetary policy to

direct the interest rates recognized as the interest rates targeting policy directed by decreasing or increasing interest rate. The interest rates might affect the cost of financing so influence the inflation rate and real outcome growth. A setting to the condition required by effective use of policy interest rates pointing out the monetary policy. First, money market have to function efficiently they can have an influence on the yield curve due to the change in the central banks short-term policy rate. Second, commercial banks policies and liquidity management should permit a regular adjustment of offering rates to money market setting (Durr, Chailloux, & Laurens, 2009). One more purpose of the policy to manage the money supply, the purpose at stabilize the value of money denote as the monetary object strategy. Extreme volatility of the exchange rate could affect the price stability, output growth, monetary stability and disrupt the trade between countries. By monitoring the money supply, it will too stabilize the exchange rate which is one more major purposes of the base rate policy (Cecchetti, Genberg, Lipsky, & Wadhvani, 2000). Moreover, a lot of studies found relationship among changes of the price level and quantity of money (Dwyer & Hafer, 1999).

Central bank of a country that controlling the interest rate and the money supply and demand. Monetary policy increase liquidity to economic growth. It reduces liquidity to prevent inflation. A lot of studies have showed that the Islamic bank is performing great. In different literature it has found that Islamic banks has influence on the financial economic system of any country. On the origin of interest rate and risk sharing policies both banking system is different. Islamic banks earn in the shape of profit whereas conventional banks earn in the shape of interest that is fixed. Islamic banking system is basic on two things risk sharing and reward. Pakistan banking sector available to development of the economy. In the current year number of studies have completed that for the growth of the economy structure reform is necessary.

Monetary policy contains inclusion of monetary measurements to control the regulation or volume, the demand and supply of money and the availability, the cost in economy to attain various macroeconomic objectives like, sustainable economic growth, bank reserve requirement and to keep overall prices and financial

market stable according to (Matthews, Giuliadori, & Mishkin, 2013). System of the banking is significant station of applying monetary policy. Directly the instrument of monetary policy does not affect economic activities including reserve requirements, advances, open market operation, etc. Their effects on available resources because they influence through economic activities in the sector of bank.

For example, when the pressure of inflationary in the economy experiences, to stabilize the price level the monetary authority can use contractionary monetary policy. This might be completed by increasing the discount rate and reserve ratio. when the borrowing cost will raise and decline the amount available to commercial banks, people will borrow less and loans will become expensive. In addition, due to high interest rates bank offer better return on saving, so banks' deposits will become more attractive. consequently, people engage to spend less and save more. Other hand, Discount rate and the reserve ratio may be reduced whether the plan is to expand the demand of the economy. That will become easier people can get afford loans on easy condition when the cost of borrowing decline, in that case investment will raise in the economy, in this result will be the more employment opportunities as people begin to pay out more than normal.

Monetary transmission method which affects monetary techniques is also important as well as far suitable towards the success linked with monetary policy. Yusof (2006) find the monetary policy approach in having an effect on total and sectoral production in Asian states mainly Singapore, Malaysia, and Thailand. The research applied co-integration and VECM method. According to Karim (2006) influence of monetary policy on conventional bank financing in Malaysia to some financial markets by applying Vector Auto Regression model. Some researcher researched about the monetary policy and its impact on liquidity. According to the Harveny et al., (2017), the stock market liquidity is influenced by monetary policy in Indonesian markets. This research accomplishes effect of monetary policy on liquidity of markets and additional accomplish that there is a negative association among stock price and monetary policy.

One problem with empirical analysis of monetary policy effects is that changes in

policy Instruments frequently reflect a systematic response to variations in macroeconomic conditions. Therefore, all shocks to the economy can potentially influence the behavior of policy instruments and their relation to key macroeconomic variables such as inflation and GDP. One needs to isolate monetary policy shocks from other shocks to remove the effects of monetary policy. One widely-used tool for this purpose is the vector auto-regressive (VAR) model. VAR models typically use high-frequency (at least quarterly) data to capture the medium- and short-term effects of monetary policy, but a major data limitation for Pakistan only GDP data are available on the annual basis. Recently, Hanif et al., (2013) have used interpolation methods to estimate a quarterly series for Pakistans real GDP. Exploratory VAR analysis by Ahmad and Pasha (2014) utilizing this data suggests that monetary shock have little influence on both inflation and real GDP in Pakistan.

The Monetary Policy Rate for all the other rates serves as a reference rate in economy, in 2011. This rate also works as an indicator that regulates liquidity and macroeconomic stability in an economy. The private sector is the most important factor in growth rate of economy. In the private sector a huge number of constituents are found in the SME (Small Medium Scale Enterprises). The contribution of this sector for gross domestic product (GDP) of Ghana by creating jobs cant be underestimated.

According Bernanke and Gertler (1995) monetary policy is able to influence the financial system through different ways including credit rates channels, profit rates channels, interest rate channels. The study is linked to the credit rate situation of monetary policy broadcast practices for the reason that it emphasizes the role of banks in monetary policy broadcast determinants by concentrating on the balance sheet frequency and the bank lending channel. Dwarkasing, Dwarkasing and Ongena (2016) studied the difference in bank responses to monetary policy shock in dual banking system in Pakistan, variables which includes size, liquidity and so on.

According to bank lending network, earlier research has explored whether the lending performance of single banks is determined by on their features. Using

numerous clarifications, Kashyap and Stein (2000) establish that minor banks decrease their advancing in reaction to contraction of monetary policy. In addition, according to Altunba, Fazylov and Molyneux (2002) investigate that monetary policy impact on minor banks capitalization. According to Hosono (2006) investigate that banks through low liquidity reduction and loaning in reaction to constriction their monetary policy.

Moreover Gunji and Yuan (2010) explore the influence of monetary policy on loan is better used for that make money for small banks. In that study various investigations conducted in the area of Islamic financing in Pakistan. Furthermost the study about in the area of Islamic financing have been on the liquidity administration, profitability and quality management of the Islamic banks. Nonetheless, there is inadequate investigation concerning Islamic monetary policy and the impact of policy on the Islamic banks procedures. The present investigation, therefore, objectives to move the deliberation on the influence of policy on the Islamic bank's procedures and vice versa.

In this study few investigators examined the study on the Islamic banking policies and determined that monetary policy is the major frame of the growth of the Islamic economics. In Islamic framework monetary policy do play a very important role in establishing growth and stability According to Hassan (1998), the fundamental pillars of Islamic economics are as one of the prohibitions of interest creates the instrument and measurement of the monetary policy diverse from the conventional banks.

According to the study of Siddiqi (2008), examined the Mp is one of the subdivision of Islamic banking economical sector. The part of the Islamic policy is achieved to the socio-economic justice and apportionment of capital. In the conventional banking structure monetary policy applied by the state Banks. However, in Islamic economics, the state banks must applying the policy to achieve the Islamic socioeconomic purposes (Khalil & Siddiqi,2019)

Originally there is no word of Islamic banking under the world of Islam. In the Islamic history, there was no concept of Islamic banks during the time of Prophet Muhammad (PBUH). Nonetheless, there were money lender, which advanced their

duties and stimulating interest or Riba in their money advancing actions. Borrower who havnt to pay their principal amount or interest rates were charged dual or even twice or extra original funds to be paid to the money investors (As Sadr, 2000). To established justice and avoid oppression in the community, Islam had prohibited the practice of Riba. Nevertheless, there was no Islamic bank at that time, the non-organizational nature of transaction was conducted minus the Riba after the prohibitions.

Islamic bank follows the Islamic rule while conventional bank is followed by manmade SOPs. Islamic bank source of income depends on profit and Loss while conventional banks on the basis of fixed interest rates. SBP plays effective role for the development of the economy. According to (Aggarwal & Yousef, 2007) Islamic banking system are unlike to conventional mutual fund banks. The main difference among in dual banking system is that conventional banks is based on interest (Riba) Whereas Islamic banks is free from (Riba) and follow the shariah rules and regulations.

A latest banking system in the world was developed in the 17th century (Quinn, 1997) and presently become the mainstream in the financial services sector. The banking system was developed initially for investments, and money lending activities. In money lending activities charges interest rates whereas that is prohibited in Islam. For the reason, Muslim investigators have created techniques that same as conventional banking tool, changing interest rate payment, contingent payment structures and discounting with fees Beck, Demirg-Kunt and Merrouche (2010) when this idea was implemented, it leads to emergence of the Islamic financing system. In theory, Islamic financing is change from conventional financing because interest (Riba) is forbidden in Islam. Banks doesnt offer any fixed rate of return on deposits and also doesnt charge interest on loans. Islamic banks operate under various principle and they have various risk profile.

Advocates of Islamic banking, thus, Khan and Mirakhor (1990) & Iqbal (1997) argue that conventional bank is less good than Islamic banks are theoretically to soak up external shocks because the banks' financial deficits are partly absorbed by the depositors. Likewise, according to theory the risk sharing the PLS pattern

allows to Islamic banks to providing the loan facility for longer period of time projects at higher risk of return profile and therefore to encourage the economic enlargement (Chapra, 1992; Mills & Presley, 1999).

Islamic bank or financing is banking activity that complies with sharia law with all function like to present known current banking terms other than Islamic modes product only presented through the banks. Islamic bank mobilizes the funding on the basis of profit-sharing or Musharakah such as partnership and joint venture banking system. Islamic law forbidden collecting interest or Riba. The Islamic banks was established with the simple PLS accounts, the major products of Islamic banks vary on the basis of profit and loss sharing products (Mudarabah), partnerships or joint ventures (Musharakah), Advance purchase (Salam), leasing contract (Ijarah) and Loan with no interest (Qard-e-Hasna), trade with markup (Murabaha).

1.1 The Principle Of Islamic Banking

A joint venture contract made among both parties one is investor and other entrepreneur where investor give fund for the project and therefore other party is mudarib who settle the management of the project with efficient use of his entrepreneurial expertise and distribution of profit regarding to the fixed ratio. The provider of capital tolerates any loss occurring. Capital provider have no governance in excess of the administration of the project (Aziz, Anjam, Fahim, & Saleem, 2013).

An agreement sale among the banks and its customers for the selling of goods at a rate in which contains a cost-plus profit agreed through both parties as a financial system, it involve the buying of merchandise by the bank as demanded by the clients. The goods are sell to the customer with proper mark-up. Refunding, frequently in installments is stated in the agreement. According to Mufti Usmani, on of the fundamental condition for the rationality of murabahah is that the commodity is buying through the investor before selling it to the consumers. In this

case the investing is capturing risk and the profit created by the inventors is the prize for taking the risk.

Normally, *ijarah* is to stretch approximately on rent. Specifically, *Ijarah* is a leasing agreement among the Islamic bank and its customers. In this contract bank would buy an asset for a client and then rent it to person over a particular period, as a result of making income for the owner of the asset by making rental revenue. Three form of leasing contract namely, leasing then purchasing contract (*ijarah al tummah al-bay*) leasing ending with ownership (*ijarah muntahiya bittamlik*) and leasing for a particular of period and ending with ownership (*ijarah waiqtian* (Bank Negara Malaysia 2014).

Al bay salam is n agreement in which payment is made in advance for definite goods to be deliver at a future date (Muhammad & Chong, 2007). *Istisna* is an agreement of sale in which a selling the goods and services is confirm to deliver goods of specific terms at approved rates, place and time of delivery. The price of the goods is paid in advance, but the goods are produced and deliver at a later date (Bank Negara Malaysia, 2010). *Qard Hasan* is a financial transaction providing through the Islamic banks. This is a loan with no interest rate or profit to guide customers for the short-term investment. The borrower has a responsibility to refund the credit to the lender only the amount borrowed who signifies Islamic banks at the end of maturity (El-Gamal, 2006).

Conventional bank is profit making organization that generally are not based on religious principle. That is an unethical banking system based on manmade law. Its purposes are to make money though interest. While Islamic banks system is ethical banking organization that is based on completely Islamic rule in that case interest rate is prohibit in Islam. In line with other study, many researchers argued that Islamic banks system replicate conventional banks principle, particularly the operational aspect to the bank. This include the argue that most of Islamic bank has a similar to conventional banking and that is not based on the right principle of Shariah (A ggarwal and Yousaf, 1999; (El-Gamal, 2006); (Hamoudi, 2006). there is no major variation among interest and mark-up. some researcher also argued that

Islamic financial establishment has a vast possible to promote economic growth and soak up macro financial shocks (Dridi & Hasan, 2010).

In theory, the role of Islamic banks is unlike from conventional banks because of the forbidden of (interest). In addition, any money deposited has to be used for real investment activities to ensure the legitimacy of the profit gained by depositors. As a result, the profit and loss distribution standard are the major distinguishing feature of Islamic banking from its counterparts. Further the PLS pattern, the assets and liabilities of a bank should be come together in a way that allows bank to divide profits and losses with borrowers, which will later share profit and losses with depositors. In deposit term, Islamic bank mostly use the risk-sharing instrument, in which provider of economic capital share financial risk in return for share in the profit. whereas in financing, many scholars argued the majority of Islamic banks has a debt financing same role that are founded on predetermined contract. Furthermore, conventional interest rate, e.g. the (KIBOR) or a domestic comparable, is a scale for Islamic banks mark up or profit ratio. KIBOR means rate at which banks are organized to lend each other. KIBOR means the rate to borrow money from each other. So basically, they reflect market liquidity based on supply and demand factors.

However, when Islamic banking uses these benchmarks, they do it with certain conditions i.e. transaction should be based on some assets. Its investment or use is not allowed for any haram business-like Wine, pork and Prostitution etc. Further speculation (gambling) cannot be made in such transaction. In addition they should not carry some debt on behalf of some other like in Stock Market in Pakistan, only those companies are eligible for Islamic index whose debt stands less than 30% of overall assets and finally in case of Musharakah or Mudarabah or Ijarah they are used and changed on quarter to quarter or on six month on payment of profit. In other debt-based forms i.e. Murhabah, Diminishing Musharakah (kinds of leasing) they are decided for once till expiry of the agreement not transferable to someone else except in Malaysia where they can be done in form of Bai'al 'inah. Consequently, in that occasion of debt financing such as character, the price of Islamic banking is not a purpose of real financial activity but founded

on a deferred contract e.g. which include interest rate including the credit risk premium.

1.2 Theoretical Background

In theoretical background in this study have explained a unique principle of Islamic financing in PLS paradigm. Conventional bank and Islamic both banking system are different from each other from theory base because interest (Riba) is forbidden in Islam (interest cannot be stimulating on loans and profit margin on deposits cannot be predetermined by the bank). Unique principle of Islamic banks is the risk sharing, that is completely based on the Musharakah perception of Islamic contracting) and Mudarabah (profit sharing) of Islamic contracting.

1.3 Gap Analysis

Previous study conducted the impact of monetary policy on Islamic banking financing with respect to bank characteristic with diverse findings (Zulkhibri, 2018). So, the present study conducted on both banking sector Islamic and conventional with new analytical techniques for improving the findings. previous study was conducted in the Malaysia but the recent study is applying in developing country such as Pakistan. The study investigates the influence of monetary policy on both Islamic and conventional bank financing in Pakistan with empirical and analytical consistent findings. The present study conducting on monetary policy specific determinants such as bank size, liquidity, bank capital and macroeconomic variables GDP, CPI, so these variables shows the impact on bank financing in Islamic & conventional banking sector. The present research also taken the (KIBOR) interest rate.

1.4 Problem Statement

Many issues regarding to the influence of monetary policy on Islamic financing structure in the whole economy of the world raised by many researchers in their investigations. This study will analysis the influence of monetary policy on Islamic and conventional bank financing. In particularly the effect of KIBOR rate use as the benchmark known as interest rate.

1.5 Research Questions

This research will answer the following questions:

Research Question 1

Does monetary policy influence the overall bank financing?

Research Question 2

Does monetary policy influence on Islamic bank financing?

Research Question 3

Does monetary policy influence on conventional bank financing?

Research Question 4

Does macroeconomic variable have impact on bank financing?

Research Question 5

Does interest rate moderate the relationship between size, liquidity, capitalization and dependent variable bank financing?

1.6 Research Objectives for This Study

Objectives of the study are as follows:

Research Objective 1

To study the impact of monetary policy on bank financing.

Research Objective 2

To analyze the impact of monetary policy on Islamic bank financing.

Research Objective 3

To find the impact of monetary policy on conventional bank financing.

Research Objective 4

To find the impact of macroeconomic variables on bank financing.

Research Objective 5

To analyze the impact of moderate the relationship between size, liquidity, capitalization and dependent variable bank financing.

1.7 Supporting Theories

1.7.1 Profit Maximization Theory

According to Santos (2000) the theories related to conventional bank suppose that bank earn profit by the difference between lending and borrowing interest rate Islamic bank performs the same function but in case of Islamic interest is strictly forbidden. Islamic bank use profit maximization theory to guide their clients through the like there is no fixed rate of in case of Islamic banking sector. Profit earned on the base of agreement with the depositor and also with the borrower. Islamic banks are a banking stream as it focuses the profit and avoid interest.

1.8 Significance of the Study

As significant number of studies have been done to monetary policy and Islamic bank financing but this study develops a new variable monetary policy rate to test for Islamic financing behavior. Basically, this study contributes existing literature by adding more variables in it. The objective of study is to investigate the influence

of monetary policy on both bank financing in Pakistan. Unbalance Panel data are use to Pakistani banking sector.

The study describes the influence of monetary policy on both Islamic and conventional bank financing have combined and separate effect of monetary policy. Main concern of that study is they explore the influence of monetary policy on both bank financing.

1.9 Plan of the Study

Chapter 1 consists of introduction; Chapter 2 contains literature review and hypothesis of study. Chapter 3 consists of research methodology. Chapter 4 includes analysis of data and result. Chapter 5 provides conclusion of study and further direction.

Chapter 2

Literature Review

The influence of monetary policy in a two types of banking system has been exploring in the various type of studies. According to Lto (2013) study about the Malaysian banking sector and found that conventional interest rates and Islamic deposit returns correlated in Malaysia. The writer explains these outcomes are the presence of important commons in conventional and Islamic banks. Similarly, Khatat (2016) discussed major challenges for leading monetary policies in countries where conventional banks and Islamic banks co-exist. Having highlighted similarities and changes, there is almost an agreement among investigators that Islamic banking should contain the independent process in leading system of monetary policy. According to case of Malaysia, the study found that merely a little percentage of Islamic bank funding severely risk sharing founded and that Islamic deposit are also not interest free but its create many changes in the conventional deposit Chong and Liu (2009) explore on his study the retail Islamic deposit rates imitate the performance of conventional interest rates.

In Bangladesh, Noman, Pervin, Chowdhury, Hossain and Banna (2015) examines the difference among in dual banking functioning of the banking sector in Bangladesh. They investigated the difference by used six hypotheses of both banking. They showed that there was a significant variation among Islamic and conventional banks. In another study Ramla and Adnan (2015) examined the profitability of both bank financing. They showed that profitability of Islamic

banking is positively connected to loan and equity and also showed that Islamic bank is more profitable than conventional.

In line with other studies Maureen (2014) investigated in Kenya the influence of monetary policy by used a structural model of macro econometric. The variables have been used by them policy rate, interest rate, and Crathes have used this data in accordance to the interest rate and bank lending techniques. Results showed that modify in monetary policy rate influence to short term rates at a considerable margin whereas on long term lending rates it influences constantly. In line with other study monetary policy rate influence on real economy and on inflation it is negligible. According to them variation in central bank rate have a large impact on inflation whereas a change in CRR has a large effect on aggregate demand. By increasing the efficiency of the CBR can increase the efficiency of monetary policy and interest rate channel in Kenya.

Perera, Ralston, and Wickramanayake (2014) find that the effect of not even sheet banking on the bank advancing channel of monetary policy. They have used a banking sector from south Asia. 114 commercial banks have been chosen by them and prepare a panel data set. Findings show that when banks used off balance sheet banking this decreases the efficiency of bank lending method of monetary spread. Banks those have high experiences to off balance sheet practices can protect their loan supply against interest rate shocks that is issued in monetary policy and can minimize the effect of monetary transmission. They suggest that these are impacts are very low on the banks those are highly liquid, and have a strong capital. This small influence of balance sheet banking on monetary program increases many questions on policy problems, especially with reference to the appropriateness of monetary policy.

In line with other studies James Perry Cover, (2014) they have made an attempt to re-investigate the chain of Federal Funds Rate shocks formed by (Romer & Romer, 2004). According to them if Romer and Romer used a rational set of monetary policy shocks and then include that in a VAR model they can identify different reasons and objects that affect United States financial system during that phase. They have used a time period of 1971:01-1996:12. According to

them they have recognized easily cumulative demand shock and cumulative supply shock without striking any indication or long run limitations. They have used decomposition analysis to compare the monetary policy shocks with these shocks. Decomposition analysis also helpful to measures the relative importance of that shocks and to explain the fluctuations of that time period.

Maureen (2014) examined the impact of monetary policy by used a structural model of macro econometric in Kenya. The variables have been used by them policy rate, interest rate. They have used this data in accordance to the interest rate and bank lending techniques. Results shows that change in monetary policy rate influence short term rates at a significant margin whereas on long term lending rates it influences constantly. In contrast monetary policy rate impact on real economy and on inflation it is negligible. Kassim, Majid, and Yusof (2009) investigated the influence of monetary policy shock on Islamic and conventional banks. They have considered a both banking system in Malaysian environment. They have used data from January 1999 to December 2006. They have used different variables. to measure monetary policy, they have used interest rate.

Fiordelisi, Galloppo, & Ricci (2014) find out that from many years central banks around the world decreases their main policy to keep their interest rate at low levels. This policy is helpful for the banks. The major aim of this policy is to maintain funding situation and to motivate lending to private sector. To solve this phenomenon, they have used a data set from 2007 to 2012 of monetary policy. They have investigated this issue at three levels. Their result show that single central bank prepares monetary policy; this creates a different market reaction. Regular interest rates must have been used by the central banks instead of non-conventional ones. This policy can reinstate the market response. Standard interest rate is an essential tool for sustaining the standard execution of monetary inter-mediation. If central bank used nontraditional procedures this registered a strong market response in both areas.

In period of the association of monetary policy and economic development in Nigeria, Adedeji (2012) investigated used different variables like interest rates, rises, GDP and money supply. Data was collected from Nigeria central banks.

He applied assorted types of test to analyze this such as, unit root, regression analysis. According to his findings money supply is not an important factor on economic development of Nigeria, because it had no significant impact on overall economic development of Nigeria. Main grounds of economic development in Nigerian economy are monetary policies. Monetary policy issued by central bank not plays a very significant role in establishment of economy and reducing the inflation in Nigeria. Central bank cannot issue healthy policies due to the government conditions. This article concludes that if government wants to issue monetary policy stronger and effective, then a central bank must be free from the influence of government and can frame there rules effectively and efficiently.

Gambacorta and Signoretti (2014) disclose that worldwide economic crises have again confirmed the significance of economic elements of macroeconomic variations. According to him up to date workings had shown that how the conventional pre crises formulas that monetary policy managers hasnt pay any attention to monetary signification over and above their influence on inflation, Moreover, inflation is not an important forecast to measure the roughness in financial intermediation. This paper disclose that credit can play a significant role in expressions of bank loaning channel, balance sheet channel, and it is disclosed that bank interest rate between bank lending and policy rates are depends on bank influence. The primary outcome is that, additionally in a version for which economic reliability may not present a unique policy purpose, inclining in opposition to the influence procedures tend to be appealing when it comes to supply aspect shocks any time the central bank is actually focused on productivity improvement, even though both of these tight inflation focusing together with a traditional law tend to be less efficient. The benefits tend to be increased in the event that economic system is described as higher exclusive field indebtedness.

Kassim (2009) examine the influence of monetary policy shocks on both bank financing. They have considered a dual banking system in Malaysian environment. They have used data from 1999 to 2006. They have used different variables to measure monetary policy they have used interest rate, known as overnight policy and denoted by ONR. Reason to selection of ONR is given by them that ONR is

the monetary policy rate adopted by the bank Negara Malaysia. Other variables are selected by them from balance sheets of commercial and Islamic banks such as deposits, consumer price index, liabilities, and industrial production index. They have also included exchange rate as a control variable, because Malaysian economy is an open economy. According to them the purpose of the investigation is to find the influence of change in interest rate on Islamic and commercial banks finance and deposits. They have used VAR (vector auto regression) model to measure this impact. Results examined that Islamic banks financial conditions are more sensitive than conventional banks. When interest rate changes this affects Islamic banks more than conventional banks, therefore conventional bank loans are more insensitive to interest rate changes.

Kashyap and Stein (1977) examine the monetary policy target mostly to all banks which have fewer liquid assets on their balance sheet items containing and securities and cash ratios and also in Kashyap and Stein (2000) investigated whether there are significant cross-sectional changes in that manner the banks answer to monetary policy shocks. Regulatory for loan requirements, they found that following a monetary reduction, small banks with liquid balance sheets cut their advancing less than other small banks. Another study in (2004) Alfaro found that small banks and banks with a smaller amount of capital were tolerate more burden of monetary policy by used the data from the period 1990 to 2002.

In 2005, a study was done by three Malaysian investigators Al-Hares, Abu Ghazaleh, and El-Galfy (2013) about a comparison among in the dual banking system who linked the effectiveness characteristic of dual banking system. They applied two type of statistical test to estimate the inefficiency of dual banking system. They showed that there is no important statistical variation among Islamic and conventional banks but the Islamic results were better than the conventional banks. Arseneau (2017), explore that, the influence of monetary policy in the banking industry of US transmitted through a variation in interest rates significantly different, and much of this heterogeneity can be described by differences of cross-bank in the provision of liquidity services. A developing literature also

applying aggregate VARs to document that feedback to monetary policy vary by household debt (Alpanda & Zubairy, 2017) and provincial housing markets .

Black and Rosen (2007) from the period 1982 to 2006 examined the credit channels of monetary policy they found that bank balance sheet channels bank transferred their asset and offer more credit to huge firms as compare to little firms Whereas in bank lending channel banks minimized their credit supply. Another study in (Gertler & Gilchrist, 1994) found that in order to diminish their risk, banks expand their credit to huge firms as likened to little firms. According to Bernanke and Blinder (1992) tightening of monetary build bad effects on the macro-economy. The tightens of monetary raise the external finance premium and this growth effect the macroeconomic activities .in the same way according to (Ludvigson, 1998) the tightens of monetary reduce the customer loans which in turn diminish the real consumption in the economy. Another study in (2008) Gufa studied the bank lending channel in the sense of Pakistan and India. His found that the tightening influence the bank credit variable which in turn influence the major macroeconomic objectives.

Qayyum (2002) established a monetary situation index of inflation for Pakistan from the period 1999 to 2001. In Pakistan precise literature is focused, there are a lot of investigations that explored this problem directly and indirectly by used macroeconomic data. Rao (2006) studied the influence of monetary policy on commercial banks profitability from the period started from 1997 to 2000.in this paper was found that some variables have significant negative and positive impact on banks profitability. when this variable was pooled in the private sector the relationship among banks profitability and monetary policy instruments result was the same. In addition, Rao (2006) investigates the influence of monetary policy instrument, which include some variables (SLR), on bank credit in Bangladesh. Descriptive analysis method was used and they found that statutory liquidity requirement has a negative influence on investments and bank credits. SLR and (CRR) use in the condition of drastic inequality resulting for main shock and the significant tools of decreasing inflation.

Al-Harbi (2017) investigate less developing/developing countries and apply OLS fixed effect model on unbalanced panel data during 1989-2008 for whole commercial banks (686 banks) operational in Islamic nations and recognize the important factors affecting liquidity of banks. Results disclose that factors such as credit risk, inflation rate, capital ratio monetary policy negatively/inversely affects liquidity the bank. While market capitalization, size, concentration and efficiency have positive association with bank liquidity. To find the South Africa market (2017) used data from the period 1975 to 2015. His study investigates the macroeconomic determinants for development (liquidity) of stock market. It examines the impact of inflation rate, economic growth, trade openness and real interest rate on the liquidity of South African stock market. Conclusion of the study is that trade openness and inflation rate have negatively insignificant effect on development of long-run stock market. While economic growth has long-run positive significant impact.

Amaliawiati and Winarso (2013) were study time period was taken from 2005 to 2012 this study examines the relationship among BI rate, one variable is interest rate that was taken from the Indonesian Central Bank, and the other variables is profitability this was taken from the conventional banks those are registered on the Indonesia Stock Exchange by use NIM and ROA as the proxy of profitability, policy rate has a significant negative influence on ROA this paper that conclude, but statistically they do not found significant effect on net interest margin. Moreover, founded on the correlation coefficients, policy rate has large influence in determining return on equity ranks, whereas Functioning Cost of Operational Income is of large significance in exploring Net interest margin of conventional banks in Indonesia. According to Zaman et al., (2014), the casual connection among interest rate executed through the banking sector performance and Pakistan central bank time period was between 2007 to 2011. Having the same method were used. In this analysis some variables have significant influence on banks performance and the monetary policy.

Siddique (2008) was study the performance of Islamic bank in Pakistan. Therefore, selection of two Islamic banks in Pakistan which include Meezan and albaraka

Islamic bank and measured as ROA and ROE ratio for both Islamic banks. Result showed that meezan bank performance is better than from albaraka bank. In line with other study Rashid (2007) was study the performance of Islamic bank in Pakistan an associated some variable ratios of the Islamic banking and eight conventional banking sectors used three ratios. They exposed that Islamic bank are less profitable than conventional.

In Nigeria many studies examined the influence of monetary policy on commercial banks performance. According to Akanbi & Ofoegbu (2012) was taken three commercial banks e.g from the Nigerian the first-generation banks and time is taken from 1992 to 1999 financial organization to explore the influence of monetary policies on commercial banking sector. They determined the boost in interest rate then diminish in the lending rate, although liquidity ratio and cash ratio have an empirically important influence on the selection of banks income. Another study by was study and they were use Engle Granger two step co-integration approach for test during the period from 1978 to 2008 and they were found in the longer monetary policy is unproductive to stimulate credits, and some variables are positively linked with bank credits, and some which include liquidity ratio are negative associate to total credit volume of the banks.

In a micro-panel study by used money supply and interest rate as dimensions for monetary policy, and PBT to characterize commercial banks performance according to Omankhanlen (2014) in his study they check out the influence of monetary policy on the Nigerian banking sector. During the period under study his concluded the monetary policy rate has the mainly key influence on commercial bank loan and advances. Akomolafe, Danladi, Babalola and Abah (2015) investigated the association among banks profits and monetary policies in Nigeria. In this study there is a positive connection among banks profits and monetary policies. Covers a period from 2003 to 2013. In the line of other study according to Ekpung, Udude and Uwalaka (2015) also explored the influence of monetary policy on banking organization. This study used banks deposit liabilities to epitomize banks profitability and shows that monetary policy has a important influence on banks deposit liabilities, covers a period from 1970 to 2006. Deposit rate and

smallest amount of discount rating having a negative impact on banks deposit liabilities, while exchange rate has a positive and significant effect on bank deposit liabilities.

In the literature of conventional, the interest rates are the key issue that determines the rank of saving in the economy and that interest rate have a positive link with saving. According to Haron (2001) also investigated a positive connection behavior of profit rate acknowledged by Islamic banks. Another Islamic bank customer are guided through the profit maximization theory, in Islamic banking system there is no predetermine rate of return involved. Because depositor at Islamic bank takes comparable attitude to those at the conventional bank, the interest rate will remain to have an impact on the operational system of Islamic banking.

Islamic bank is completely carried out through PLS model. According to Beck et al., (2010) in the literature that Islamic finance mimic their conventional finance particularly operational aspect of bank e.g creating assets through non-PLS, fixed rate of return. The study argues that there are a small number of significant differences in efficiency, stability business orientation, or asset quality among retail Islamic banks conventional. Consequently, connection to interest rates on the asset side of the balance sheet, Islamic bank rate of returns shadow conventional bank deposit rates. Current literature on Islamic bank financing also trying to found the differentiation among both banks that is based on experimental assessment (Chong & Liu, 2009; Ito, 2013; Kasri & Kassim, 2009 and Arsalan, 2013). Sara and Zeren (2015) compare the empirical behavior of rate and rate of return on retail Islamic PLS investment account and conventional bank deposit in Malaysia. furthermore, time varying instability of both banking system rates and return are interrelated and are statistically significant.

In line of other study, the Islamic bank deposits, Kasri and Kassim (2009), investigated the association among investment and rate of return deposits concluded interest rate for Islamic bank in Indonesia time is taken from the period of 2000 to 2007. BY use VAR model. They investigate to reveal that in the Islamic banks the mudarabah investment deposit are co integrated with Islamic deposits return.

Akhtar, Akhter, and Shahbaz (2017) in turkey was study about the influence of interest rate shocks on deposit and loan taken by both banking system whereas Zeran and Sarac (2015) investigated the long run relationship among participation bank and conventional term deposits rates in turkey. Both are found that same result that movement in the ONR have asymmetric effect on conventional and Islamic bank.

A latest work according to Akhatova, Zainal and Ibrahim (2016) estimated by using the SVAR specification and investigate the reply of Islamic finance to monetary policy shocks. According to Aysen et al (2017) that Islamic bank depositor sensitivity to policy rate modify is significantly greater than that of conventional bank depositors. In contrast Mushtaq and Siddiqui (2017) explore there is no significant connection among interest rate and Islamic banking deposit, leading to the face that Islamic banks are flexible toward shocks. By used the panel ARDL approaches on 23 Muslim countries.

According to classical economist Interest rate is a characteristic of saving. The two impacts of interest rate on saving, interest rate replacement effects lead to direct connection among saving and interest rate and income influence controls to opposite association among saving and interest rate. In general exchange effect control the income influences so we are expecting positive connection among bank deposits and interest rate. Interest rate dont have any significant impact on level of risk based Islamic bank deposits according to Tariq and Masih (2016). Hassan (2016) explore and conclude that interest rate does not have any significant effect on commercial bank's deposits in Nigeria. Another study religious belief can have a significant influence on banking associated with decisions of Muslim customers according to (Mobin & Masih, 2014).

Kassim, Majid and Yosuf (2009) were examine in Malaysia and find that Islamic banking is more constant as compare with the conventional banking system because they are not influenced from interest rates. Impact of interest rate on dual banking system and find that alter in interest rate will influenced both Islamic and conventional banks according to Erge and Arslan (2013) in Turkey. According to Sukmana and Kassim (2010). In interest rate any shock were negative effects on

the Islamic bank's deposit. Bidabad, Hassan, Sami, and Allahyarifard (2011) find out that conventional banks used interest-based products, but interest is not allowed in Islamic banks. So Islamic banks have to use those which are free from Riba. According to him Islamic banks have to introduce new products for central bank, conventional banks, and other financial institutions. Interest free bonds are issued by them in different currencies. So, the influence of monetary policy is not too much on Islamic banks because they are free from interest transactions.

Bangura (2011) discloses that maximum banks used interest rates on short term basis, and it is considered as monetary policy. With accordance when monetary policy changes interest rates will also change by commercial banks but normally this case is not true. Main point is that commercial banks change their interest rates with lags in reaction to monetary policy. This method makes their interest rate sultry. This sultriness in interest rate imposed by commercial banks is a big obstacle in regular flow of monetary policy. To estimate results, he used different tests. Data has been taken from different sources which comprised of the time period from 1989-2009. Twenty years data has been used by him. He estimates the results of modified in interest rates influence on discount rates, Treasury bill rates and so on.

According to the importance of interest rate on usage of various investigators used various techniques trying to establishing the strength of association among these two determinants. Friedman (1957) in his new classical investigation of the consumption purpose explaining that the major variables examine the relative distribution of momentary mechanisms of income, the average tendency to consume are "the rate of interest, and the age and composition of consumer units" and the ratio of wealth to income.

Abdul-Majid, Saal, and Battisti (2010) examined about the efficiency of both banking sector which include 23 Islamic bank and 88 conventional bank and the result found that Islamic bank require higher input from the conventional banks. In addition, Ali and Khawaja (2013) found that Islamic banking in Pakistan is unbelievable in previous five years and capture 4.5 percent of market. This growth was very fast as contrast to other country which have strong network of Islamic

banking. According to Bashir (2000) In Middle Eastern countries was studied the profitability of Islamic banks. He did evaluate significant bank determinants that effect on the profitability of Islamic banks by financial structure measures and controlling economic. Another study Samad (2004) examined and compared the both type of financing in Bahrain. They found that the credit performance of both banks is different.

In line with other study according to Usman and Khan (2012) studied about dual banking system in Pakistan time period from 2007 to 2009. They showed that growth, profitability and liquidity of Islamic bank is higher than to conventional banks. According to Mughal et al., (2015) same studied in Pakistan from year 2010 to 2014 and they found that profitability of conventional bank is higher than Islamic banks. Alzorqarnain (2014) were study and he was taken two banks of Jordan for check the association of liquidity risk and bank profitability from the duration of 2008 to 2010. ROA and ROI were used in his study as the indicator of bank profitability. Current ratio and loan to deposited were utilized as liquidity measure. They showed that the relation among current ratio and ROA and current ratio and ROI were negative. The connection among loan to deposit with both ROA and ROI were positive. Another study Ly (2015) investigated the association among liquidity risk and banking profitability of European banks from the period 2001 to 2011. They found that liquidity is inversely lined with banking profitability.

According to Tabari, Ahmadi and Emami (2013) investigated the performance of 15 Iranian banks with liquidity risk for the period 2003 to 2010. Many variables were collected as independent variable to explore the influence on banking performance. They found that bank short term asset size, banking capital volume, gross domestic product and inflation were positive association with profitability but diversely credit risk and liquidity risk reduce banking profitability. Generally, they study revealed that there is liquidity risk negatively influenced the bank performance.

Mamatzakis and Bermpei (2014) analyzed the relationship among liquidity risk and bank profitability of 97 banks in Switzerland and G7. The result showed that liquidity risk negatively influenced by bank profitability. In line with other study

Marozva (2015) studied the association among liquidity risk and profitability for the period 1994 to 2014 of south African banks. The study was use ARDL Bound test and OLS to see the relation among NIM and liquidity risk. The research found that there is negative association among net interest margin and liquidity risk. Umar, Muhammad, Asad, and Mazhar (2015) investigated the effect of liquidity risk on 2 Pakistani conventional banks from 2009 to 2013. The result showed that current ratio was negatively linked to bank profitability.

Moussa (2015) was study in Tunisia and he was taken 18 banks for the period 2000 to 2010. They revealed that financial performance, growth rate of GDP and inflation rate have negative significant influence on banking sector liquidity and other variable size do not has significant impact on liquidity. In line with other study Cucinelli (2013) studied the determinants of liquidity risk and result showed that capitalized banks showed better liquidity on the long run whereas bank with a better asset quality to manage on the short run.

Almomani, Aladeemy, Abdelhadi, and Mumani (2013) studied on Islamic and commercial banking sector from 2007 to 2011. The study found that bank size was negative relationship with liquidity risk in Islamic and commercial banking sector. In line with other study revealed that off-balance sheet item bank size and bank capital were significantly linked to liquidity risk in both bank in Malaysia. Bank size raise the bank diversification and bank capital cover up the financial obligation.

2.1 Hypotheses Development

H₁: There is significant negative relationship between monetary policy and overall bank financing.

H₂: Interaction term of interest rate positively significantly impacts the bank financing.

H₃: There is a significant positive relationship between monetary policy and Islamic bank financing.

H₄: There is a significant negative relationship between monetary policy and conventional bank financing.

Chapter 3

Data Description & Research

Methodology

3.1 Data Description

The data description and methodology which were used in this study and explain the different method and test used for this study and analyze population, sample and source of data which includes for this analysis. The present study checks the influence of monetary policy on Islamic and conventional banking sector of Pakistan. To examine the impact study has selected monetary policy variable. Monetary policy is issued by state bank in Pakistan. SBP is the sole authority of issuing monetary policy. Different types of tools are used in monetary policy, such as interest rate which is also considered as ONR (overnight policy rate), money supply etc. Study has used interest rate as the main variable of monetary policy. Other bank specific characteristic variables with respect to the bank lending behavior which is used in this research consists of annual report and financial statement analysis of both the banking sectors (Conventional banks, Islamic banks), Other macro-economic variables include in the bank to manage the demand side effect GDP and CPI. The current study utilized data on annually basis which covers the time period from 2006 to 2016 and which includes number of 32 Banks. Study

methodology covers the independent variables (interest rate, liquidity, capitalization, size, gross domestic product and cost of consumer price index) on dependent variables (bank financing) of Pakistani banks.

3.2 Population & Sample Size

The population of the study was Islamic and conventional banks of Pakistan in which include 32 bank. But the extracted from that the sample period was taken 5 Islamic and 24 conventional banks of Pakistan. study has excluded specialized and merge banks during analysis. Data were collected from the period of 2006 to 2016.

TABLE 3.1: Sample Classification

Sr. #	Name of Banks	Year
1	Albaraka Bank	2006-2016
2	Allied Bank Ltd	2006-2016
3	Askari Bank Ltd	2006-2016
4	Bank Alfalah	2006-2016
5	Bank Al Habib	2006-2016
6	Bank Islamic Pakistan Ltd.	2006-2016
7	Burj Bank	2006-2016
8	Citi Bank	2006-2016
9	Dubai Islamic Bank	2006-2016
10	Duetsche Bank	2006-2016
11	Faysal Bank Ltd	2006-2016
12	First Women Bank	2006-2016
13	Habib Bank Ltd	2006-2016
14	Habib Metropolitan	2006-2016
15	Hsbc Bank Middle East	2006-2016
16	Industrial Development Bank	2006-2016
17	JS Bank Ltd	2006-2016
18	KASB Bank Ltd	2006-2016

19	MCB Bank Ltd	2006-2016
20	Meezan Bank Ltd	2006-2016
21	National Bank Of Pakistan	2006-2016
22	NIB Bank Ltd	2006-2016
23	Samba Bank Ltd	2006-2016
24	Silk Bank Ltd	2006-2016
25	Soneri Bank Ltd	2006-2016
26	Standard Chartered Bank	2006-2016
27	Summit Bank	2006-2016
28	The Bank Of Khyber	2006-2016
29	The Bank Of Punjab	2006-2016
30	The Bank Of Tokiyo Mistibushi	2006-2016
31	United Bank Ltd	2006-2016
32	Zarai Tarakiati Bank Limited	2006-2016

3.3 Test for Model Selection

According to the panel data final model selection likelihood and Hausman test were applied for improving which model is fit for study such as common, fixed and random effect model.

3.3.1 Likelihood Test for Overall Islamic and Conventional Banking

To decide between fixed effect and common effect model likelihood ratio test is applied the result of the test are significant which indicate that fixed effect model is more appropriate than common effect model. If p value were significant (less than 0.05 confidence interval) than it can be apply fixed effect model but if p value were greater than 0.05 then the study was applying common effect model. So table shows that value of cross-section Chi-square is 0.000 then fixed effect model were applied for final interpretations.

3.4 Data Sources

The present research is rely on secondary data and number of sources which include on this study. Sources of secondary data include annual report of conventional and Islamic bank of Pakistan which contain items of balance sheet and state bank of Pakistan (KIBOR) rate.

3.5 Descriptive Statistics

Statistical behavior of data is captured by using the descriptive statistics. Descriptive statistics includes mean which provide the average of data, median which divide the data set into two equal segments and it is the mid value of data set, standard deviation provides the information that how much the difference of data from its mean value.

3.6 Correlation Analysis

Correlation analysis use to capture the degree of relationship among variable. Correlation is helpful because it can point to a projective relationship between variables. This tool also deals about the direction of association among variables. Correlation analysis among variables indicates positive and negative relationship among different variables. Its range lies from +1 to -1. Low correlation between two variables shows low chances of multicollinearity while high correlations between two variables indicate high chances of multicollinearity.

3.7 Econometric Model

$$FIN_{i,t} = \beta_0 + \beta_1.MP_{i,t} + \beta_2.Size_{i,t} + \beta_3.LIQ_{i,t} + \beta_4.Capital_{i,t} + \beta_5.IR_{i,t} * Size_{i,t,s} + \beta_6.IR_{i,t} * LIQ_{i,t,s} + \beta_7.IR_{i,t} * Capital_{i,t,s} + \beta_7.GDP_{i,t} + \beta_8.CPI_{i,t} + \varepsilon_{i,t} \quad (3.1)$$

Where;

FIN= Bank Financing

GDP = Logarithm Of Real Gross Domestic Products

Size= Bank Size

LIQ= Liquidity

Capital = Bank Capital

MP= Monetary Policy

CPI= Consumer Price Index

ε = Error Term

3.8 Panel Data Analysis

Panel data analysis consists on the mix of cross sectional and time series data. When panel data have same series of time observations for every cross-section and variable it known as balanced panel. When series of time observations differs among cross sections the panel is known as unbalanced panel (Gujarati, 2003).

3.9 Estimation of Data Using Panel Regression

In this study Panel data use to capture the influence of monetary policy on both Islamic and conventional bank financing of Pakistani banking sector. Estimation of panel data is usually done by POLS, fixed and random effect model.

3.9.1 Common Effect Model

The model works under the assumption that coefficient of all cross-sections across the time is constant it means time invariant. But the assumption made here is difficult to happen and it leads to the inconsistency and reliability problem of the slope coefficient of the variable. However, this model does not capture the random and fixed effect presence in the panel data.

3.9.2 Fixed Effect Model

That model slope coefficient are constant but intercept vary from company to company. It assumes that there may not be temporarily affect in time series while estimation may carry cross sectional effect.

3.9.3 Random Effect Model

In this model intercept considered as error term and it do nothing with the cross sections (banks). This model explains the variation among the different banks. It offers following benefits. The major benefit of random effect model is that it can absorb the effect of time invariant. In fixed effect model such effect added into the intercept.

TABLE 3.2: Variable Description

Variables	Measurement	References
Financing - FIN	Ln of lending to financial institution bank financing	Zulhibri M, 2018
Asset - SIZE	Bank size asset is measured by the logarithm of total asset.	Zulhibri M, 2018
Liquidity - LIQ	Liquidity is measured by the ratio of liquid asset (short term funds and cash) to total assets.	Zulhibri M, 2018
Capital - CAP	Capitalization is measured by the ratio of capital and reserve to total assets.	Zulhibri M, 2018

Gross Domestic Product - GDP	GDP is the logarithm of real GDP	Zulkhibri M, 2018
Consumer Price Index - CPI	A measure of price changes in consumer goods and services. Prices is the logarithm of consumer price index. $CPI = \frac{\text{cost in current year}}{\text{cost in base year}} / 100$	Zulkhibri M, 2018
Short-term Interest Rate - R	Short term interest rate as the monetary policy shock and twelve-month average of monthly KIBOR.	-

3.10 Measurement of Variables

This study employs number of variables including liquidity measure, monetary policy measures and control variables. Control variables include company specific variables and macroeconomic variables. This study used following dependent and independent variables to explore the possible relationship and impact of monetary policy on bank financing.

3.11 Dependent Variable

Bank Financing is dependent variable in this study. Bank financing is measured by log of bank financing Zulkhibri M, 2018. In the face of rising rate of return, banks cost of financing rises, while the remuneration of bank assets remains the same. Hence, financing of highly leveraged bank is expected to be more responsive

to changes in the rate of return than financing of well-capitalized banks (Kishan & Opelia, 2006).

3.12 Independent Variable

Independent variables are defined as the one that bring change in dependent variables. These are used to study or explore the possible outcome and variation in the values of another variable i.e. DV. Bank size (SIZE) is measured by the logarithm of total assets (A). Relatively, banks with a smaller size may face higher constraints to raise external funds and thus be forced to reduce their lending (Kashyap & Stein, 1995, 2000). Liquidity (LIQUIDITY) is measured by the ratio of liquid assets (cash and short-term funds) to total assets (LA). More liquid banks can draw down on their liquid assets to shield their financing portfolios and less likely to cut back on financing in the face of rising cost or rate of return. Capitalization (CAPITAL) is measured by the ratio of capital and reserve to total assets (K).Gross domestic product (GDP) is measure the sum of market value, or prices, all final goods and services produced in an economy during a period of time. Consumer price index (CPI) is measure of price changes in consumer goods and services. prices is the logarithm of consumer price index and We try to test this hypothesis for Islamic financing behavior by including monetary policy rate where MP is monetary policy shock proxy by overnight policy rate.

Chapter 4

Results & Discussion

This chapter covers the various tests applied to explore the phenomena under discussion and interprets the results obtained. This chapter includes results and discussions. Result includes the descriptive statistics, correlation matrix and panel data analysis. This dissertation examined the impact of monetary policy on bank financing by using sample of Pakistani banks (Islamic and conventional) for the period 2006-2016. First of this study aims at investigating impact of monetary policy on both Islamic and conventional bank financing combine analysis and check the impact of monetary policy on both and also impact of monetary policy on Islamic and conventional bank financing separately to check out the change of monetary policy how effects in both financing separately and also apply the t test comparison of mean whether Islamic and conventional impact is different or same.

4.1 Descriptive Statistics

The descriptive statistics Table 6, explains behavior of data about all variables of the research model from the period of 2006 to 2016. Descriptive statistics of monetary policy and Islamic and conventional banks were separately explained. Data behavior were studied to explore its accuracy before performing other statistical tests. Descriptive statistics shows that general behavior of the data, including the dependent, independent, interaction term and control variables. The descriptive

statistics test shows summary of data that include average value (mean), lower value in the data set (minimum), higher value in data set (maximum) and measurement of dispersion (standard deviation). The mean value tells about average of data, standard deviation tells about spread and measure of dispersion in the value of the data from the mean, standard deviation and mean has low due to the used as separately. Minimum and maximum tells about current series of data.

In below table dependent variable bank financing explained as how much mean value its shows that average combination of Islamic and conventional 32 banks of Pakistan. In this table also explained that financing minimum and maximum capital strength from all selected banks in which year any bank hold maximum capital and minimum capital and also shows that higher difference with standard deviation value. In descriptive statistics table also explained that liquidity, bank size and capital average value of 32 banks during 2006 to 2016. In this table independent variable (monetary policy dimensions) have been discussed regarding their mean, minimum and maximum strength of data and also explained that higher difference with standard deviation relying in 2006 to 2016. In this table also explained that interaction term existence in data with mean, minimum, maximum and standard deviation. Mean value tells about the average value of interest rate in Pakistani Islamic and conventional banking structure. Descriptive statistics also explained that lowest and highest percentage of interest rate, GDP, bank size in any year by 32 banks. In this table also described that average value of leverage (liquidity of banks), lower and higher value of consumer pricing index and difference among these values have been explained with standard deviation in Islamic and conventional banking sector.

In combine analysis, the sample period is taken of 11 years starting from 2006 to 2016. The mean value of (FIN) bank financing is 14.8, its mean that average 14 million overall banks having the banking financing every time in their capital with standard deviation is 1.28%. The maximum and minimum are 10.5 and 16.8. The higher fluctuation in bank financing is basically different capital structure of the Islamic and conventional banking sector, its due to different policies and regulations about source of financing.

TABLE 4.1: Descriptive Statistics

	Mean	Maximum	Minimum	Std. Dev.	Observations
FIN	14.80652	16.80348	10.59663	1.284743	241
IR	9.987371	12.51000	6.820833	1.698026	241
CAP	0.147062	1.056000	0.000000	0.165430	241
LIQ	0.103585	0.454000	0.011000	0.065570	241
SIZE	18.40913	21.50000	15.10000	1.440341	241
GDP	30.39751	31.00000	29.70000	0.403518	241
CPI	2.184647	3.000000	0.900000	0.562484	241
Islamic Banks					
	Mean	Maximum	Minimum	Std. Dev.	Observations
FIN	14.73351	16.71383	10.60537	1.483321	36
IR	10.13334	12.51000	6.820833	1.610419	36
SIZE	17.78889	19.60000	15.20000	1.002790	36
CAP	0.154667	0.527000	0.041000	0.121525	36
LIQ	0.080083	0.357000	0.011000	0.070526	36
GDP	30.40000	31.00000	29.70000	0.386190	36
CPI	2.252778	3.000000	0.900000	0.537447	36
Conventional Banks					
	Mean	Maximum	Minimum	Std. Dev.	Observations
FIN	14.81934	16.80348	10.59663	1.250297	205
IR	9.961737	12.51000	6.820833	1.715439	205
CAP	0.145727	1.056000	0.000000	0.172194	205
LIQ	0.107712	0.454000	0.030000	0.063955	205
SIZE	18.51805	21.50000	15.10000	1.479307	205
GDP	30.39707	31.00000	29.70000	0.407396	205
CPI	2.172683	3.000000	0.900000	0.567187	205

The average value of interest rate is 9.98, its mean 9.9% average (KIBOR) interest rate used by Islamic and conventional banks in their capital structure framework. The maximum value of the interest rate is 12.5 and minimum is 6.8 and standard deviation is 1.69. The greater variation in (KIBOR) interest rate is basically economic stability of the Pakistan, which shows that up and down on daily basis.

The mean value of capitalization is 0.14 and its standard deviation is 0.16. The average value of capitalization 0.14%, its very low capital to asset reserve position, so its mean Islamic and conventional banks having a very low reserves in their capital structure. Its maximum and minimum are 1.0 and 0.0. The mean value of liquidity is 0.10, its mean that 10% average short-term funds having a

every Islamic and conventional banking capital structure and value of standard deviation is 0.06. The liquidity maximum and minimum value is 0.4 and 0.01. Its The mean of size is 18.4 with the maximum and minimum value of 21.5 and 15.1 its standard deviation is 1.4.

The mean value of (GDP) is 30.3, so its mean that 30% average GDP having in the duration of 2006 to 2016 in Pakistan and value of standard deviation is 0.4. The GDP maximum and minimum value is 31 and 29.7. There is very small difference among GDP variation during the 2006 to 2016 due to the economic stability of Pakistan. The mean value of CPI consumer price index is 2.1, its mean average 2.1% consumer goods and service vary in the duration of 2006 to 2016 regarding to the Islamic and conventional banking data set. The value of CPI maximum and minimum of 3.0 and 0.9 and its standard deviation is 0.5.

In separate analysis of Islamic bank tell about the mean value of FIN is 14.7, its mean that average 14.7% financing having all Islamic and conventional banks in their capital structure. The FIN bank financing standard deviation is 1.4 and maximum and minimum value are 16.7 and 10.6. The higher fluctuation in the value of bank financing during 2006 to 2016 due to the different policies in both Islamic banking sector. The average value of interest rate is 10.1, its mean that 10% average (KIBOR) interest rate having by the Islamic banking sector in their debt financing policies. The value of maximum and minimum 12.5 and 6.8. The higher variation in interest rate is basically due to the economic up and down in the policies of State Bank of Pakistan. The value of standard deviation is 1.69.

The mean value of capitalization is 0.15, its mean that 15% average value of capital having by the Islamic banks in their capital structure during the 2006 to 2016 and its standard deviation is 0.12. Its maximum and minimum are 0.52 and 0.04. The higher fluctuation in their capital to asset reserve is basically lower capital strength position of overall Islamic banking sector. The mean value of liquidity is 0.08, its shows that average 8% short term funds in overall assets having by Islamic banking system in their funds saving. The value of maximum and minimum 0.35 and 0.01. Its higher variation in liquidity such in short term

funds due to the lower concern of public and lower awareness in the mind of customers about Islamic banking sector. Its standard deviation is 0.07.

The mean value of (SIZE) bank size is 17.7, its mean that average 17.7% total assets having by the Islamic banks in their capital structure. The value of maximum and minimum value of 19.6 and 15.2 its standard deviation is 1.00. There is some little bit difference between bank size values, so due to the Islamic bank stability and lower focus asset size growing slowly. The mean value of GDP is 30.4, its mean average 30% GDP having in the duration of 2006 to 2016 regarding to the information by Islamic banks. The value of maximum and minimum value of 31.0 and 29.7. The little bit variation in the GDP value in the duration of 2006 to 2016 shows that economic stability of Pakistan and standard deviation value is 0.38.

The mean value of CPI consumer price index 2.2, its mean that 2.2% average value of CPI having in the sense of consumer goods and service ration in the duration of 2006 to 2016. The value of maximum and minimum of 3.0 and 0.9 and its standard deviation is 0.5. In separate analysis of conventional bank tell about the mean value of FIN is 14.8, its mean that average 14.8% bank financing having by the conventional banks in their capital structure during the time period of 2006 to 2016 and value of standard deviation is 1.2. The maximum and minimum are 16.8 and 10.5. The higher variation in the value of bank financing is due to the complex policies about financing of conventional banks.

The average value of interest rate is 9.9, its mean that average 9.9% interest rate having by conventional banks due to the policy setting by State Bank of Pakistan. The value of maximum and minimum of 12.5 and 6.8 and value of standard deviation is 1.71. The greater fluctuation in (KIBOR) interest rate is due to the economic disability in Pakistan from 2006 to 2016. The mean value of capitalization is 0.14, its mean that 14% capital having by conventional banks in their capital structure in duration of 2006 to 2016 and value of standard deviation is 0.17. Its maximum and minimum are 1.05 and 0.00. The little bit variation in the amount of capital is due to the different capital structure policies adopted by the conventional banking sector.

The mean of liquidity is 0.10, its mean that average 10% short term funds having by the conventional banks in their assets during the period of 2006 to 2016. The value of maximum and minimum 0.45 and 0.03. The higher variation in the cost of capital is due to the up and down in the commercial banks policies about asset management system and value of standard deviation is 0.06. The mean of size is 18.5, its mean that average 18.5% bank size mean asset volume is due to the maximum awareness and growth of conventional banks day by day. The value of the maximum and minimum value of 21.5 and 15.1. So, the little bit fluctuation in value of banks asset size due to the up and down in conventional banking sector during the 2006 to 2016 and the value of standard deviation is 1.47.

The mean value of GDP is 30.3, its mean that 30% GDP growth rate having the economy of Pakistan during the period of 2006 to 2016. The value of maximum and minimum are 31.0 and 29.7, so its mean that little bit variation in GDP in Pakistan during the 2006 to 2016. Its standard deviation is 0.40. The mean value of CPI consumer price index 2.21, its mean that average 2.21% consumer goods and services ratio in the period of 2006 to 2016 in Pakistan. The value of maximum and minimum of 3.0 and 0.9, so its mean that higher variation in consumer goods and services due to the up and down in the economy of Pakistan and its standard deviation is 0.5.

4.2 Correlation Analysis

The objective of correlation analysis is to capture the multicollinearity among the independent and dependent variables analyzed through both signs and values of the variables. Table 4.2 explain the relationship among independent and dependent variables. Pearson correlation test is used to measure the direction and strength of the relationship among variables the value of correlation coefficient ranges from positive 1 to negative 1. if the value of correlation coefficient is equal to 1 then its mean that there is perfect relationship among the variables. When the value is zero then it shows that there is no relationship among variables. The coefficient sign provides the direction and relationship of variables.

On the other hand, negative correlation coefficient of two variables indicates that if one variable increases the other variable will decrease and vice versa. The correlation detects the problem of multicollinearity among independent variables. There is strong relationship exists between independent variables it will lead to multicollinearity problem. Correlation shown between financing size and gross domestic product is positive and interest rate, capitalization, liquidity and consumer price index is negative. Correlation shown between interest rate, capitalization and consumer price index is positive and liquidity, size and gross domestic product negative correlate with interest rate. Size and gross domestic product shows the positive relationship with capitalization and liquidity and consumer price is negative with capitalization. Liquidity and consumer price index negative relationship with size and gross domestic product shows positive relationship with size. GDP negative correlated and consumer price index positive correlated with liquidity.

TABLE 4.2: Correlation Analysis

	FIN	IR	CAP	SIZE	LIQ	GDP	CPI
FIN	1	-	-	-	-	-	-
IR	-0.1034	1	-	-	-	-	-
CAP	-0.1973	0.0331	1	-	-	-	-
SIZE	0.4257	-0.1149	-0.4510	1	-	-	-
LIQ	-0.0133	-0.0424	0.0643	-0.2049	1	-	-
GDP	0.0731	-0.2045	-0.1143	0.2712	-0.2741	1	-
CPI	-0.1470	0.8189	0.0595	-0.2112	0.0620	-0.5753	1

4.3 Likelihood Test for Overall Islamic and Con- ventional Banking

H_0 : Null hypothesis Common effect model is appropriate.

H_1 : Alternative fixed effect model is appropriate.

TABLE 4.3: Likelihood Test for Overall Islamic and Conventional Banking

Effects Test	Statistic	d.f.	Prob.
Cross-section F	3.411442	(30,201)	0.0000
Cross-section Chi-square	99.185986	30	0.0000

4.4 Likelihood Test for Islamic Banking

H_0 : Null hypothesis Common effect model is appropriate.

H_1 : Alternative fixed effect model is appropriate.

TABLE 4.4: Likelihood Test for Islamic Banking

Effects Test	Statistic	d.f.	Prob.
Cross-section F	7.464427	(4,22)	0.0006
Cross-section Chi-square	30.868601	4	0.0000

4.5 Likelihood Test for Conventional Banks

H_0 : Null hypothesis Common effect model is appropriate.

H_1 : Alternative fixed effect model is appropriate.

TABLE 4.5: Likelihood Test for Conventional Banks

Effects Test	Statistic	d.f.	Prob.
Cross-section F	3.722038	(25,170)	0.0000
Cross-section Chi-square	89.492612	4	0.0000

To decide between fixed effect and common effect model likelihood ratio test is applied the result of the test are significant which indicate that fixed effect model is more appropriate than common effect model in conventional banking sector. If p value were significant (less than 0.05 confidence interval) than it can be apply fixed effect model but if p value were greater than 0.05 then the study was applying

common effect model. So table shows that value of cross-section Chi-square is 0.000 so fixed effect model were applied for final interpretation in conventional banking sector.

4.6 Panel Regression Analysis

In the below Table 4.6, panel regression analysis has been explored the effect of monetary policy on bank financing with interaction term of (KIBOR) interest rate. However, study found that direct and indirect effect of independent variables monetary policy dimensions with different proxies. The study has been found that direct significant/positive or negative role of bank size, bank capital, GDP, liquidity and consumer price index for adjusting the bank financing in Islamic and conventional banking sector of Pakistan. In the next, study found that significant/positive or negative indirect role of interaction term (KIBOR) interest rate among independent and dependent variables. In the interaction term, research work try to find that combine effect of interest rate plus independent variables individually. Regarding to the direction of likelihood ratio test fixed model were suitable for the final interpretation. The fixed model R-square and p values were significant and more suitable for final interpretation. All standards and requirements of fixed effect model within accepted range then model was finalized for further analysis but if not in accepted range then common effect model were applied

The above table shows that overall combine, Islamic and conventional data results of common effect model. In common effect model overall combine data set results shows that mostly independent variables and interaction term insignificantly related with dependent variable. In next section results of Islamic banking sector data set results insignificantly linked with dependent variables. The next third section mostly independent variables insignificantly influence the dependent variable bank financing. The common effect model value of R-squared is (0.213) which were not applicable for final selection and interpretation.

TABLE 4.6: Common Effect Model

Dep. Variable = FIN		Combine Model				Islamic Banks			
Variables	Coefficient	Std. Error	t-Statistic	Prob.	Coefficient	Std. Error	t-Statistic	Prob.	
C	32.9470	10.7680	3.0600	0.0030	-66.3350	83.5060	-0.7940	0.4340	
IR	-1.1560	0.6810	-1.6980	0.0910	7.7200	8.3590	0.9240	0.3640	
SIZE	-0.1750	0.3450	-0.5060	0.6130	3.3370	4.4310	0.7530	0.4580	
CAP	-4.1030	3.0060	-1.3650	0.1740	33.9740	38.3470	0.8860	0.3840	
LIQ	-7.0020	6.5590	-1.0680	0.2870	6.2810	28.8670	0.2180	0.8300	
GDP	-0.4350	0.2890	-1.5050	0.1340	0.5800	1.0320	0.5620	0.5790	
CPI	-0.5220	0.3400	-1.5330	0.1270	-0.0470	0.9410	-0.0500	0.9610	
IR*SIZE	0.0590	0.0350	1.6900	0.0920	-0.4000	0.4400	-0.9100	0.3710	
IR*LIQ	0.8840	0.6860	1.2890	0.1990	-4.8070	3.9090	-1.2300	0.2300	
IR*CAP	0.4340	0.3130	1.3860	0.1670	-0.2670	2.8490	-0.0940	0.9260	
R-squared	0.2130				0.4980				
Adjusted R-squared	0.1820				0.3240				
Prob(F-statistic)	0.0000				0.0170				

Common Effect Model (4.6 Cont.)

Dep. Variable = FIN		Conventional banks		
Variables	Coefficient	Std. Error	t-Statistic	Prob.
C	38.3860	11.0710	3.4670	0.0010
IR	-1.3250	0.6890	-1.9230	0.0560
SIZE	-4.8690	2.9860	-1.6310	0.1050
CAP	-8.2350	6.8620	-1.2000	0.2320
LIQ	-0.2100	0.3440	-0.6080	0.5440
GDP	-0.5840	0.2990	-1.9570	0.0520
CPI	-0.4910	0.3590	-1.3680	0.1730
IR*SIZE	0.5700	0.3130	1.8240	0.0700
IR*LIQ	1.1510	0.7260	1.5850	0.1150
IR*CAP	0.0640	0.0350	1.8580	0.0650
R-squared	0.2340			
Adjusted R-squared	0.1990			
Prob(F-statistic)	0.0000			

However common effect model will be rejected for final analysis among monetary policy and bank financing. So, regarding to these above table results common effect model is not appropriate for monetary policy impact on bank financing in Islamic and conventional banking sector of Pakistan.

In the below Table 4.7, monetary policy dimensions and bank financing with interaction term (KIBOR) interest rate has been described. To examine the relationship of monetary policy and its influence on bank financing with moderating role of interest rate, the fixed effect model is used for the hypothesis improvement. The above table is included dependent variable bank financing and independent variables bank size, bank capital, GDP, liquidity and consumer price index moderating variable interest rate. The above table shows that value of overall combine data set R^2 (0.47) in the model which includes monetary policy shows only 47% bank financing examined through the independent variables, in other words variation in bank financing due to these monetary policy determinants. Moreover, the R-squared value build a suitable source for the model of monetary policy and bank financing. The Islamic banking data set results of R^2 (.78) in this value shows

TABLE 4.7: Fixed Effect Model

Dep. Variable = FIN	Combine model				Islamic banks			
Variables	Coefficient	Std. Error	t-Statistic	Prob.	Coefficient	Std. Error	t-Statistic	Prob.
C	36.5320	10.2540	3.5630	0.0010	-251.5570	74.7600	-3.3650	0.0030
IR	-1.1720	0.6530	-1.7930	0.0740	18.4900	6.7470	2.7410	0.0120
SIZE	0.0400	0.3550	0.1130	0.9100	5.5270	3.5890	1.5400	0.1380
CAP	-5.8920	2.7890	-2.1130	0.0360	71.8360	30.9820	2.3190	0.0300
LIQ	-2.5500	6.3760	-0.4000	0.6900	4.2600	23.2650	0.1830	0.8560
GDP	-0.6840	0.3280	-2.0840	0.0380	5.1980	1.7830	2.9150	0.0080
CPI	-0.5430	0.3050	-1.7800	0.0770	0.3290	0.6880	0.4770	0.6380
IR*SIZE	0.0620	0.0330	1.8590	0.0640	-0.9640	0.3540	-2.7250	0.0120
IR*LIQ	0.2730	0.7100	0.3850	0.7010	-9.9130	3.2200	-3.0790	0.0060
IR*CAP	0.5170	0.2990	1.7280	0.0860	-0.5210	2.4240	-0.2150	0.8320
R-squared	0.4780				0.7870			
Adjusted R-squared	0.3770				0.6610			
Prob(F-statistic)	0.0000				0.0000			

Note: The above table depicts the results for linear panel data regression model with using the banks and 10 years fixed effects. The dependent variable is the FIN (bank financing) and the independent variables were monetary policy and interaction term interest rate. In further statistically significant level is 1%, 5% and 10 percent respectively.

Fixed Effect Model (Cont.)

Dep. Variable = FIN	Conventional banks			
Variables	Coefficient	Std. Error	t-Statistic	Prob.
C	38.7000	10.1880	3.7990	0.0000
IR	-1.1890	0.6590	-1.8050	0.0730
SIZE	-6.1730	2.7430	-2.2500	0.0260
CAP	-3.7530	6.6880	-0.5610	0.5750
LIQ	-0.1300	0.3610	-0.3590	0.7200
GDP	-0.6480	0.3240	-1.9980	0.0470
CPI	-0.5260	0.3190	-1.6480	0.1010
IR*SIZE	0.5960	0.2950	2.0210	0.0450
IR*LIQ	0.4360	0.7470	0.5840	0.5600
IR*CAP	0.0610	0.0330	1.8420	0.0670
R-squared	0.5050			
Adjusted R-squared	0.4060			
Prob(F-statistic)	0.0000			

that monetary policy effect, its mean bank financing only 78% examined through these study independent variables. In next section conventional banks data set results shows that value of R^2 (.50) which mean that dependent variable bank financing only 50% influenced through these independent variables monetary policy.

H₁: There is a significant negative relationship between monetary policy and conventional bank financing.

In above fixed effect model coefficient value of interest rate (IR) is (-1.172) which show that significant at the level of ($p < 0.07$). These values show that interest rate negatively influence on bank financing. The coefficient value of capital (CAP) is (-5.892) which shows that significant at the level of ($p < 0.03$). These values show that bank capital negatively influence on bank financing. The coefficient value of gross domestic products (GDP) is (-0.684) which shows that significant at the level of ($p < 0.03$). These values show that GDP negatively influence on bank financing. The coefficient value of consumer price index (CPI) is (-0.543) which shows that significant at the level of ($p < 0.03$). These values show that consumer price index

negatively influence on bank financing. The bank size and liquidity insignificantly linked with bank financing. Its mean these proxies insignificantly influence on bank financing. The above all proxies results shows that monetary policy significantly negative impact on bank financing in overall Islamic and conventional banking sector. So, the hypothesis H1 has been accepted.

H₂: Interaction term of interest rate positively significantly impacts the bank financing.

In above fixed effect model, the interest rate & bank size with interaction term (IR*SIZE) coefficient beta value ($\beta=0.062$) found significant regarding to the standard required level of ($p < 0.05$). These values show that interest rate positively significantly the association between bank size and bank financing in overall banking sector. In next interaction term (IR*LIQ) interest rate & liquidity insignificantly linked with bank financing. Its mean interaction term interest rate does not alter the relationship between liquidity and bank financing. In above model interest rate & bank capital with interaction term (IR*CAP) coefficient beta value ($\beta=0.517$) found significant regarding to the standard required level of ($p < 0.05$). These values show that interest rate significantly positively association between bank capital and bank financing in overall banking sector. The above results found that interaction term interest rate positively significantly between monetary policy determinants and bank financing in Islamic and conventional sector.

H₃: There is a significant positive relationship between monetary policy and Islamic bank financing.

In above fixed effect model coefficient value of interest rate (IR) is (18.490) which show that significant at the level of ($p < 0.012$). These values show that interest rate significant positive influence on bank financing in Islamic banking sector. The coefficient value of capital (CAP) is (71.836) which shows that significant at the level of ($p < 0.03$). These values show that bank capital significantly positively influence on bank financing in Islamic banking. The coefficient value of gross domestic products (GDP) is (5.198) which shows that significant at the level of ($p < 0.05$). These values show that GDP positively influence on bank financing in Islamic banking. The consumer price index (CPI), liquidity and bank size

which shows that insignificant relationship at the level of ($p > 0.05$). The next interaction term interest rate does not alter the relationship between monetary policy and bank financing so, there is no need of any interaction term between these independent and dependent variables. The above mostly major proxies results show that monetary policy significantly positive impact on Islamic bank financing in Islamic banking sector. So, the hypothesis H3 has been accepted.

H₄: There is a significant negative relationship between monetary policy and conventional bank financing.

In above fixed effect model coefficient value of interest rate (IR) is (-1.189) which show that significant at the level of ($p < 0.07$). These values show that interest rate significant negative influence on bank financing in conventional banking sector. The coefficient value of bank size (SIZE) is (-6.173) which shows that significant at the level of ($p < 0.03$). These values show that bank size significantly negatively influence on bank financing in conventional banking. The coefficient value of gross domestic products (GDP) is (-0.648) which shows that significant at the level of ($p < 0.05$). These values show that GDP negatively influence on bank financing in conventional banking. The consumer price index (CPI), liquidity and bank capital which shows that insignificant relationship at the level of ($p > 0.05$). The next interaction term interest rate alters the relationship between monetary policy and bank financing so, there is need of interaction term interest rate between these independent and dependent variables. The above conventional banking sector mostly major proxies results show that monetary policy significantly negative impact on bank financing in conventional banking sector. So, the hypothesis H4 has been accepted.

4.7 Discussion

The study used a panel of annual bank level data of Islamic and conventional banks operating in Pakistan covering the period 2006 -2016. Table 4.1 report the basic descriptive statistic for the sample of both banking combine and separate analysis. It covers measure of central tendency mean, median and measure of

discussion standard deviation. The table 4.7, describe that value of R^2 (0.478353) in the model which includes monetary policy shows only 47% impact on bank financing of Islamic and conventional banks of Pakistan. The variables of interest rate are negative and significant for fixed effect model and other bank characteristic variables (size, capital, and liquidity) the variables of size are positive and insignificant for this model. In the case of liquidity, the result show that the coefficient of liquidity is negative and insignificance with bank financing. Looking at the coefficient of capitalization it appears the bank financing is negatively and significantly associated with bank capitalization.

The macroeconomic variables included in the bank financing model to control for the demand side effect both real GDP growth variables and consumer price index is negatively related to bank financing but significant. We have interacted the interest rate variables with bank size (IR*SIZE), Liquidity (IR*LIQUIDITY) and capitalization (IR*CAPITAL) to further analysis the economic arguments that there is a unique role for bank financing in the dual banking system. The estimate of bank specific characteristic coefficient provide result. The estimate coefficient of (IR*SIZE), (IR*CAPITAL) show a positive sign and significant and (IR*LIQUIDITY) show a negative sign but also these significant at the conventional and Islamic bank financing. Table 4.6 to Table 4.7 showed the separate analysis of Islamic and conventional bank financing and after that explanation of t test is above mentioned. Islamic and conventional bank financing results are different from each other due to interest rate because Islamic bank do not deal with interest base instrument. Islamic bank customer are guided by the profit maximization theory as there is no predetermine rate of return involve in Islamic banking system.

Chapter 5

Conclusion & Recommendations

5.1 Conclusion

This study addresses the impact of monetary policy on Islamic and conventional bank in Pakistan. First the impact of monetary policy on Islamic and conventional bank is examined through regression analysis combined and separately and the other hand to test applied to comparison of mean. Economies have several channel and path through which monetary policy can affect the activities of economy. Many economists have consensus on this that interest rate is one of the important factors in developed economies which can be affected by rules of monetary policy. This study addresses the impact of monetary policy on Islamic and conventional bank financing in Pakistan country by using the fixed effect Model. The result indicates that banks effect to any changes in the monetary policy. In this research, we used bank-level data on Pakistani bank from 2006 to 2016 to investigate how banks affect the change of monetary policy. This study finds that monetary policy has a larger impact on bank financing. Population of this study is the bank and sample has been selected from 32 banks. Which include 5 big Islamic banks and 27 conventional banks operating in Pakistan. This study uses annual bank level data and the data can be sourced from the financial statement of Islamic banks operating in Pakistan. This study considered secondary financial data pertaining to the period 2006 to 2016 has been used for analysis purpose.

Previous research shows the impact of monetary policy on Islamic bank financing. Bank level evidence from Malaysia our contribution is this study is the impact of monetary policy on Islamic and conventional bank financing. Bank level evidence from panel data on Pakistani banks. In this study panel regression model were applied, study was applied Hausman and likelihood ratio test so these tests suggests random and fixed effect model but, in fixed effect model, adjusted r -square were accepted range and mostly variables were significant so for the further interpretation and discussion study were applied fixed effect model for all further interpretations.

First, of all study were found the direct impact of monetary policy determinants on bank financing in Islamic and conventional banking sector. In first proxy the value of interest rate (IR, KIBOR) found that significantly/negatively linked with bank financing. In second proxy found that value of liquidity (LIQ) were also insignificantly influence on bank financing. In third proxy the value of bank capital (CAP) found that significantly/negatively impact on bank financing. In fifth proxy the value of gross domestic products (GDP) found that significantly/negatively impact on bank financing. In sixth proxy the value of consumer price index (CPI) found that significantly/negatively impact on bank financing. So, in the duration of monetary policy proxies examinations study explore to found that value of bank size (SIZE) insignificantly influence on bank financing. So, our research found that mostly monetary policy determinants significantly negatively impact on bank financing in overall Islamic and conventional banking sector. These results supported to the study findings in developing countries significant relationship among monetary policy and bank financing. So, these above findings have been proved hypothesis 1.

Regarding to the hypothesis two interest rate (KIBOR) alters the relationship between (IR*SIZE) bank size and bank financing significant positively. So its mean overall banking sector need a interaction role of interest rate among bank size and bank financing. In next interaction term interest rate (KIBOR) significantly alters the association among (IR*CPI) consumer price index and overall bank financing.

Its mean that banking sector need an interaction role of interest rate among consumer price index and bank financing for strengthen the relationship. In next interaction term interest rate insignificantly linked between (IR*LIQ) liquidity and bank financing. Its mean that overall banking sector no need of any interaction role among liquidity and bank financing because its no any impact among these variables. On the basis of these findings hypothesis 2 have been approved on the basis of analytical results. These results explore that monetary policy influence the bank financing in Islamic and conventional banking sector. This is the combine fixed effect model results in which shows that fixed effect of independent variables on dependent variable individually. In the next second model is applied on just Islamic banking data set for checking the impact of monetary policy determinants on Islamic banking financing.

In this fixed effect model study has been described monetary policy influence on Islamic bank financing. In the regression findings monetary policy determinants examined direct impact of different proxies such as value of bank capital (CAP) significant positive influence on Islamic bank financing. In next study found that significant positive impact of interest rate (KIBOR) on Islamic bank financing directly. Its mean that interest rate play a positive direct role among Islamic bank financing and monetary policy. In other result gross domestic product (GDP) significantly positively influence on bank financing. Its shows that GDP directly impact on Islamic bank financing. In next bank size insignificant direct impact on Islamic bank financing. Its mean that size of the bank no any specific influence on Islamic bank financing sector. In next liquidity insignificantly impact on Islamic bank financing. Its mean that liquidity no any special direct role for Islamic bank financing. In the next consumer price index insignificantly influence on Islamic bank financing. Its mean that Islamic bank financing not directly influenced by consumer price index. So, three monetary policy determinants significantly and three insignificantly linked with Islamic bank financing. Its mean that somehow hypothesis 3 has been accepted because major determinants like bank capital, GDP and interest rate significant impact on bank financing. In other one results

of interaction term in Islamic bank model, shows that interest rate (KIBOR) alters the relationship among (IR*SIZE) bank size and Islamic bank financing. So, its mean Islamic banking need an interaction role of interest rate for strengthen the relationship among monetary policy determinant bank size and Islamic bank financing. In next interaction term interest rate (KIBOR) alters the relationship among (IR*LIQ) liquidity and Islamic bank financing. So, its mean Islamic banking need an interaction role of interest rate for strengthen the relationship among monetary policy determinant liquidity and Islamic bank financing.

In next face research analysis has been explored the third fixed effect model in which study check the influence of monetary policy determinants on conventional banking financing. In first the value of interest rate, bank size significantly negative influence on conventional bank financing. Its mean that in conventional banking sector monetary policy determinants negative impact on its financing. In next the value of liquidity, consumer price index and gross domestic products insignificantly impact on conventional bank financing. Its mean that these independent determinants no any special influence on conventional banking sector. But the major determinants significant influence on conventional bank financing so its shows that hypothesis 4 has been accepted and proved. In next the interaction term interest rate (KIBOR) alters the relationship among monetary policy determinants and bank financing. The first interaction role of interest rate (IR*SIZE) among bank size and bank financing. Its mean that interest rate alters the relationship between bank size and bank financing, its also shows that conventional bank need an interaction term interest rate for strengthen the association among bank size and bank financing. In the next interaction term interest rate among (IR*CAP) bank capital and conventional bank financing. So its mean that conventional bank need a interest rate as interaction term to build the relation among bank capital and conventional bank financing.

5.2 Policy Recommendations

The study determined the impact of monetary policy dimensions with interaction term role of interest rate (KIBOR) on bank financing in Islamic and conventional banking sector of Pakistan. By taking as the sample of panel data approach in 32 banks. In the research work findings panel regression approaches for improving the influence of monetary policy practices on bank financing. In this research work may control the meaningful contributions for financial institutions that creates the best structure for Islamic and conventional banks in Pakistani culture. The first thing kept in mind regarding to the study of monetary policy just 78% variation in Islamic bank structure due to these independent variables mentioned in study like monetary policy dimensions. The other 22% variation influenced by other financial factors like external shareholders, creditors, political control and international laws.

The current study encourages for the benefits for the financial institutions by retaining the best mechanisms in banking sector. Therefore, study provide the excellent benefits to State Bank of Pakistan, how they bring improvement in their financing and monetary policy regulations. Whereas, all other policy makers, stakeholders, that can take guidelines from this study and governmental bodies of also take a beneficial measure in governance sector. Including the Islamic and conventional banking sector:

The Following Suggestions and Recommendations:

- Regulatory bodies should take a serious step for encouraging the international investors for investment in Pakistani industry as well as promoting the foreign reserves such as China Pakistan Economic Corridor. There is great consumer market and human capital and Pakistan increase the growth of economy through foreign investment. Due to these developments Islamic and conventional banks grow rapidly.
- In Pakistani banks maximum family own businesses so many people open a account with family name in banks not just as company.

- To increase the accountability, Islamic and conventional banks should adopt the smaller size board of director team because in larger size director team more complex and difficulties in decision making of monetary policy.
- To minimize the fraud and gossips in banking sector must kept a reasonable audit committee like smaller audit committee and must manage a committee meeting every quarter annually.
- Must adjusted the reasonable part of financing in Islamic and conventional banking sector.

5.3 Limitations

The best of my knowledge and efforts apply to conduct this research work in which we made a useful contribution for the academia, practitioners, governmental regulatory bodies, policy makers and Islamic and conventional banks executives; therefore, some limitation written up regarding to this study. The present research contains the 32 banks. In present study only internal monetary policy dimensions has been included like independently impact and dependent variable like bank size, GDP, capital, liquidity. The study model applies only on Pakistani Islamic and conventional banks. Finally, the results gathered from banks those are operating in Pakistan.

5.4 Future Research

This study may serve as a key step to further research. The study focused on some Islamic and conventional bank of Pakistan). It recommended that many other countries should be selected for impact of monetary policy on Islamic and conventional bank financing and should cover the large set of banking sector data of all banks. In this research estimate combined and separate analysis of Islamic and conventional banks. The time frame for research work, including the ten years from 2006 to 2016, this time period can be increased by 11 years for more accurate

results. Research the sample size and time period of the data may be increased by taking into account remaining firms of different sectors in future.

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