CAPITAL UNIVERSITY OF SCIENCE AND TECHNOLOGY, ISLAMABAD

Impact of Resource Allocation on the Profitability of Banks of Pakistan with the Moderating Role of Green Credit Policy and Sharia Compliance

by

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First of all, I am dedicating this thesis to my honorable father Muhammad Akram, who loved me and taught me the value of life. I am also dedicating this thesis to my family members and friends who support me throughout the process. I would particularly dedicate this thesis to my supervisor Dr.Nousheen Tariq Bhutta for her guidance and support.

CERTIFICATE OF APPROVAL

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Abstract

Abstract Basic aim of this study is to determine the impact of resource allocation on the profitability of Banks of Pakistan with the moderating role of green credit policy and sharia compliance. Data was collected from the website of state bank of Pakistan. For this study, all the 27 banks of Pakistan are selected for the period from 2011 to 2020. GMM techniques are used to find the impact of resource allocation on the profitability of banks in Pakistan with the moderating role of green credit policy and sharia compliance. It is concluded that resource allocation has positive impact on the profitability of banks of Pakistan. Green credit policy has positive effect on the relationship of resource allocation and profitability. Sharia compliance has negative effect on the relationship of resource allocation and profitability. Diversification also has positive impact on the profitability of banks of Pakistan. Profitability of banks is positively affected from liquidity ratio. Non-performing loan negatively affect the financial performance of banks of Pakistan. Capital ratio has positive relationship with profitability of banks.

Keywords: Resource Allocation, Green Credit Policy, Sharia Compliance and Profitability.

Contents

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Abbreviations

CBRC	China Banking Regulatory Commission
CSR	Corporate Social Responsibility
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
NPL	Non-performing loan
ROA	Return on Asset
ROE	Return on Equity

Chapter 1

Introduction

1.1 Background of the Study

Resource allocation is the distribution of resources in such a way that an organization can achieve its strategic objectives. Tangible and intangible assets both are efficiently allocated to achieve the organizational goal. For most businesses, one of the significant investments is the investment of resources. For the profitability and sustainability of a business, it's very important to allocate resources efficiently. Resource allocation helps organizations to reduce costs. When resources are efficiently managed then the productivity of an organization improved a lot. Employees' satisfaction levels and engagement levels improved a lot by resource allocation. Banks' resources are the deposits of the bank, employees, and technology of banks. When banks allocate their deposit efficiently, banks achieve their goals. . The profitability of banks is greatly influenced by the debt to deposit ratio. At any point in time, banks will not have any unnecessary liquidity pressure, this is a manner in which the ratio should be fixed. To determine the profitability of banks, loans and deposits are the key factors. Banks get high profits or revenue when banks give more loans. The risk of liquidity is also there when banks give more loans to their customers (Silva & Oliveira, 2020).

A green credit policy is a guideline about the flow of funds in which banks are instructed to provide loans and funds to those projects which are eco-friendly. Through resource credit rationing, the energy consumption of enterprises adjusts

to the green credit policy. The importance of a green credit policy is that clean energy projects get better credit conditions. In highly polluted industries, CO2 emissions are significantly reduced by the use of a green credit policy. Air quality is improved by using a green credit policy. Environmental issues negatively affect the profitability of banks (Galán & Tan, 2022). This is the major concern of corporate stakeholders as there is increased awareness about public environmental protection. Different banks and lenders are also less aware that pollution problems can cause credit risk and bring business use of the environment to the credit risk analysis. Businesses with better environmental performance have more motivation to unveil their environmental presentation to convey green messages to their partners and present a better picture of nature. Businesses often disclose good environmental practices when selecting their content to reflect their environmental responsibility and manageable change of events, encouraging banks to intelligently assess the natural risks of actions and efforts to reward good environmental performance with good borrowing costs, etc. However, there is gambling that organizations may not complete their revelations, that is, they do not play the natural functions they have revealed. Environmental information disclosure and environmental performance have no significant correlation (Li, Cui & Zheng, 2022).

Compliance with the principle of Sharia, financial product, service, and activity refers to as Sharia Compliance. Banks that adopt the Sharia compliance finance all the economic activities with a deposit of banks however, within the limit of Islam permission. Interest-based financial activities are not funded by Islamic banks because in Islam there is a prohibition of interest. Sharia non-compliance events that cause direct loss and indirect loss of financial intermediaries are prevented when banks follow sharia compliance (Hamsyi , 2019).

To meet the short-term debt, the company's ability is called the liquidity of a company. Liquidity means a company can repay the bill when the company takes a loan. The profitability of a bank decreases when the liquidity of a company increased because a high liquidity ratio shows that the company is unable to avail the new opportunities and company cannot invest in new projects. To determine bank liquidity, the best tool is the debt to deposit ratio (Breuer et al. , 2012).

Non-performing loans can lead to serious problems for lenders. Financial institutions often set aside cash to address the unfortunate consequences of development (bad debt arrangements). They reduce their bad debts to make a profit. Commercial banks lend money to organizations that consistently help different organizations. Business loans facilitate bank operations. Banks operate either by securing savings and trading deposit amounts or through entering financial markets. Then they earn savings (bank loans) to make loans or buy securities (banking services). Banks make advances in organizations, other financial institutions, individuals, and provincial administrations (Firmansyah, 2019).

Banks play an important role in the growth and progress of the economy. Banks act as intermediary role in the deposit and borrowing process. On both sides of the financial statement, banks perform a valuable action. Banks provided the allocation of goods and services for customers. The unemployment rate in a country is reduced when a new organization started work in a country. Banks help a new organization by providing loans to start their business. Appropriately, the demand and supply of finance are handled by banks. Under the Banking Companies Ordinance 1962, the State bank of Pakistan supervised all the commercial banks of Pakistan. State Bank of Pakistan stands as an autonomous figure for the governance of banks, it checks all the rules and regulations that have to be followed by banks. Through the process of privatization, SBP promotes the banking sector.

From running a business, the ongoing cost incurred is called the operating expense ratio. Operating cost is the cost incurred to run the business, not for the production of a business. Operating expenses include all those costs that are not related to the direct production of goods and services. Office supplies, wages, business travel, and rent are included in the operating expense used to run the business. From industry to industry, operating expenses differ from each other. The profit of a business decreased when the operating expense of any business increased. Net sales to net profit is reduced only by one type of expense named operating expense. When a user of a financial statement looks at the operating profit of a firm then the user came to know the relationship between operating expense and income (MUFIDA, 2019).

1.2 Research GAAP

Resource allocation decision is one of the most important financial decisions for firms. It is different across industries and firms. Most banks allocate most of their resource to a lender as a loan and invest in profitable projects. It's very important to determine the effect of resource allocation on the profitability of banks in Pakistan. There are a large number of researches on the relationship between resource allocation and the profitability of firms. According to these researches, resource allocation significantly affects the profitability and share price of firms.

1.3 Significance of Study

This research helps commercial and Islamic banks in determining the impact of Sharia compliance and green credit on profitability. This research also helps banks to determine the performance indicators that have a significant effect on profitability. This research will be conducted in Pakistan. This research will help policymakers in developing good policies about those ratios which negatively affect profitability and it helps in identifying the ways through which a company gets more and more profit. This research also helps an investor in identifying the banks which give high profits. This research helps in identifying which performance indicator effect a lot on the performance of the banks of Pakistan.

1.4 Research Questions

1. Does the resource allocation affect the profitability of banks in Pakistan?
2. Does the liquidity ratio affect the profitability of banks in Pakistan?
3. Does the leverage ratio affect the profitability of banks in Pakistan?
4. Does diversification affect the profitability of banks in Pakistan?

5. Does the green credit policy moderate the relationship between resource allocation and the profitability of banks in Pakistan?

6. Does the sharia compliance moderate the relationship between resource allocation and profitability of banks of Pakistan?

1.5 Research Objectives

- To determine the impact of resource allocation on the profitability of banks in Pakistan.
- To determine the moderating effect of the green credit policy on the relationship between resource allocation and the profitability of banks in Pakistan.
- To determine the moderating role of sharia compliance on the relationship between resource allocation and profitability of banks of Pakistan.

1.6 Thesis Outline

The thesis will compromise six chapters, which will cover five chapters. The first chapter of this thesis is the Introduction. in this chapter the background of the study will be discussed along with revealing the scope and significance of the study. Furthermore, the research questions and objectives will be elaborated. The second chapter is literature on the topic. In this chapter, a critical analysis of the past studies will be presented along with highlighting the gaps prevailing within the past studies. Furthermore, the theoretical model will be developed based on the context of the study. The third chapter is about research methodology. In this chapter, research methods and techniques selected for the collection of the data and analysis will be revealed. It will help in understanding the nature and scope of the study. In the fourth chapter, data are analyzed. The fifth chapter is about the conclusion and recommendation. in this chapter, the conclusion of the study will be made based on the findings made by the researcher. Furthermore, the implications of the findings will be discussed. Along with this, a researcher

will add recommendations for the conduction of the future study based on the limitations of the current study.

Chapter 2

Literature Review

2.1 Impact of Resource Allocation on Profitability of Banks

Syifa (2018) stated that total deposits of a bank are compared with total loans of banks to access the bank liquidity and the ratio used for it is called the loan to deposit ratio. The loan deposit ratio is expressed in percentage form. To cover any unforeseen risk and fund requirement, the liquidity of the bank is not enough shown by a 40% ratio of loan to deposit. Banks earning level is very low as shown by the 5% loan-to-deposit ratio. The total loans of banks are divided by the total deposits of banks to calculate the loan-to-deposit ratio. Deposits are shown as a liability on the balance sheet of a firm while loans are shown as assets on the balance sheet of a firm. To cover the withdrawals by its customer and loan losses, the ability of a bank is shown by the loan-to-deposit ratio. In the event of an economic downturn, to cover loans adequate liquidity satisfied the depositors. The loan deposit ratio is monitored by investors to protect their money from loan default.

New clients and new money are being boarder when banks have more deposits. Earnings of banks are increased when banks have more money to lend. From lending, banks earn interest income as loans are the asset of the bank. The liability of a bank is a deposit so the bank should pay the interest amount on the deposit

and it must be low. To earn a high profit, banks should have more loans and fewer deposits because on loans banks earn income while on deposits banks pay interest which is an expense for a bank, and expense always reduces the profit of a firm (Hakim, 2017).

Anggari and Dana (2020) stated that the management of banks is also determined through a loan-to-deposit ratio. Banks have less money to lend when the deposit of banks are low. To satisfy the loan demand, banks borrow money. The interest income of the bank increase when the deposit of the bank increased. Instead of deposits, if banks in lending operations use debt to finance then banks pay the debt service costs. Banks have more debt and lower profit margins when banks lend to their customers and borrow money from them. The interest rate charged by banks for borrowing money is higher than the interest rate paid to depositors. To determine the banks that have more deposits and do not borrow money for a deposit, the loan deposit ratio may help. In an economic downturn, banks faced challenges when banks have more deposits. When banks invest a high ratio of deposit money in different projects then banks have no money to survive in uncertain conditions. There is an opportunity cost for banks if they don't invest money in different projects and retained that amount in their balance sheet for unforeseen risks.

Loan to deposit ratio changes due to different factors. Investor deposits as well as loan demand are affected by economic conditions. When the unemployment rate in a country is very high then people have no money to deposit, then they borrow money from banks. In this way, the unemployment rate also affects the loan-to-deposit ratio of banks. By raising and lowering the interest rate, monetary policy is regulated by federal reserves. Depending on economic conditions, loan demand increased as interest rate reduces. The loan deposit ratio of banks is affected by many external factors. 80% to 90% is an ideal loan-to-deposit ratio in banks. Banks receive $1 from investors and lend that 1$ to different projects as shown by the 100% loan to deposit ratio. When banks have a 100% loan-to-deposit ratio it means banks have no reserves to survive in uncertain conditions. In banks, there is no minimum and maximum loan-to-deposit ratio set by the Federal Deposit Insurance Incorporation, the Board of Governor of the Federal Reserve System,

and the office of the Controller of Currency. Loan to deposit ratio is unable to measure the quality of loans that banks have. Default loans are also not reflected in the loan-to-deposit ratio. To compare the bank size, the loan-to-deposit ratio is most effective (Nugraha et al.,2021).

Radivojević et al. (2019) mentioned that stable funding of banks is accessed through a loan-to-deposit ratio. From the central bank, banks often asked for help in difficult situations. There was a stable funding structure for EU banks in 2016. In five countries, the Loan deposit ratio was above 100%. Italy, France, Sweden, Netherland, and Denmark are five countries that have a loan-to-deposit ratio above the 100%. In most countries, there was a slightly higher pace of growth of deposits. In south-eastern Europe and the eastern banking market, a new funding model emerged in financial crises. There was a further reduction in the interest rate. There was the highest share of central bank borrowing in banking in Greece. The use of central bank credit increased in Italy and Spain. Reliance on Central Bank funding was increased in banks of Finnish and Belgian.

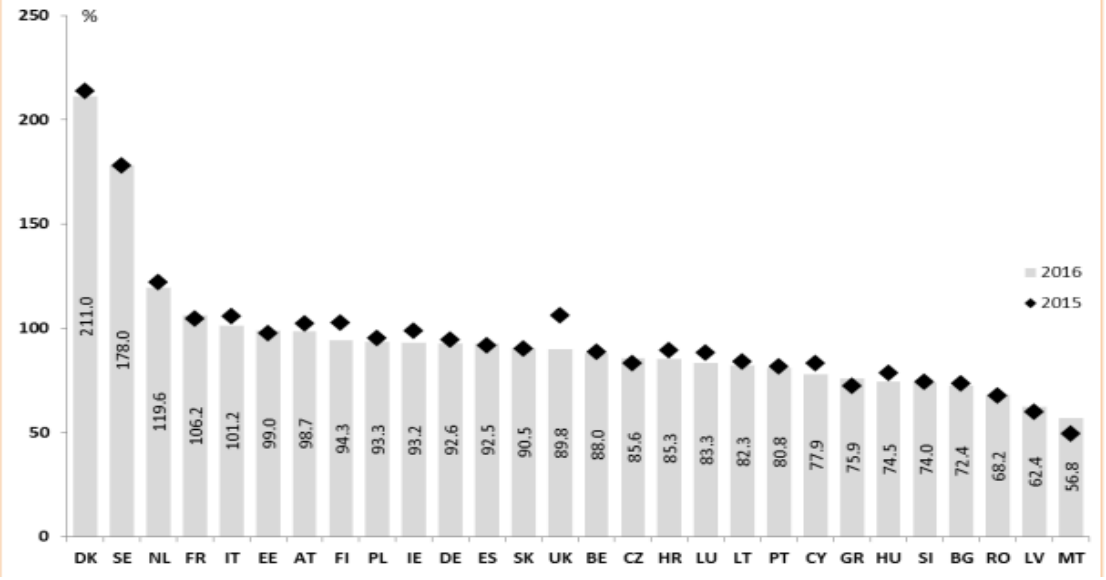

FIGURE 2.1: Operating Expense Ratio of Different countries (Beck, Demirgüç-Kunt and Levine, 2009)

To meet the short-term debt, the company's ability is called the liquidity of a company. Liquidity means a company can repay the bill when the company takes a loan. The profitability of a bank decreases when the liquidity of a company increased because a high liquidity ratio shows that the company is unable to avail

the new opportunities and company cannot invest in new projects. To determine bank liquidity, the best tool is the debt to deposit ratio. The profitability of banks is greatly influenced by the debt to deposit-ratio. At any point in time, banks will not have any unnecessary liquidity pressure, this is a manner in which the ratio should be fixed. To determine the profitability of banks, loans and deposits are the key factors. Banks get high profits or revenue when banks give more loans. The risk of liquidity is also there when banks give more loans to their customers.

Ranabhat (2019) stated that the debt-to-deposit ratio affects a bank's performance. In his research, logical variables are used to determine the impact of the debt to deposit ratio on the profitability of banks. He used 31 banks as a sample to determine the impact of the debt to deposit ratio on the profitability of banks and collected data from the financial statement of banks from the period 2001 to 2011. In his research, he compared interest rates and debt ratios of different banks from the period 2001 to 2011 and found that many parameters have a different impact on the bank's financial performance, the rate of non-payment of the index is the largest indicator of bank spending. The results of the audit showed that the credit risk of the board is an important indicator of the bank's financial performance. He suggested that the banks should plan and implement programs that would not only keep banks at risk of debt but also improve profits. He suggested that banks should put more emphasis on senior executives and should distribute more assets in a balanced way across the board and try to keep up with the appropriate level of monetary policy.

Abu-Alrop (2020) focused on Tunisia to determine the impact of the debt-to-deposit ratio on the profitability of banks. Researchers used 12 Tunisian deposit banks as a sample for this research. From the financial statement of these banks, researchers collect data from the period 1995 to 2015. The profitability of banks has been positively affected by the debt to deposit ratio. Debt to deposit ratio affects the profitability of banks but this effect is insignificant.

Mahim and Yusri Al Khatib (2018) determined the impact of the debt to deposit ratio on the profitability of banks in Jorden. They collected data for determinants of banks' financial performance for the period from 2000 to 2012 i.e, return on equity, return on asset, and return on asset is the dependent variables taken

for this research. These variables showed the financial performance of banks. Bank-specific factors and macroeconomic factors are the two classifications of independent variables. The unemployment rate, Gross Domestic Product (GDP), and inflation rate were macroeconomic factors. Bank size, debt ratio, and liquidity ratio are bank-specific factors. ROA and inflation has a positive and significant relationship. The relationship between ROA and the GDP has an insignificant relationship. Between ROA, unemployment rate, and debt ratio, there is negative and significant relationship. The relationship between ROE, inflation, and bank size is positive. The relationship between GDP, equity ratio, and ROE is insignificant. The relationship between ROE and the unemployment rate was negative and significant.

Mohammadi, Tavakolan and Khosravi (2018) analyzed the impact of commercial banking in Zimbabwe during the period 2009-2013. They found that the amount of interest and expense is most important when there is a fund allocation by individuals which indicated that the size of the operation. They also confirmed that inflation, cash stability, cash flow, and inventory were 10% of value while deposit formation was considered to be an insignificant and gainful relationship.

Nugraha et al. (2021) analyzed the determinants of commercial banks' interest margins in Indonesia from the period 2008-2012. They found the determinants of banks' revenue in Indonesia, both bank-specific variables and external variables. They show that the net revenues of business banks were allocated in Indonesia through intrinsic factors on a different level of significance, whereas inflation was the main external element that affects interest rate significantly at the 5% level.

Richard, Michael and Samuel (2019) analyzed the role of positive bank determination in Ghana, the big economy, and risk decisions on bank profitability during the period 2005-2013. The results indicate capital adequacy, asset quality, liquidity of managers, speculation; GDP development rates, inflation, funding opportunities and the risk of bank fluctuations were key features of the 2020 profitability of RCBs. They showed that the size of the asset, and the size of the bank could not be considered specific contributors to the profit of RCBs. Focusing on equality shows that the use of non-profit RCBs can reduce the lack of funds and improve the stability of RCBs.

Cruz-García and Fernandez de Guevara (2020) identified the factors that affect the bank's financial performance recorded on the Indonesia Stock Exchange on stock costs during the period 2007-2009. Finding show that CAR, RORA, NPM, and OEO had a significant impact on share price but ROA and LDR were not significant. All the independent variables CAR, RORA, NPM, ROA, OEO, and LOR have significant effects on the share price.

Hakimi (2020) investigated the Tunisian financial show for the period 2003-2012. They found that rising interest rates for their banking model led to unparalleled spending, quotations on stock exchanges, and size by decision-making implications, in addition to which private banks outperformed their government partners.

Agarwal et al. (2021) assessed the impact of bank deposit on the profitability of business banks in Malaysia from the period 2009-2013. The study found that there was a positive and negative impact of LDR on the ROA of five banks.They found that only one bank (Bank 5) had a negative and insignificant effect of LDR on ROA and bank 7 had a positive and significant impact. They focus on finding the impact of the deposit component on the financial performance of commercial banks in Bangladesh. This study contains an extension of previous tests in the financial industry of Bangladesh.

Přečková and Vávrová (2018) stated that expenses incurred dividend by the revenue of the company is called the operating expense ratio. The operational efficiency of an organization is measured through the operating expense ratio. To determine the trend in the operating expenses, investors determine the operating expense ratio of a company over the periods. The operating expense ratio increases when operating expense is greater than income. When the management work efficiently then the operating cost is low and the company generates more profit. The inefficiency of management is shown by the high operating expense ratio. The area where issues occur is determined through the operating expense ratio.

From running a business, the ongoing cost incurred is called the operating expense ratio. Operating cost is the cost incurred to run the business, not for the production of a business. Operating expenses include all those costs that are not related

to the direct production of goods and services. Office supplies, wages, business travel, and rent are included in the operating expense used to run the business. From industry to industry, operating expenses differ from each other. The profit of a business decreased when the operating expense of any business increased.Net sales to net profit can reduce only through one type of expense named operating expense. When a user of a financial statement looks at the operating profit of a firm then the user came to know the relationship between operating expense and income (MUFIDA, 2019).

As compared to manufacturing and fixed cost, it's very easy for management to reduce the cost of operating expenses. By outsourcing certain divisions of the business, the operating expense of the company can be reduced. Other tactics used by a company to reduce the operating expense of the company are automating parts of the business and allowing employees to work from home. From gross profit, the subtraction of operating expense calculates the operating profit. Operating expenses also included sales, general, and administrative expenses but sometimes in an income statement, these expenses are marked separately. Expenses that are not directly incurred for production are called overhead costs, SG & A are included in overhead costs. The cost of administrative building is included in SG &A cost. From operating profit, non-operating expenses are deducted and then determine the net profit of a firm. Tax expense and interest expense all are included in non-operating expenses. Cost of Goods Sold, Operating expenses, taxes, and interest are deducted from revenue to determine the net profit. The net profit of a firm is high when the operating expense of a firm is reduced. Management should be very careful in reducing the operating expense of a firm. Another aspect of reducing the operating expense of a firm is that company management is not using high-quality raw materials in the production of goods which negatively affects the sale of a firm. The quality of goods and services is also affected by reducing the operating expense of a company (MA'RIFA, 2018).

Haralayya (2022) stated that operating expenses are costs associated with conducting day-to-day operations of an organization to deliver its services and products. In particular, it reduces the operational costs of the organization and leads the

organization to be more productive. In an organization, the number of operating costs indicates the business's success. As part of the revenue stream used to cover operating expenses, identifying potential problem areas and opening savings doors can be used. To measure the operation's financial stability, the lender of a company uses operating expenses.

In the early stages of liberalization, Mohanty & Krishnankutty, (2018) studied the performance efficiency of Indian commercial banks by using a parametric stochastic frontier model, technical efficiency scores were delivered. Private banks and foreign banks are less efficient as compared to public banks. However, the results are unpredictable concerning changes in performance improvement (Mohanty & Krishnankutty, 2018).

Pasiouras and Kosmidou (2007)) estimated 142 Medium-Performance Economics in eighteen countries during 1989-1998. They pointed to create the link between effective change and increasing the number of investors. To explore the full potential of the commercial banks of various geographical regions (North America, Japan, and Europe). Non-operating income plus non-interest income and a total investment of total loans were the three preferred outputs. Property salaries, other operating expenses, and total deposits are the input variable. The result showed that the efficiency of commercial banks around the world improved completely from 1989 to 1988. The study used an effective Malmquist file and non-parameter testing (DEA) tests. The weakness was directed between the three geographical regions of North America, Japan, and Europe. Similarly, Le and Ngo (2020) analyzed the cost and profit potential of European banks in ten countries including those from Italy from 1993 to 1996. The model was divided into large and medium-sized banks which suggested that medium-sized central banks adopted profitable strategies. In this research, four approaches were used. These were the Fixed Effect Model (FEM), Random Effect Model (REM) Stochastic Approach with board information (SFA), and Distribution Free Approach (DFA). The factors under research were credit, other profit margins, borrowed goods, borrowing costs, labor costs, and actual capital costs. Researchers may have generated additional data if they had included various factors, for example, the number of operating costs that may affect financial performance.

2.2 Impact of Green Credit on Profitability

Liu and He (2021) stated that the oldest green financial instrument is China's green financial system. When bank's of China issued a Notice of Implementation of Credit Policy and Enhancing Environmental Protection in 1995, the need for green credit was realized. Implementing the provision for national environmental policy is offered to the financial sector. In addition, the State Environmental Protection Administration, the People's Bank of China, and the China Banking Regulatory Commission (CBRC) issued equally "Research the Implementation of Environmental Protection Policies and Principles to Prevent Debt Risk" in 2007, which shows that environmental management and credit board business and development projects have become a viable option.

In 2012, the CBRC issued the "Green credit Guidelines", which set out the requirements for green credit development by banking institutions and financial companies in China. The Green credit guidelines, which elevated crude debt to an extremely high level of interest, were positive and significant, indicates the stage for the full development of China's green credit strategy. In this way, the "Green credit Statistical System" was established in 2013, and the "Comprehensive Green credit Statement and Evaluation System" was implemented in 2015. Through these initiatives, China has been leading and developing green credit improvement (Zhang, Li & Xing, 2022).

Luo, Yu, and Zhou (2021) stated that Green credit in enterprise transformation and supply chain optimization has a positive impact on the profitability of banks. To improve commercial value and reduce environmental impact, ecological innovation might help. It is an important goal of sustainable finance is to bring ecological innovation to the enterprise. Less bank credit issuance leads to low investment in renewable energy enterprises. The debt financing cost of a green enterprise may be reduced through green financing, even in heavily polluting enterprises, it reduces their debt cost.

There is a positive effect of green credit on commercial banks. The profitability of banks and core competency of banks are improved by green credit. All the banks that go for green credit build a good image in front of society and it helps banks

in acquiring credit at a low rate that increases their profitability (Alonso-Conde & Rojo-Suárez, 2020).

The impact of green credit on profitability can be determined through the equator principle. It can be connected with the operating cost of banks by adopting the green credit policy. When the operating cost of banks is increased then the profit of banks decreased. The return on assets of saving institutions that are highly socially responsible is low. Every bank is affected by the green credit differently and the reason behind is regional differences. After adopting the equator principle, the return on assets and interest income increased in developed countries. There is a different case in developing countries (Wen, Lee & Zhou, 2021).

For the development of banks, it's very important to study the implementation of green credit policy and also study the obstacles that commercial banks face in the implementation of these green credit policies. Incomplete information disclosure, lack of supervision, and imperfect credit policies are the seriousness of problems that banks faced while implementing green credit policy. Through green credit risk management, green credit development can be promoted. The profitability of commercial banks improves when banks adopt a green credit policy. It shows that there is a positive relationship between green credit policy and the profitability of commercial banks (Yao et al. ,2021).

The process of national civilization construction is integrated by green financial development of industrial banks in 12 years of green financing. The ecological economy, circular economy, and low carbon economy are the three main areas covered by the green credit system. Industrial energy conversation, sewage treatment, and emission reduction all are involved in the ecological economy. Industrial bank's net profit and green credit scale are shown in the following figure covers the period from 2006 to 2017.

Figure 2.1 shows that there is a relatively fast growth rate of green credit for industrial banks. There is a significant increase in the amount of green credit in 2012. The amount of green credit increased 10 times in 2017 as compared to 2011. In industry, there is a leading position of industrial banks because of adopting the green credit policy. Industrial banks get a brand advantage after adopting the

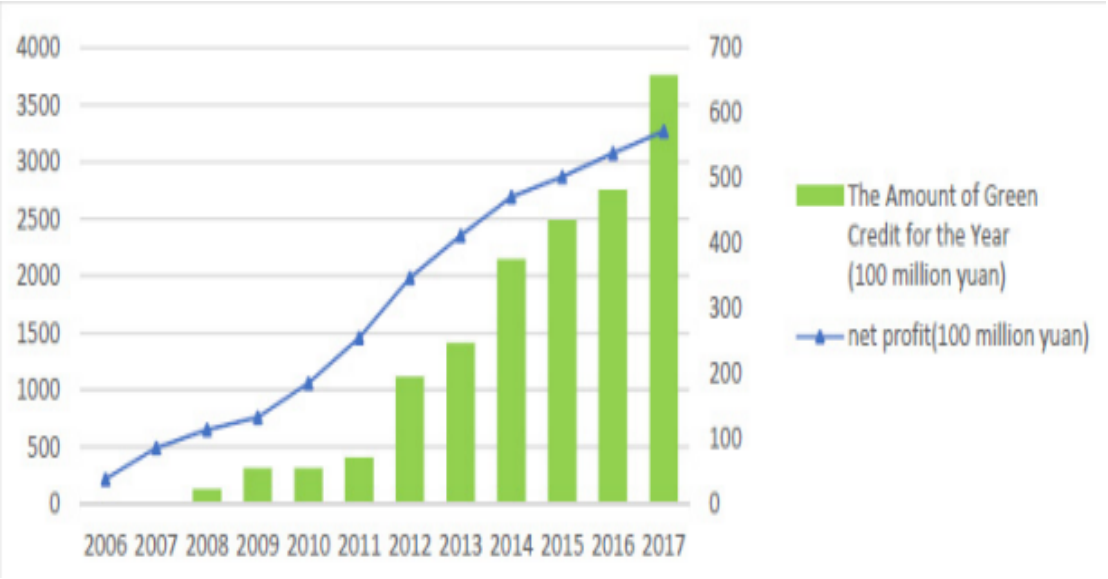

FIGURE 2.2: Impact of Green credit policy on the net profit of FDI bank (Financial Report of Financial Industrial Development Bank)

green credit policy that helped industrial banks in improving their profit. Along with net profit, the size of the bank is also affected by the amount of green credit. To low carbon environmental protection enterprise, allocation of funds is called green credit. There was an increase in the net profit of industrial banks after adopting the green credit policy. There was a rapid growth in the net profit of Industrial bank from the period 2006 -2007. The reason behind the rapid growth was that industrial banks achieved competitive advantage and got a high market share. Due to internal financial shocks and macroeconomic factors, the profit rate was slowed from 2013 to 2015. The growth rate of net profit was smaller than the growth rate of green credit amount. In short term, banks operating costs increased which affects profit growth, and the green credit policy positively contributes to the net profit of industrial banks in long run.

Good environmental benefits have been created through the development of green credit. With a contribution to the environment, there is a positive correlation between the amount of investment and environmental benefits. Resource allocation efficiency is improved by the utilization of solid waste, expansion of the scale of green credit, annual water saving, and annual carbon dioxide emission reduction. More than 14000 companies took green financing from Industrial bank in the year 2017. Green financing helped companies to start different projects which

gave environmental benefits. The result of these projects was 83.78 million tons of reduction f Carbon dioxide omission, 29.12 million tons of saving annual standard coal, and 48.48 million tons of saving of water.

2.3 Impact of Sharia Compliance on Profitability

Muhammad et al. (2021) stated that Islamic banking follows Sharia Compliance in its regulations (Islamic regulation) and its rational use for improving Islamic financial features. Some of the Islamic banking / financial methods include Mudarabah (profit sharing and misfortune), Wadiah (directing), Musharaka (joint efforts), Murabahah (increasing costs), and Ijara (hiring). Sharia prohibits paying interest on the loan amount. This prohibition is commonly applied to varying degrees in Muslim nations/networks to avoid non-Islamic practices. At the end of the 100th century, as a factor in the acquisition of Islamic identity, various Islamic banks were formed to apply these principles to private or private business foundations within a group of Muslim people.

Their numbers and sizes have improved, so that by 2009, there were 300 northern banks and 250 common grants worldwide compliant with Islamic standards, and nearly $ 2 billion was in line with Sharia in 2014. % of the world's total resources are exported to the Gulf Cooperation Council (GCC), Pakistan, Iran, and Malaysia. Although Islamic finances still make up only a small percentage of Islamic financial services, they have since become operational faster than the banking system as a whole, and are expected to continue to do so.

Naushad (2021) stated that Islamic values expect that the financial index must be considered when compensating capital. The denial of free gambling and trading licenses, as stated in Verse 2: 275 of the Holy Quran, makes the monetary arrangement organized by a real Islamic resource based on the power to cause 'increasing respect'.

The Islamic financial framework is based on risk-sharing, the availability, and management of real assets, and contributions over time spent on trading, leasing,

and developing contracts using various Islamic financial means. In that capacity, Islamic banks manage administrative services for the final years of payment. They have to deal wisely with the novel risks posed in resource management by adhering to the best practices of business management. Where banks have a stable Halal payment method, investors will also receive a fixed payment along with Halal (Djuwita, Setiowati & Kulsum, 2019).

The types of organizations that were sanctioned by Islam at the time of the revelation of the Holy Quran included joint efforts to share risks and benefits as well as the planning of trade management programs, both finance and debt, and hiring. In Verse II: 275, Allah Almighty did not deny the clear comparison between the exchange rate credit agreement and the interest on development. Profit is seen as the 'reward' (of spending) of large sums of money and Muslims offer a profitable arrangement of accumulated goods to improve their value. Regardless of the possibility, and the right to benefit, the liability for financial stress depends on real money; no other variation can be made to bear the burden of gambling. Financial transactions, to be acceptable, must be related to products, management, or profits. At the full stance, this portion of Islamic money can be useful in making better discipline about financial and financial-related programs (Usman et al., 2021).

Moreover, Islam allows for the leasing of resources taken by the employer. All such items / unused equipment when used can be rented regularly. Ownership of leased services rests with the landlord who waits to gamble and earn prizes for his property. Hamsyi (2019) showed profitability of banks is not affected by sharia compliance. All Islamic banking tests should be covered by sharia. In Indonesia, the impact of sharia compliance on the profitability of banks is researched. The profitability of Indonesian banks is measured by return on equity and return on assets. that sharia compliance does not fundamentally affect banking performance by estimating ROA or ROE. As a sample, 11 Islamic banks in Indonesia were taken for this research. Eleven Islamic banks' data were collected from the period 2012-2016. In Indonesia, Islamic banks follow the best practices of sharia

compliance. The profitability of Indonesian Islamic banks was not affected by the sharia compliance and bank sizes.

The main findings of the review are as follows:

- In Indonesia, the level of Sharia compliance of Islamic banking is on average at the best practices level.
- There is no evidence that Sharia compliance and bank size affect the performance of Islamic banks in Indonesia.

The main aim of this research is that Sharia compliance has a significant impact on the Financial Performance of Islamic commercial banks. Research results show Sharia compliance variation with a coefficient - 5.833 with a value level of less than 0.05 equivalent to 0.027. Because of these effects, it is often thought that Compliance Sharia affects the Financial performance of Islamic banks.

Moreover, Sharia compliance in line with the profit sharing ratio affects the withdrawal of funds from Islamic business banks in Indonesia. This suggests that the reason for the negative relationship between profit-based funding and spending is that profit-sharing support planning requires significant caution from the bank. Islamic banks will likely to work on the type of representatives they use through experts and board experts to evaluate borrowed business projects to focus more on special loans from regular banks. This created the costs incurred by brokers to keep pace with financial success. The cost of managing support through profit-sharing structures is even higher. Sharia bank share earning income earned from the distribution of profit-sharing funding may not be fair and did not have the option to estimate the costs incurred (Alsharari and Alhmoud, 2019).

Similarly, Sharia compliance sponsored by the Islamic investment ratio didn't have significant impact on spending. Sharia venture is a sign of the banks recognizing the compliance of sharia banks when they complete their work. Since profits are based on what is already set, it is not an incentive for Islamic banks to offer any location without seeing the framework used by the office, organization, or bank to show its profits (Sultoni, Mulyana and Anwar, 2021).

2.4 Impact of Liquidity Ratio on the Performance of Banks

Breuer et al. (2012) mentioned that the short-term debt liability of the company is accessed through the liquidity ratio of a company. To cover the current liabilities, the use of the current assets of a company is determined through this ratio. Cash ratio, quick ratio, and current ratio are the three types of liquidity ratios. In these ratios, it is placed the liquidity asset value in the numerator, and, the current liability value is placed in the denominator. By using the current assets of a company, the company can pay all the current liabilities as shown by the 1 ratio of liquidity. The company is unable to pay the current liabilities by using its current asset as shown by the value of liquidity less than 1.

A liquidity ratio of 1 is not an ideal ratio but it's considered best that the company has a liquidity ratio of 1. This ratio helps company investor to determine the company's ability to pay its short-term liabilities. A high liquidity ratio is required by creditors and investors. Liquidity crises arises when the company has a liquidity ratio of less than 1. Creditors want to ensure that company has in a good financial position and can pay back the loan. In obtaining a loan, a company may be disqualified when a company has financial instability (Van den End & Kruidhof, 2013).

Sucipto and Chasanah (2019) stated that to determine the worthiness of an investment and the financial health of a company, the liquidity ratio is used. The rest of the business is suffered from working capital issues. The low liquidity ratio of a firm is a threat to the company. A high liquidity ratio is good but at a certain limit. When a company holds 80% of its capital to pay short-term liabilities of a company it means that the company is unable to invest in other projects. When a company holds money in hand, then money loses its worth according to the time value of money concept. When a firm invest in different projects, then the firm earns profits from these projects and the worth of the investment of the investor is raised.

Ibe (2013) stated that liquidity was not something special in financial literature as it does not have a generally accepted definition. Liquidity can be seen in terms of how the collateral can be switched on and off the provision of securities to exchange securities, the former being called market liquidity and the last being for financing. The focus of this research was on both funding and market financing. In a perfect world, the market and the funding mechanisms are intertwined as the more straightforward the security exchange means the easier to find the security exchange assets. This research summarized the result of the bank's cash flow consumption, which followed the need to view income as a cost, and as a risk and its effect on the residual interest rate, return on equity (ROE), return on asset (ROA) and financial value added (EVA).

Wuave, Yua and Yua (2020) stated that the performance of economic establishment affect financial activities in economics. Financial regulation and regional financial performance play a fundamental role in financial development and performance. In economic growth and profitability, economic area performance and liquidity control play an important role in economic growth and profitability. Capital ratio and liquidity ratios are used to measure the liquidity of a firm. The motive for the research is to find the performance of solid banks. In the economic offering, banks play an important role in financial intermarries. The inflation of a country is directly affected by experts on the impact of financial interventions on inflation. Financial development had a direct impact on growth. To achieve the unwavering quality of the financial commitment of the various banks' commitment to a different economy that causes the economy to tolerate financially negative factors remotely. For a reason, factors of efficiency are important.

The bank is to protect the maximum profit by using the finance managers to achieve the additional profits. It is a complex goal not only for the owner but also for investors. The banking sector in Pakistan has evolved and developed into a major global rhythm. Banks play a role in the interaction of all businesses, promotions, and development. Initially, the Pakistani bank device could not control the cash machine. The banking district faces many administrative problems. Lowering spending can manage the money devices, so public interest and confidence increased. The fashion community is famous in terms of deposit revenue and has

benefited from a diversity of funding and thus improving bank productivity and management performance (Sakouvogui, 2020).

Many theories show the connection between liquidity and the performance of banks. Analysts suggested that more money is often more expensive in banks, meaning that more money is reducing bank performance. One expert confirmed that liquidity levels vary from time to time, and large sums of money can be gambled on their production, resulting in lower borrowing. Liquidity problems can affect bank salaries in risky situations that can lead to bankruptcy or corruption (Ibrahim, 2017).

Previous studies have shown that deposits with high liquidity having a lower level of revenue. In alternative financing, the bank may find the market surprisingly high and this is due to the decline in bank performance. One researcher specifies the link between liquidity and short-term profit. They pointed out that banks protect a larger amount of savings compared to banks owned by the bank. The savings will not benefit the bank but if it does support financial support for the benefit of the bank, which leads to serious problem like financial instability. The Pakistani banking system experienced a difficult time investing in the private sector in 2008 due to liquidity crises (Baraja & Yosya, 2019).

Charmler et al. (2018) reviewed European banking profitability, the positive impact of LDR on bank profitability supports the notion that the purchase of money affects the output in performance. The weakness of holding liquidity in the benefit, observed with fixed resources, continuous resources end up not working properly, withholding money in transit can lead to the accumulation of ideal assets, a lack of energy maximizing business profits, and shortcomings in financial management.

2.5 Impact of Leverage Ratio on Profitability of Firms

Moyer (1990) stated that the capital risk-weighted asset ratio is another name for the capital adequacy ratio. By using the capital and assets of a firm, the financial strength of a bank is measured through the capital adequacy ratio. Around the

World, the financial stability of a system is promoted through the capital adequacy ratio. The available capital of banks reported as the risk-weighted asset is called the capital adequacy ratio. Before being at risk of becoming insolvent, to handle some of the losses, banks have a reserve. This is the basic purpose behind the capital adequacy ratio. When banks have capital greater than the minimum requirement for solvency, then the capital adequacy ratio is high. Banks that have a high capital adequacy ratio can survive unforeseen risks.

When a bank's capital is divided by its risk-weighted asset then the capital adequacy ratio is calculated. There are two tiers of capital used in the capital adequacy ratio. Audited revenue reserves, intangible assets, ordinary share capital, and equity capital are added to tier 1 capital. Through typical risky transactions, all the reserves that banks hold are included in Tier 1 capital. Lending, trading, and investing all are included in typical risky transactions. To absorb the losses of banks, tier 1 capital is used. General loss reserves, unaudited reserves, and unaudited retained earnings all are included in tier 2 capital. In the event of company liquidation or winding up of the company, losses are absorbed by tier 2 capital. Tier 1 capital is more secured as compared to tier 2 capital. To calculate banks' capital adequacy ratio, tier 1 capital and tier 2 capital are added and divided by risk-weighted assets. Banks' loans are evaluated and then determine the risk and after determining the risk assign the weight to the risk, in this way, risk-weighted are calculated. Under Basel 2, the minimum capital adequacy ratio is 8% and under Basel 3, the minimum capital adequacy ratio is 10.5%. Under Basel 2 and Basel 3, a capital adequacy ratio greater than the minimum requirement is a higher capital adequacy ratio. To absorb a reasonable amount of losses, banks have enough caution as shown by the low capital adequacy ratio (Bialas & Solek, 2010).

Before the firm became insolvent, banks ensure that banks have enough reserves as a caution to absorb these losses as indicated by the minimum capital adequacy ratio. By lowing the risks of banks, national financial system stability ensures by the capital adequacy ratio. A high capital adequacy ratio shows that banks are safe and can absorb losses at the tie of insolvency. When a company faced a loss of more than its capital amount, depositor lose their amount which is the reason that

depositor funds are given more priority as compared to the capital of the firm at the time of liquidating the company. Depositor assets are highly protected shown by the high capital adequacy ratio. Credit risk happens due to off-the-balance sheet agreements. Guarantees and foreign exchange contracts are included in the balance sheet agreement. In response to credit risk and operational risks, banks' ability to pay debts is measured through the capital adequacy ratio. Firms having large amounts of capital as a caution for losses are indicated by a good capital adequacy ratio. There is less chance of loss for depositor money and insolvency when banks have a good capital adequacy ratio (Bateni, Vakilifard & Asghari, 2014).

Abusharba et al. (2013) confirmed that the capital adequacy ratio affects the profitability of banks. Banks have good capital adequacy ratios are highly preferred by investors to deposit their money. When more depositors deposit their money, the bank has more fund and the bank get the opportunity to invest that fund in more project. When banks invest in different projects, they get more profit. In this way, a high capital adequacy ratio positively affected the profitability of banks.

A high capital adequacy ratio shows that a firm reserves a large amount of money more than the needed amount required as a caution to absorb losses. It means banks don't invest that money into different projects and there is no circulation of money. The circulation of money is the basic objective of banks. When banks do not invest money in different projects, banks' profitability is reduced. On the other side, reserve money loses its worth according to the rule of the time value of money. So, it is shown that a high capital adequacy ratio negatively affected the profitability of banks. Banks should hold some amount of money as a reserve to absorb losses at the time of winding up of a firm but the amount must be not as much high as no money left to invest in a good project which gives the firm more profitable. Banks hold reserve as a caution at the minimum requirement of the capital adequacy ratio (Ahmet & Hasan, 2011).

Dao (2020) stated that the risk-weighted asset and current liabilities are called capital adequacy ratios. Becoming insolvent in the process and taking excess

leverage of commercial banks are prevented by state banks of the country. Commercial banks must maintain a sufficient level of cash flow to deal with investors and stakeholders. The capacity of banks is measured by the amount of cash as recommended by governing bodies such as the Central Bank.

Gaur, Mohapatra and Jena (2021) argued that capital adequacy is a sign of bankruptcy, which can put it in a profitable position in times of emergency. Juelsrud and Wold (2020) stated that to gain customer confidence and follow the need for management, banks should ensure that capital adequacy on the risk-weighted assets is at the right level. Mujtaba et al. (2022) found that the stability of banks is positively affected by the capital adequacy ratio. The relationship between efficiency measures and capital adequacy is negative (Hallunovi & Berdo, 2018). A large amount of cash inflows and outflows into the bank brings additional profit interest and results into low revenue and assets accessible for development purposes. Capital ratio (CAP) is closely linked to return on asset (ROA), and the profit margin. The most important monetary policy should bring a higher level of productivity even though banks may rely on additional inflationary profits that is unpredictable and such profits contributes to debt creation and bankruptcy. Therefore, having a high and sound financial base improves liquidity and that is why it works in the confidence of depositors and bank customers. Improved depositor confidence about bank financing and liquidity increases.

Ajayi et al. (2019) analyzed the impact of capital adequacy on bankruptcy profits in Nigeria. They examine the impact of capital adequacy on both informal and domestic banks in Nigeria. This study collected a sample of 518 banks that transferred the savings at a response rate of 76%. Findings revealed that relationships were not significant but showed a positive relationship between capital adequacy and the performance of the bank. In the determination of banks' profitability, the capital adequacy ratio plays an important role and this is shown by deposit-taking banks in Nigeria. The profit and capital of banks are the indicators of bank risk management efficiency.

The banking risks and capital adequacy relationship is researched by Abba, Zachariah and Inyang (2013) stated that Inflation rate, deposit ratio, and capital adequacy ratio were three independent variables used in this study. Twelve banks surveyed

a total of 22 bankers in the Nigerian financial industry as of December 2013. Secondary information was collected from bank financial reports for a period of five years, from 2007 to 2011. Banks' capital adequacy ratio is measured by adopting the value at risk theory. In the Nigerian banking industry, the capital adequacy ratio falls when the risk level rises, so the relationship between the capital adequacy ratio and risk level is significantly negative. Proving that part of Capital adequacy is a large part of the "safety and adequacy" of banks and security institutions as it supports to prevent of financial stress; The finding suggests that Nigerian banks should adopt a risk-weighted approach to advancing money management instead of the current practice of cash flow and withholding profits as there is a significant link between capital adequacy ratio and bank risks. The relationship between the capital adequacy ratio and deposit is also negative. To guarantee the safety of depositors' money it is recommended that Nigerian banks should use pragmatic approaches.

Adamgbo et al. (2019) investigated the impact of capital adequacy on deposit money banks' profitability in Nigeria, The performance of banks in Nigeria considered five selected banks, from 1981 to 2011. From the Central Bank of Nigeria website and financial statements of banks, data was collected. The study adopted the Engle and Granger strategy of the two stages of co-integration. Findings revealed that capital adequacy plays a major role in a bank's profitability by returns on Assets (ROA). The positive link between capital adequacy and banking productivity is holding an account with a large amount of money seems to have more health and such profits can be converted into high profit. If the top half of the amount is higher, the bank is more productive. Based on the findings, it did suggest that there should minimum banking requirements Nigeria has reached the right level. Similarly, Nigerian banks should be encouraged to give them less expensive risk assets with the following enhancements at profit levels; this helps people in general compliance with banking trust and compliance with customer credit requirements.

Almaqtari et al. (2019) analyzed bank profitability by using the capital adequacy ratio. Bank exposure to credit risk is influenced by capital adequacy ratio, and bank performance influenced by loans and advances is also assessed in this research.

They were short enough to draw attention to the domain of the capital of two billion naira as in 2004 it turned out that it was too short to meet the real domestic and global characteristics financial framework and subsequently, audited up to 25 billion (25) naira. Update useful information including a five-year financial summary of an analysis of five selected banks. It is an important connection between banking performance and capital adequacy suggesting that banks take the advantage of high profitability and consider it safer when banks have more capital equity. If the top half of the amount is higher, the bank will be more productive. It was suggested that there should be a consensus audit of the minimum required amount of online banking funds in Nigeria to the appropriate level and Nigerian banks should be upgraded to enable them to report surveys to less expensive resources leading to improvements in interest rates. This helps the general public in line with the reliance on savings in the form of savings to find mixed customer debt requirements and to protect depositor funds.

Hirunyawipada and Xiong (2018) selected the top 12 quoted banks from 2005 to 2014 and collected data from the financial statement of these banks and determine the bank-specific determinant of CAR in Nigerian Deposit Deposits Money Banks. Among the Capital Adequacy Decisions considered (Assets with significant risk ratio, Deposit Asset Ratio, Assets Quality Ratio Returns on Goods), ROA is considered a major CAR determinant, as it maintains a very high coefficient, in contrast, the effect of regression. He found that the Capital Adequacy Ratio of Nigerian deposit banks is a much higher requirement set by the CBN and the requirements of the Basel Accord. In addition, the risk in Nigerian banks' portfolios is very high and the ROA is very low. The finding indicates that the CAR is in a state of complete determinant by the bank risk portfolio, deposit quality, profitability, and quality of service and that the CAR of Nigerian banks is much more than a requirement.

Nigerian deposit banks should adopt an effective risk management approach and a risk-based deposit system based on security data information system. It promotes improved banking performance, strict compliance with various financial guidelines, regular banking pressure tests, and other exercises to disclose each point to remember the subtleties of Phase I and Phase changes II capital, critical risk

resources, and transformation pattern analysis in the Capital Adequacy Ratio. In between, it was considered that increasing the capital of the bank from the last two (2) million naira to 25 (25) billion naira did not promote development. BIS rate sets the banking base at 8% of its resources in this way, seeing 25 billion nairas as a mistake, the BIS level has made sense that the financial base should be comparable and resources but never reflect the basic need for capital (explicit) banks to endure the third world; and economic development (Onyeiwu, Ajayi & Muoneke, 2020).

When a borrower does not pay the principal amount as well as interest payment for a specific period then that loan is considered a non-performing loan. Depending on the term or condition of the agreement, when a borrower does not pay the loan, then the bank classifies that loan as a non-performing loan. There is a very low probability of receiving the payment from the borrower when the loan is classified as a non-performing loan. Non-performing loans are bad debts. Share price and bank cash flow are negatively affected when banks have a large amount of non-performing loans. To enforce the recovery of loans, different actions are taken by banks when banks have high amounts of non-performing loans. For loans, banks took collateral from the borrower as security. This is one of the actions that most banks recover non-performing loans. Lenders' financial position is also negatively affected by a large amount of non-performing loans. Banks get revenue when they give loans to borrowers in the form of interest payments. Sometimes, banks became fail in collecting loan payments from borrowers and for new loans, banks do have not enough money. Operating expenses of banks also increased (Shahab, Husin & Hashmi, 2016).

Rajan and Dhal (2003) stated that the profitability of a lender is affected by the amount of non-performing loans. Potential borrowers are also affected by the non-performing loans of banks because banks don't have enough amount to provide loans to borrowers so they give loans to borrowers under certain limitations and conditions. A company is at high risk when a firm has a large amount of non-performing loans. A company financial statement that shows a good financial position of a company, triggers investor interest. There is a decline in the share price also when the amount of non-performing loans is high. Potential investors

are less attractive to companies that have non-performing loans in their financial statements. Suffering the profitability of potential investors is the reason behind the less attractiveness of potential investors.

A small portion of lender profit is set aside in bad debt provision. To protect depositors, Federal Deposit Insurance Corporation carefully monitored the banks that have high non-performing loan amounts. To measure the quality of the outstanding loan and credit risk of bank level, the non-performing loan to total loan ratio is reported by banks. Banks are at high risk of bankruptcy when they have a high ratio of non-performing loans to total loans. Banks are at low risk when a non-performing loan to total loan ratio is low. Non-performing loans to deposit ratio affect the profitability of banks. When investors check the financial statement of a firm and calculate the non-performing loan to total deposit ratio and came to know that firm has a high non-performing to total deposit ratio. They don't invest in that firm because there is a risk of losing the investor money. After all, there is a chance that the firm doesn't earn a profit. as banks don't have enough money to give loans to the borrower and earn the interest payment from them. Banks also became unable to meet the operating cost of banks so high non-performing loans to deposit have a negative effect on the profitability of banks. Banks that have a low non-performing loan to total deposit shows that banks have a low risk of liquidation. A low non-performing to total deposit ratio builds the trust of the borrower and they invest in banks and deposit their money in the bank. When banks have more money they give more loans to borrowers and earn high revenue from interest payments. In this way, it is said that low non-performing loans to total deposits have a positive relationship with the profitability of banks (Mohanty, Das & Kumar, 2018).

As the figure shows foreign commercial banks in Pakistan have a low non-performing to total loans ratio as compared to development financial institutions and state-owned commercial banks of Pakistan. The graph also shows that the non-performing loan to total ratio of Federal commercial banks of Pakistan was high in 2016 as compared to other years. Private commercial banks have a very low ratio of non-performing loans to total loans. The reason behind the low non-performing loan to total loan was the efficient management of private commercial banks. Borrowers

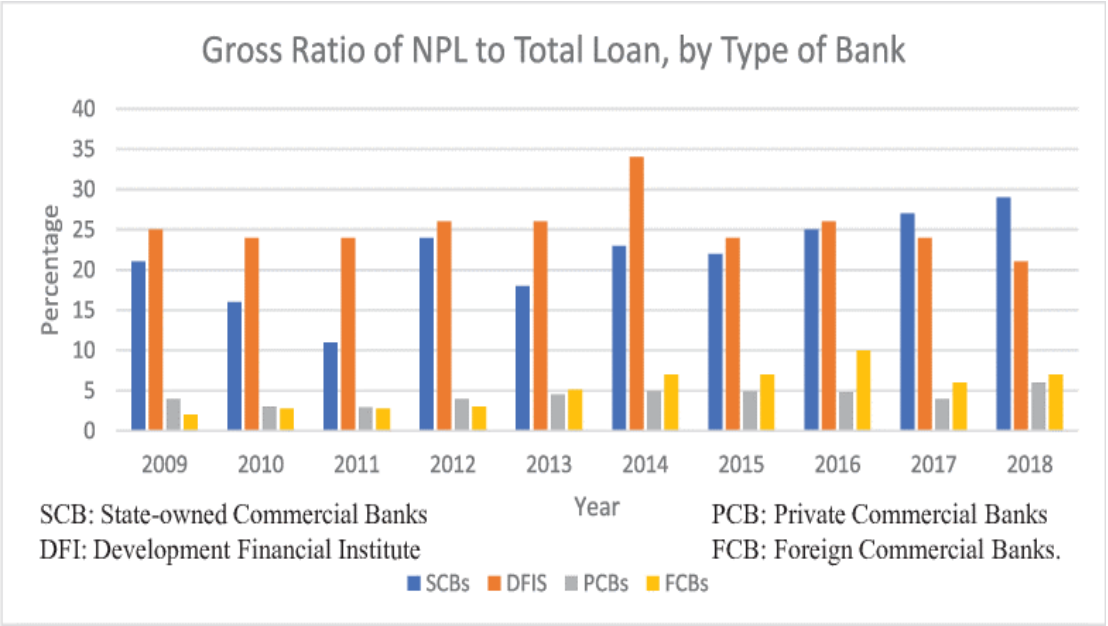

FIGURE 2.3: A gross ratio of NPL to total loans of Pakistan (Ahmad & Bashir, 2013)

of loans in private commercial banks are properly investigated and pledge some assets as collateral in case of default of the borrower. As compared to other years, private commercial banks have a high non-performing to total loan ratio in 2018. Non-performing loan to total loans ratio was very high in development financial institutions. In 2014, this ratio of development financial institutions was very high as compared to other years. State-owned commercial banks also have a high ratio of non-performing loans to total loans. In 2015, this ratio of state-owned commercial banks was very high compared to other years.

Khairi, Bahri and Artha (2021) stated that the primary purpose of the financial institution is to operate profitably trust, and manageable development. However, the presence of higher degrees of non-performing advances (NPLs) in the financial business has a negative impact on the level of the private sector, undermining the bank's ability to repay its debt when it expires and mixing the bank's credit rating with borrowers. External and internal financial conditions are seen as the root drivers of weak development. Non-performing loan, known as NPL, credit where the borrower has stopped paying interest on the principal (unique amount). Most developments don't work if we assume that the installments are over 90 days old, depends on the terms of the agreement.

Non-performing loans can lead to serious problems for lenders. Financial institutions often set aside cash to address the unfortunate consequences of development (bad debt arrangements). They reduce their bad debts for their profit. Commercial banks lend money to organizations that consistently help different organizations. Business loans make up the bulk of the business bank operations. Banks operate by securing savings through law by trading deposit amounts or by entering financial markets. Banks get from individuals, organizations, financial institutions, and legislatures with excess assets (investment funds). Then they earn savings (bank loans) to make loans or buy securities (banking services). Banks make advances in organizations, other financial institutions, individuals, and provincial administrations (Firmansyah, 2019).

Ali et al. (2018) stated that credit risk is a major risk to the banking system; that's why different experts check out the effect of credit risk on banks in changing circumstances. The credit risk board has a significant impact on bankruptcy. This is because bank failures are often affected by the nature of the loan selection and the nature of risk assets. Credit risk managers provide an effective feature of the type of bank loan portfolio. It may reward for their achievements amount (ROE) and return on services (ROA), these performance measurements were related to the inefficient credit segment to be merged with the capital investment resulting in lower profitability.

Wood and Skinner (2018) assessed the impact of credit risk on managers in generating deposit money banks in Kenya. Information on how much debt and level of benefits were collected during the period 2004 to 2008. The findings indicate that a large portion of deposit money banks' profits does not exist. It is affected by the amount of debt and weak development, it was then proposed that there were exceptions otherwise credit and poor development influence profitability.

Kargi (2011) examined the effect of credit risk on Nigerian banking performance. Currency estimates as bank usage and credit risk estimates were collected in annual reports and audited records Banks from 2004-2008 also investigated using symbolic, communicative, and restart strategies. Findings disclosed that the risk of credit management affected the performance of Nigerian banks. It showed the

profitability of banks negatively affected by degrees of credit and advances, risk of illiquidity, and distress is highly influenced by deposits and non-performing loans.

Nwanna and Oguezue (2017) reviewed bank performance in the case of the Costa-Rican bank risk industry between 1998-2007. The results showed that the advances of the presentation follow a one-time management change and that opportunity makes sense to compare banks with non-performing loans that negatively impact information and service delivery while a portion of capital adequacy strongly affects the residual interest rate.

Sitompul and Nasution (2019) studied deposit money banks' credit risk decisions in the emerging economic banking structures compared with the developed economies. Finding show the importance of multi-stakeholder banking and management structures; quality management is fundamental in cases of pre-emerging banks in emerging economies. Increased credit risk planning is also considered as follows a major decision on potential credit risk. They also highlight that emerging credit risk economic banks are higher than those in developed countries.

Ghosh (2015) found that non-performing loans are positively influenced by debt planning. Credit risk is increased by increasing the loan loss provisions. Bank performance is negatively affected by deterioration in the quality of loans. Credit risks arise from a variety of factors that may result in non-liability at the right time. Uncertainty is sometimes caused by "goddesses" such as flames, earthquakes, and floods. Changes in consumer interest or new industry practices may drastically change the wealth of a business company and see a borrower who has been in a bad situation. The borrower's ability to repay the loan is impaired by competitive price-cutting, loss of key management personnel, and prolonged strikes. The fluctuations of the business cycle affect the profits of many bankers and confidence. also, to criticize financial managers and consumers.

The NPL's high rates of socio-economic development have been the focus of many recent global projects. The link between NPL standards and common sense of socio-economic well-being has a deep foundation; A meta-analysis conducted by a team of experts in 2019 conducted by Professor Shihadeh, Gamage, and Hannon showed a link between the growing number of NPLs in certain countries and the

impact they have had. Despite these outcomes, various college-led trials around the world highlight how the higher part of the NPL is an important symbol of bankruptcy. Whenever it is taken from a practical perspective, a public economy with a large NPL total compared to total debt or visible GDP is reflected in the analysis to show a volatile economy that is at greater risk of gambling to collapse than the general economy (Beck, Jakubik, & Piloiu, 2013).

The NPL is a trusted variant with return on asset (ROA), capital adequacy ratio (CAR), bank size, GDP development, and Inflation as free / image features. The obvious bank variability, for example, is the size of the bank significantly affects the NPL while the ROA affects the NPL. Full-scale financial fluctuations, for example, increases significantly affect the NPL. It aims to ensure that in the Nepal financial sector, factors, such, as "bank size, inflation, and ROA" had a significant impact on Nepal's financial business industries and also affected the NPL in the Nepalese financial sector. The development of domestic products affects the NPL of commercial banks. Similarly, investors and policymakers must consider GDP development carefully when making decisions related to the NPL. The results show that ROA, bank size, GDP, and depreciation affect NPL however CAR does not completely affect NPL banks. At the end of the day, the GDP impact on the NPL shows a positive and significant impact. It shows that as GDP development builds, there is a significant increase in the development of Nepali banks even though there have been no major changes in wage development (Bhattarai, 2020).

2.6 Impact of Liquidity Ratio on the Performance of Banks

Breuer et al. (2012) mentioned that the short-term debt liability of the company is accessed through the liquidity ratio of a company. To cover the current liabilities, the use of the current assets of a company is determined through this ratio. Cash ratio, quick ratio, and current ratio are the three types of liquidity ratios. In these ratios, it is placed the liquidity asset value in the numerator, and, the current liability value is placed in the denominator. By using the current assets of a

company, the company can pay all the current liabilities as shown by the 1 ratio of liquidity. The company is unable to pay the current liabilities by using its current asset as shown by the value of liquidity less than 1.

A liquidity ratio of 1 is not an ideal ratio but it's considered best that the company has a liquidity ratio of 1. This ratio helps company investor to determine the company's ability to pay its short-term liabilities. A high liquidity ratio is wanted by creditors and investors. Liquidity crises are faced by the company when the company has a liquidity ratio of less than 1. Creditors want to ensure that company has in a good financial position and can pay back the loan. In obtaining a loan, a company may be disqualified when a company has financial instability (Van den End & Kruidhof, 2013).

Sucipto and Chasanah (2019) stated that to determine the worthiness of an investment and the financial health of a company, the liquidity ratio is used by investors. The rest of the business is suffered from working capital issues. The low liquidity ratio of a firm is a threat to the company. A high liquidity ratio is good but at a certain limit. When a company holds 80% of its capital to pay short-term liabilities of a company it means that the company is unable to invest in other projects. When a company holds money in hand then money loses its worth according to the concept of the time value of money. When a firm invest in different projects then the firm earns profits from these projects and the worth of the investment of the investor is raised.

Ibe (2013) stated that liquidity was not something special in financial literature as it does not have a generally accepted definition. Liquidity can be seen in terms of how the collateral can be switched on and off the provision of securities to exchange securities, the former being called market liquidity and the last being for financing. The focus of this research was on both funding and market financing. In a perfect world, the market and the funding mechanisms are intertwined as the more straightforward the security exchange means the easier to find the security exchange assets. This research summarized the result of the bank's cash flow consumption, which followed the need to view income as a cost, and as a risk and its effect on the residual interest rate, return on equity (ROE), return on asset (ROA) and financial value added (EVA).

Wuave, Yua and Yua (2020) stated that the performance of economic establishment effect financial activities in unique economics. Financial regulation and regional financial performance play a fundamental role in financial development and performance. In economic growth and profitability, economic area performance and liquidity control play an important role. Capital ratio, coin ratio, modern ratio, and liquidity ratios are used to measure the liquidity of a firm. The motive for the research is to find the performance of solid banks. In the economic offering, banks play an important role in financial intermarries. The inflation of a country is directly affected by experts on the impact of financial interventions on inflation. Financial development had a direct impact on growth. To achieve the unwavering quality of the financial commitment of the various banks' commitment to a different economy that causes the economy to tolerate negative and financially negative factors remotely. For a reason, factors of efficiency are important.

The bank is to protect the maximum profit by using the finance holder to achieve the additional profits from the transaction. At the moment it is not only a complex goal for the owner but also investors. Depositors also balance cash based on increasing interest. The banking sector in Pakistan has evolved and developed into a major global rhythm. Banks play a role in the interaction of all businesses, promotions, and development. Initially, the Pakistani bank gadget could not control the cash machine. The banking district faces many administrative problems. Lowering spending can manage the money gadget so increasing public interest and confidence goes beyond. The fashion community is famous in terms of deposit revenue and has benefited from a diversity of funding and thus improving bank productivity and management performance (Sakouvogui, 2020).

Many theories show the connection between liquidity and the performance of banks. Analysts suggested that more money is often more expensive in banks, meaning that more money is reducing bank performance. One expert asserts that liquidity levels vary from time to time, and large sums of money can be gambled on their production, resulting in lower borrowing. Liquidity problems can affect bank salaries in risky situations that can lead to bankruptcy or corruption (Ibrahim, 2017). Previous studies have shown that deposits with high liquidity having a lower level of revenue. In the hour of alternative financing, the bank may find the

market surprisingly high and this is due to the decline in bank performance. One researcher specifies the link between liquidity and short-term profit. They pointed out that banks protect a larger amount of savings compared to banks owned by the bank. The savings will not benefit the bank but if it does support financial support for the benefit of the bank it may face a serious problem such as financial instability. The Pakistani banking system experienced a difficult time investing in the private sector in 2008 due to liquidity crises (Waleed, Pasha & Akhtar, 2016).

Charmler et al. (2018) reviewed European banking profitability, the positive impact of LDR on bank profitability supports the notion that the purchase of money affects the output in performance. The weakness of holding liquidity in the benefit, observed with fixed resources, continuous resources end up not working properly, in the middle withholding money can lead to the accumulation of ideal assets, a lack of energy maximizing business profits, and shortcomings in financial management.

2.7 Impact of Leverage Ratio on Profitability of Firms

Olivia, Atahau and Martono (2022) stated that business enterprise operations determine the size of a firm. In a more direct approach, the best sign of a company's size is the size of its management team or the total of comparative resources in the same industry. Through the total sale, revenue, sale turnover, number of employees, and algorithm of assets size of bank assets is measured. For high profit and good financial health of a company, a firm must have grown in size of firms and through revenue, sale, profit, and the number of employees size of a firm is determined. They determined whether the growth or decline in the size of commercial banking has a potential impact on bank performance.

Firm size is surprisingly considered an important decision for firm profitability. Large firms should have the option to create better sales compared to smaller firms. This is for reasons that past they have achieved in-depth study, a more remarkable understanding, and can spread their fair share of costs at the most remarkable scale of nature (Anggari & Dana, 2020).

In the existing literature, size is considered to be an important variant in making a firm production concept regarding the link between these two reasons that size effects can be bad or good. There is a good connection between the size of the company and the company performance, or at least, return value, which suggests that the change of unit to corporate size encourages a consequent increase in the number of firms. They confirm that size may adversely affect performance. Size enlargement causes level differences although have had to indicate that the size of the company greatly affects the performance of firms (Jaouad & Lahsen, 2018).

Haryanto, Chandrarin and Bachtiar (2019)) studied the effect of bank size on profit. They have separated Banks have 5 classes according to their size of resources, ROE is used as gain, and considered, there is a critical negative connection between asset size and ban performance.

Elyasiani and Jia (2019) evaluated the suitability of banks in the UK and used bank size as an important variant that separates UK banks into two types, large and small as reflected in the volume of assets. The results revealed that smaller banks have shown better performance compared to larger ones. In addition, the size of the bank has been shown to have a significant impact on profits except for unique features such as these such as liquidity. Through the trend and pattern of profitability, the usefulness of investment and bank performance are evaluated. Murthy (2008) attempted banks to 'income and profitability locally United Nations (GCC). There were 78 banks used from 2002 to 2008 in this study. Many adequate elements can influence the performance in the gulf region. Bank size was expected one of the key differences that contribute to the profitability of incoming banks. The overall size of the asset was found to have a significant impact on bank performance. Few banks seem to have high performance compared to the various banks. Almost, all banks had to improve their management and profits as a result of the rapid increase in the intimate and international competition between the banking markets and because of improved financial conditions. This drives banks locally and globally as it has been an important issue that arises in the markets to reconsider their bank ratings.

Tharu and Shrestha (2019) studied the effect of bank size on the profitability of

banks in Greek banks and they determined the relationship between the profitability of Greek banks with asset size, risk, and liquidity. The profitability of large and small banks was measured through the ROE of banks and tested the financial market of Greek from the period from 1990 to 1999. They determine the features gained from these banks and found that big banks work better than smaller ones; small banks are represented by high-interest rates yield (ROE) while the major banks are characterized by high resource yield (ROA). They considered the issue of banking productivity by entering the size of an asset as an important basic component that benefits the impact. This research is all over western countries like Europe and USA.

They investigated the relationship between profitability and bank size. The efficiency of banks is affected by banks' asset size. Bank efficiency was greater when the bank size is high (Isik, Kosaroglu & Demirci, 2018).

2.8 Supporting Theories

2.8.1 Stakeholder Theory

Parmar et al. (2010) stated that an organization must provide benefits to its stakeholder according to stakeholder theory. Earning profit is not only the aim of the firm but also provides benefits to stakeholders of the firm. Stakeholders of firms are strongly influenced by the existence of a firm. Customers, suppliers, employees, investors, society, and government are all the stakeholders of a firm. In managing an organization, an organization should follow ethics and morals that are addressed in stakeholder theory by R. Edward Freeman in 1984. Different stakeholders of a firm were identified by stakeholder theory. To best serve the interest of all the stakeholders, different recommendations were described in the stakeholder approach. Shareholders are the ones who invest in the business so the management of a company must serve the interest of a shareholder. But along with shareholders, management should care about the other stakeholders.

A positive feedback loop can be promoted through stakeholder theory. For example, employees are highly motivated when they know he/ she is valuable stakeholders. When employees are highly motivated they provide good quality work that causes customer happiness. But it's very difficult for the management of a company to equitably treat all the stakeholders. Practically it's not possible. To deliver enduring change in a business, it's very necessary to have good stakeholder management. The purpose of an organization is redefined by stakeholder theory. In Ansoff, the first expression of stakeholder theory was founded. To serve the interest of all stakeholder are the objective of the firm described by Ansoff (Laplume, Sonpar & Litz, 2008).

Friedman and Miles (2002) stated that employees, customers, the general public, and shareholders are the first stakeholder identified by GEC in 1932. Employees are also included in the stakeholder group in 1947. Further, the community was added to the stakeholder group in 1950. In 1918, the direction to implement the stakeholder theory was provided by Mary Follet. In the process work of James Emshoff, Ian Mitroof, and Richard Mason, a basic feature of the stakeholder concept was developed by R. Edward Freeman. In three different ways, stakeholder theories are classified. Stakeholder theory is used in this research to determine the impact of green credit which is a part of corporate social responsibility on the profitability of banks.

2.8.2 Sharia Enterprise Theory

Riska, Rochayatun and Nurdin (2020) stated that the interest of all parties in a firm is best served according to the theory of shariah enterprise. For stakeholders, great concern is shown in the sharia enterprise theory. Humans, nature, and Allah are also included in stakeholders which are concerned with the sharia Enterprise theory. The profitability of Islamic banks is affected by the zakat performance ratio described in sharia enterprise theory. To bring mercy to the creation of Allah and to obtain the pleasure of Allah, spiritual aspects are also fulfilled while carrying out different operations in Islamic banks. There will be a high rate of zakat issued by banks if Islamic banks owned large wealth, this is for the performance of zakat

distribution. The profitability of Islamic banks is also affected by increasing wealth of Islamic wealth.

To the sharia concept, enterprise theory is very close to it. Because this theory developed the concept that the management of a company is accountable not only in front of shareholders but also in front of stakeholders. Management of a firm discloses information by adopting accounting standards. To the economy, participants indirectly contributed to it are not discussed in enterprise theory. So, for sharia accounting theory, enterprise theory is not used as a basic theory. In the distribution of added value, indirect participant's interest was incorporated into the power of direct participant developed in sharia enterprise theory, and this theory was developed by Slamet and Triyuwono (Aryani & Zuchroh, 2018).

Value of honesty, accountability, justice, and trustworthiness contains in enterprise theory and for sharia accounting, enterprise theory is most appropriate. There is not a tawhid concept in this theory. So, there is a need for the addition of the concept of zakat, the concept f ownership in Islam, the concept of accountability, and the concept of divine justice in theory. In this paper, we used the sharia enterprise theory because the target population of this research is the banks of Pakistan. Most banks in Pakistan provide Islamic banking services to customers. So, there is a need to determine the impact of sharia compliance on the profitability of banks. In this research, we determine whether sharia compliance affects the profitability of banks in Pakistan or not. If sharia compliance affects the profitability of banks in Pakistan then determine whether that effect is positive or negative.

2.8.3 Resource Allocation Theory

Cohen and Cyert (1965) stated that among the various productive activities, a factor of production is managed effectively in an organization to achieve the goals of a firm, and this process is called resource allocation. For the production of goods and services, the allocation of scarce resources by the management of a firm is a process of resource allocation. During the execution phase of a project, there is a change in the scope of the project, and to become successful, it's very important to have strategic resource allocation. Production factors that are described in

resource allocation theory are resources. For all businesses, production factors are very scarce. Entrepreneurship, land, labor, and capital are the four production factors discussed in resource allocation theory.

Production facilities, distribution networks, machines, vehicles, and buildings are included in the physical resources of a firm used by a firm in the production of products and services. Customer databases, proprietary knowledge, copyright, and patents are the intellectual resources of a firm. For a strong business model, one of the important components is intellectual resources. It is very difficult to develop intellectual resources but intellectual resource helps an organization gain competitive advantages. Human resources are needed by every company. In creative and knowledge-intensive industries, human resources play a very important role. Shares, financial securities, and lines of credit are financial resources. Financial resources are scarce resources used in the production of goods and services. In this research, resource allocation theory is used (Bromiley, 2009). Production factors that are described in resource allocation theory are resources. For all businesses, production factors are very scarce. Entrepreneurship, land, labor, and capital are the four production factors discussed in resource allocation theory.

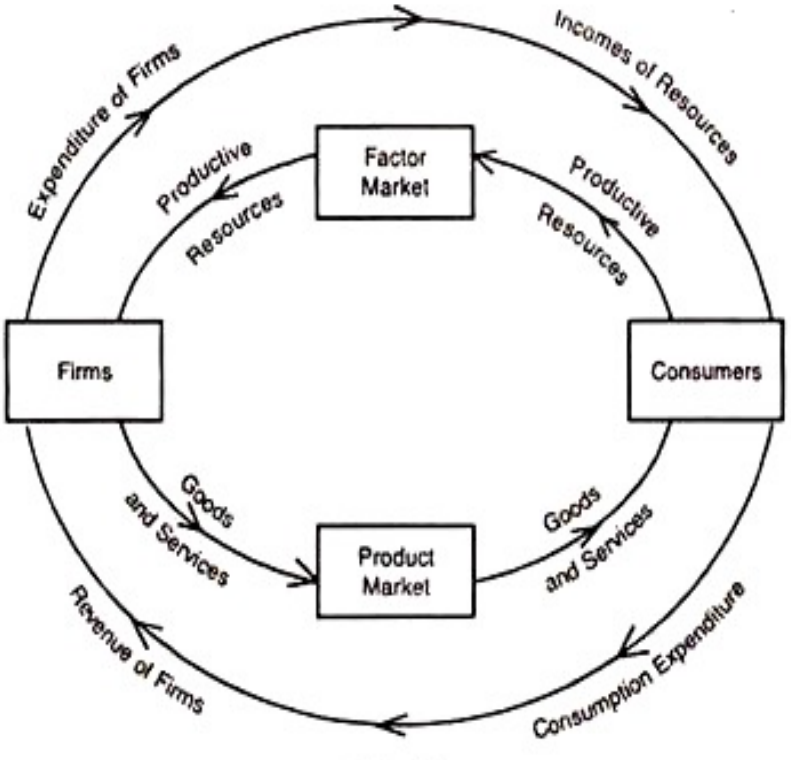

FIGURE 2.4: Circular Economy (Google)

2.9 Theoretical Framework

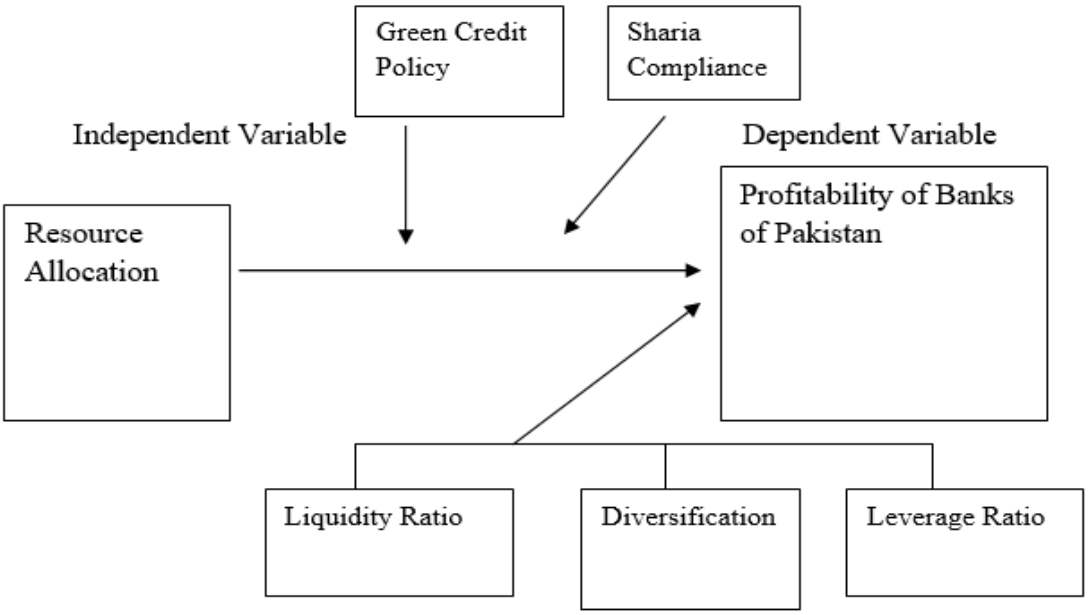

FIGURE 2.5: Theoretical Framework of Model

Chapter 3

Research Methodology

This chapter helps the reader in understanding the sources of data collection and techniques used to analyze that data. The population of the study and sample of the study are discussed in this chapter. There are two types of research qualitative research and quantitative research. Numbers and figures deal in the quantitative approach while in the qualitative approach, the existing literature is studied in detail and answers the research questions.

3.1 The Population of the Study

All the banks of Pakistan are the target population of this study. In this research, data were extracted from all the banks of Pakistan for the period from 2011 -2020.

3.2 Data Collection

In this section, data were collected from twenty-seven banks of Pakistan for the period of ten years from the year 2011 to the year 2020. Data of all these variables are extracted from the website of the state bank and annual report of banks. All the variables employed in the study, the nature of the variable, and the proxy of variables are discussed in table 3.1

In this section, data was extracted from twenty-seven banks in Pakistan for the period of ten years from 2011 to 2020. Data of all these variables were collected

from the annual statements of banks. All the variables employed in the study, the nature of the variable, and the proxy of variables are discussed in table 3.1.

TABLE 3.1: Description of Variables with Proxies

Variable	**Proxy**	**Nature of Variable**
Return on Asset	ROA	Dependent variable
Return on equity	ROE	Dependent variable
NPL to gross advances	NPL	Control variable
Cash to total asset	CTA	Control variable
Gross advances to deposit	GAD	Independent variable
Capital ratio	CR	Control variable
Cash flow ratio	CFR	Control variable
Non-markup to total income	NMI	Control variable
Green credit	GC	Moderating variable
Sharia Compliance	SC	Moderating variable

3.3 Measurement of Variables

Table 3.2: Measurement of Variable

Nature	**Formula**	**Reference**
Dependent Variable	ROA= Net income/Total asset	Husna, A., & Satria, I. (2019). Effects of return on asset, debt to asset ratio, current ratio, firm size, and dividend payout ratio on firm value. International Journal of Economics and Financial Issues, 9(5), 50.
Dependent Variable	ROE= Net income/ shareholder Equity	Almira, N. P. A. K., & Wiagustini, N. L. P. (2020). Return on asset, return on equity, dan earning per share berpengaruh terhadap return saham. E-Jurnal Manajemen Universitas Udayana, 9(3), 1069.
Independent Variable	Resource Allocation	Rajan, R., & Dhal, S. C. (2003). Non-performing loans and terms of credit of public sector banks in India: An empirical assessment. Reserve Bank of India Occasional Papers, 24(3), 81-121.
	Gross advances to deposit ratio= Total advances/ total deposit	
Control Variable	Liquidity ratio	Munawar, A. (2019). The effect of Liquidity, leverage and total asset turnover on Profitability: Empirical Study of Manufacturing Companies in Indonesia Stock Exchange 2012-2017. Internaational Journal of Economics and Management Studies, www. internatinalljournalssrg. org.

Continued Table 3.2 Measurement of Variable

Nature	Formula	Reference
	Cash to total asset = Cash/ Total Asset	
	Cash flow ratio = Operating cash flow / Current liabilities	
Control Variable	Leverage Ratio	
	Capital Ratio= Tier 1 capital+ Tier 2 capital/ total risk weighted assets	
	Non-performing loan ratio= Non-performing loan/ total number of loans	
Control Variable	Diversification	Sadiq, R., Khan, T., & Arshed, N. (2018). Empirical analysis of structural income changes in commercial banks: A case of Pakistan. The Lahore Journal of Business, 7(1), 33-59.
	Non-markup to total income = Non-markup interest income/ Total income	
Moderating Variable	Green Credit Policy	Galán, J. E., & Tan, Y. (2022). Green light for green credit? Evidence from its impact on bank efficiency. International Journal of Finance & Economics.
	(Dummy 'Variable)	
Moderating Variable	Sharia Compliance	Silva, R., & Oliveira, C. (2020). The influence of innovation in tangible and intangible resource allocation: A qualitative multi case study. Sustainability, 12(12), 4989.
	(Dummy Variable)	

3.4 Estimation Technique

3.4.1 Panel Data Analysis

To assess the effect of green credit, Sharia compliance, and resource allocation on the profitability of banks in Pakistan. The cross-sectional data axis is denoted by i and time series details denoted by t are the two dimensions of panel data. The reliability of panel results increased due to other alternative estimation approaches. There is a contradiction in OLS pooled calculation methodology because of the correlation between unknown variables and independent variables.

3.4.1.1 Common Effect Model

There is a combination of time series and cross-section data in a panel data model. This is the reason why the panel data model approach is very simple. Individual dimensions and time are not considered in this approach. In various periods, corporate data is the same is the basic assumption in this model.

3.4.1.2 Fixed Effect Model

For each cross-section, the intercept will be distinct and this is suggested by the fixed effect model. To demonstrate the degree of dissimilarity between each cross section's intercept, a separate dummy is used in this procedure. The fixed effect model can be the best estimator due to data intercepts being different for each unit.

3.4.1.3 Random Effect Model

When intercept is different for all cross-sectional and time intervals, the random effect model is used. To check whether or not the intercept fits a standardized pattern, a random effect model is used. Beta is not important as it is assumed that it takes a random path. By using this model, differences among different businesses are determined. Advantages of the random fixed model mentioned below:

- For prediction, fewer parameters are required in the random effect model as compared to the fixed effect model.
- In the random effect model, it is allowed to measure the additional independent variables of the same number.

To select between the fixed effect model and the random effect model, the Hausman test is used. A fixed model will be used when the yield value is significant. The random effect model is applied when the yield value is not significant.

3.4.1.4 Hausman Test

Possibility of fixed effect model and random effect model determined through Hausman test. The fixed model will be implemented when the p-value was significant (< 5 percent confidence interval). A random effect model will be implemented when the p-value was insignificant (> 5 percent confidence interval).

3.5 Model

$$\begin{aligned} Profitability_{i,t} = \beta_0 + \beta_1 NPL_{1,it} + \beta_2 CTA_{2,it} + \beta_3 GAD_{3,it} + \beta_4 CR_{4,it} \\ +\beta_5 CFR_{5,it} + \beta_6 NMI_{6,it} + \beta_7 GCP_{7,it} + \beta_8 SC_{8,it} * \beta_9 NPL_{9,it} \\ +\beta_{10} CGP_{10,it} * \beta_1 0 NPL_{10,it} + \mu_t \end{aligned} \tag{3.1}$$

NPL= NPL to gross advances

CTA= Cash to total asset

GAD= Gross advances to deposit

CR= Capital ratio

CFR= Cash flow ratio

NMI=Non markup interest to total income

SC= Sharia Compliance

GCP= Green Credit policy

3.6 Technique of Data Analysis

Eviews 8 is used to analyze the data that are collected from the website of the state bank of Pakistan. To analyze the relationship between the independent variables and dependent variables, Generalized Method of Movement, and correlation analysis is used. To show the nature, descriptive statistics were used.

Chapter 4

Data Analysis and Discussion

4.1 Descriptive Statistics

Descriptive analysis of all the variables are shown in table 4.1. Descriptive statistics tall about the nature of data set in term of central tendency, variability and frequency distribution. The results of descriptive status are given in following table.

For change score, the general level of mean is average, from -0.412 to 1.986 values of the general mean vary. Gross advances to deposit independent variable has the highest mean value which is gross advances to deposit. It shows that the gross advances to deposit ratio greatly affect the profitability of banks. The cash flow ratio has the lowest mean value, and the cash flow ratio is the cash flow ratio which is an independent variable in this study. The lowest mean value of -0.412 shows that the cash flow ratio negatively affects the profitability of banks in Pakistan. The cash flow ratio independent variable shows the highest standard deviation value. The highest standard deviation value shows that the profitability of banks in Pakistan has varied due to the cash flow ratio.

For change score, the general level of mean is average, from 0.011 to 0.852 values of the general mean vary. Sharia compliance which is moderating variable has the highest mean value. It shows that the sharia compliance greatly affect the profitability of banks.

Table 4.1: Descriptive Statistical for the Period 2011-2020

	ROA	**ROE**	**NPL**	**CTA**	**GAD**	**CR**	**LCFR**	**NMI**	**GC**	**SC**
Mean	0.008	0.101	0.118	0.078	0.367	0.055	0.043	0.011	0.137	0.852
Median	0.009	0.108	0.101	0.076	0.389	0.054	0.044	0.011	0.000	1.00
Maximum	0.033	0.348	0.480	0.157	0.680	0.145	0.356	0.033	1.000	1.000
Minimum	-0.035	-0.319	0.000	0.007	0.108	0.0009	-0.311	-0.004	0.000	0.000
Std. Dev.	0.011	0.096	0.084	0.026	0.139	0.029	0.101	0.006	0.344	0.355
Skewness	-0.978	-0.577	1.448	0.097	-0.013	0.443	-0.167	0.678	2.111	-1.981
Kurtosis	5.638	3.926	5.935	3.721	1.871	3.117	3.850	4.473	5.456	4.924

The non-markup income to total income has the lowest mean value, and non-markup income to total income is an control variable in this study. The lowest mean value of 0.011 shows that the cash flow ratio positively affects the profitability of banks in Pakistan.

The mean value of return on asset is 0.008 and its median value is 0.009. The standard deviation value of ROA is 0.011. The minimum value of ROA is -0.035 and its maximum value is 0.033. It means that the maximum return on assets of all the banks in Pakistan from 2011 to 2020 is 0.033 and the minimum return is -0.035. The return on Assets of all banks of Pakistan lies between -0.035 to 0.033. This is the range of ROA of all banks of Pakistan. The mean value shows that the whole data of ROA spread around 0.008. The standard value of 0.01 shows that data points close to the mean of ROA. -0.978 value shows that ROA is negatively skewed. The degree of presence of an outlier in a distribution refers to kurtosis.

The mean value of return on equity is 0.101 and its standard deviation value is 0.096. The maximum value of ROE is 0.348 and the minimum value of ROE is -0.319. It means that the maximum return on equity of all the banks in Pakistan from 2011 to 2020 is 0.38 and the minimum return is -0.319. The return on equity of all banks in Pakistan lies between -0.319 to 0.38. This is the range of ROE of all banks of Pakistan. The mean value shows that the whole data of ROE spread around 0.101. Standard value 0.096 shows that data points close to the mean of ROE. The skewness statistics of -0.577 shows that ROE is negatively skewed.

The mean value of the NPL to gross advances variable is 0.118 and its standard deviation value is 0.096. The maximum value of NPL to gross advances is 0.480 and the minimum value of the NPL to gross advances variable is 0.00. It means that the maximum value of NPL to gross advances of all the banks in Pakistan from 2011 to 2020 is 0.480 and the minimum value of NPL to Gross advances is 0.00. NPL to Gross advances of all banks of Pakistan lies between 0.480 to 0.00. This is the range of NPL to gross advances of all banks of Pakistan. The mean value shows that the whole data of NPL to gross advances spread around 0.118. The standard value of 0.08 shows that data points close to the mean of NPL to Gross advance The skewness statistics is 1.488 shows that data is positively skewed.

The mean value of the cash to total asset variable is 0.078 and its standard deviation value is 0.029. The maximum value of the cash to total asset variable is 0.157 and its minimum value is 0.007. It means that the cash to total asset ratio of all the banks in Pakistan from 2011 to 2020 is 0.157and the minimum value is 0.007. Cash to a total asset of all banks of Pakistan lies between 0.157 to 0.007. This is the range of cash to total assets of all banks of Pakistan. The mean value shows that the whole data of cash to total assets spread around 0.078. The standard value of 0.029 shows that data points close to the mean of cash to total assets. The skewness statistics is 0.097 shows that cash to total asset is positively skewed.

The mean value of the gross advances to deposit variable which is gross advances to deposit is 0.367 and its standard deviation value is 0.139. The maximum value of the gross advances to deposit variable is 0.680 and its minimum value is 0.108. It means that the maximum value of gross advances to deposit of all the banks in Pakistan from 2011 to 2020 is 0.680 and the minimum return is 0.108. Gross advances to a deposit of all banks of Pakistan lie between 0.108 to 0.680. This is the range of gross advances to deposits of all banks of Pakistan. The mean value shows that the whole data of gross advances to deposit spread around 0.367. The standard value of 0.139 shows that data points far away from the mean. The skewness statistics is -0.013 shows that gross advances to deposit are negatively skewed.

The mean value of the capital ratio is 0.055 and its standard deviation value is 0.029. The maximum value of the capital ratio is 0.145 and its minimum value is 0.0009. It means that the maximum capital ratio of all the banks in Pakistan from 2011 to 2020 is 0.145 and the minimum return is 0.0009. The capital ratio of all banks in Pakistan lies between 0.145 to 0.0009. This is the range of the capital ratio of all banks in Pakistan. The mean value shows that the whole data of capital ratio spread around 0.055. The standard value of 0.029 shows that data points close to the mean. The skewness statistics is 0.443 shows that the capital ratio is positively skewed.

The mean value of the cash flow ratio variable (cash flow ratio) is 0.043 and its standard deviation value is 0.101. The range of cash flow ratio of all banks in Pakistan is from -0.311 to 0.356. The maximum value of the cash flow ratio

variable is 0.356 and its minimum value is –0311. Cash flow ratios are negatively skewed shown by a value of -0.167. The mean value of the non-markup interest to total income (Non-markup interest to total income) is 0.011 and its standard deviation value is 0.006. The maximum value of the non-markup interest to total income is 0.033 and its minimum value is -0.004. Range of non-markup expenses to the total income of all banks of Pakistan from 2011 to 2020 lies between -0.004 to 0.033. The non-markup income to total income values is far away from their mean value as shown by the standard deviation value which is 0.101. Non-markup to total income values is positively skewed shown by 0.678.

The mean value of green credit (Green credit) is 0.137, its standard deviation value is 0.34. Its minimum value is 0 and the maximum value is 1. Green credit values are positively skewed but close to the mean value. The mean value of the sharia compliance variable (Sharia Compliance) is 0.852 and its standard deviation value is 0.355. The maximum value of the sharia compliance variable is 1 and its minimum value is 0. Sharia compliance values are negatively skewed shown by a value of -1.98.

4.2 Correlation Matrix

Correlation analysis is also used to determine the relationship between a dependent variable and the independent variable. Among dependent and independent variables, multicollinearity issues are explored by correlation analysis. Among bank-specific dependent and independent variables, the correlation analysis result is shown in table 4.2. The interdependence of multiple variables is explained through a correlation matrix. The degree of association between a dependent variable and an independent variable is shown by using a correlation matrix. The dependent variable and independent variable are closely related if the correlation value is near +1. The dependent variable and independent variable are not closely related if the correlation value is near -1. To prove that there is no multicollinearity problem, the correlation between independent variables should not exceed 0.7. Table 4.2 shows the result of a correlation matrix. Multicollinearity problem is shown in data when the correlation value exceeds 0.7.

Table 4.2: Correlation Matrix

	ROA	**ROE**	**NPL**	**CAT**	**GAD**	**CR**	**LCFR**	**NMI**	**GC**	**SC**
ROA	1									
ROE	0.632	1								
NPL	-0.21233	-0.372	1							
CAT	0.04	0.167	-0.065	1						
GAD	0.377	0.604	-0.161	0.106	1					
CR	-0.06	-0.135	-0.112	0.092	-0.199	1				
LCFR	0.127	0.279	-0.13	0.023	0.147	-0.022	1			
NMI	0.353	0.182	-0.072	-0.023	0.227	-0.063	0.118	1		
GC	0.025	0.054	-0.096	0.018	0.067	-0.062	0.041	-0.139	1	
SC	0.024	0.346	-0.217	0.254	0.277	-0.145	0.145	0.033	0.045	1

Correlation analysis is done to find the relationship between independent and dependent variables, as shown in Table 4.2. The value of 0.632 shows that there is a positive relationship between ROA and ROE. It means when ROA increases ROE also increases and vice versa. The value of -0.213 shows the negative correlation of NPL to gross advances with the dependent variable ROA. The 0.04 value shows the positive relationship between ROA and cash to a total asset. It means any increase in the cash to total asset value causes a increase in return on assets.

There is a positive relationship between return on asset and gross advance to deposit ratio as shown by the value of 0.377. ROA of banks in Pakistan is negatively affected by the cash flow ratio indicated by a correlation value of -0.060. Conversely, ROA has a positive relationship to capital ratio with a value of 0.127. Similarly, there is a positive relationship between non-markup interest to total income and ROA with the value of 0.353. Green credit has a positive relation to return on assets with a value of 0.205. There is a positive relationship between sharia compliance and ROA of banks in Pakistan with a value of 0.024.

The value of -0.372 shows the negative correlation of NPL to gross advances with ROE. It means that any increase in NPL to gross advances causes a decrease in ROE. There is a positive relationship between return on equity and gross advance to deposit ratio with a value of 0.604. The green credit has a positive relationship between green credit and returns on equity with a value of 0.054. Similarly, Sharia compliance is positively related to the return on equity of banks in Pakistan with a value of 0.346. ROE has a negative relationship to capital ratio with a value of -0.135. The non-markup interest to total income is positively related to the return on equity ratio with a 0.182 value. Similarly, there is a positive relationship between ROE and cash to a total asset with a value of 0.167. Similarly, the cash flow ratio has positive relation to return on equity with a value of 0.279.

There is a negative relationship between NPL to gross advances ratio and cash to a total asset with a value of -0.065. Similarly, the capital ratio has negative relation with NPL to gross advances with a coefficient value of -0.161. There is a negative relationship between green credit and NPL to gross advances with a value of -0.096. Sharia compliance is negatively related to NPL to gross advances with a value of -0.217. Similarly, NPL to gross advances is negatively related to the

cash flow ratio with a value of -0.130. NPL to gross advances negatively affected the non-markup interest to total income with a coefficient value of -0.072.

There is a positive relationship between gross advances to deposit and cash to a total asset with a value of 0.106. Cash to total asset is positively related to the cash flow ratio with a value of 0.023. Similarly, the relationship between cash to total asset and capital ratio is positive with a value of 0.092. Green credit is positively related to cash to total assets with a coefficient value of 0.018. Gross advances to deposit and the Sharia compliance variable have a positive relationship with the value of 0.254.

The capital ratio has a negative relation to cash flow ratio of banks of Pakistan with a value of -0.022. There is a negative relationship between gross advances to deposit ratio and capital ratio with a value of -0.062. Sharia compliance negatively affects the capital ratio with a value of -0.145. Similarly, capital ratio has a negative relation to gross advances to deposit ratio with a coefficient value of -0.063.

There is a positive relationship between cash flow ratio and non-markup interest to total income ratio with a value of 0.118.Similarly, the Cash flow ratio is positively affected by the green credit policy with a correlation value of 0.041. There is also a positive relationship between capital ratio and Sharia compliance with a value of 0.145.

There is a negative relationship between non-markup interest to total income and green credit policy as shown by a value of -0.139. Conversely, there is a positive relationship between the non-markup income and sharia compliance with a value of 0.033. There is a positive relationship between Sharia compliance and green credit with a value of 0.045.

There is a negative relation of capital ratio to gross advances to ROE with a value of -0.199. There is a positive relationship between cash flow ratio and gross advance to deposit ratio with a value of 0.147. Non-markup interest to total income is positively related to gros advaces to deposit with a value of 0.227. Sharia compliance is positively affected by gross advances to deposit of banks in Pakistan with a value of 0.277.,Gross advances to deposit is positively related to green credit policy with the value of 0.067.

GMM (First Difference) Model 1- (Dependent Variable is ROE)

Table 4.3: GMM (ROE)

Variable	**Coefficient**	**Std.Error**	**t-Statistic**	**Prob.**
C	0.348703	3.542431	0.098436	0.9217
NPL	-0.299582	0.055727	-5.375881	0
CAT	0.339336	0.163704	2.072857	0.0392
GAD	0.351711	0.033047	10.64283	0
CR	-0.222403	0.148272	-1.499966	0.1348
CFR	0.151922	0.04319	3.51752	0.0005
NMI	0.360685	0.788076	0.457678	0.06476
GC*NPL	-0.000181	0.001756	-0.10314	0.09179
SC*NPL	-0.126148	0.10754	-1.173034	0.08419
Adjusted R-squared	0.471172	S.D. dependent var		0.096204
Durbin-Watson stat	0.88254	J-statistic		4.75E-11
Instrument rank	9			

As table 4.3 shows that the R square value is 0.47, which means that 47% of independent variables affect the return on equity, however, 53% are the other variables that affect the return on equity. Table 4.3 shows that NPL to gross advances has a negative but significant effect on the return on equity of banks of Pakistan. The coefficient value of NPL to gross advances is -0.299582 and the value of probability is 0.0000. Secondly, cash to total assets has a positive and significant effect on the return on equity of banks of Pakistan. The coefficient value of cash to total asset ratio is 0.339336 and the value of probability is 0.03. It means when the cash to total asset ratio increases returns on equity of banks increases. The gross advances to deposit ratio have a positive and significant effect on the return on equity of banks of Pakistan. The coefficient value of gross advances to deposit is 0.351711 and the value of probability is 0.000. It means when the gross advances to deposit ratio increases return on equity also increases. The capital ratio has a negative and insignificant effect on the return on equity of banks in Pakistan. The coefficient value of the capital ratio is -0.222403 and the value of probability is 0.1348. It means that the capital ratio has an insignificant effect on the return on equity. The cash flow ratio has a positive and significant effect on the return on equity of banks in Pakistan. The coefficient value of cash flow

ratio is 0.151922 and the value of probability is 0.005. It means that cash flow ratio has a positive and significant effect on ROE. Non-markup to total income has a positive but insignificant effect on the return on equity of banks of Pakistan. The coefficient value of non-markup interest to total income is 0.360 and the value of probability is 0.064.. The green credit policy has a negative and insignificant moderating effect on return on equity. Sharia compliance has an insignificant modearying effect on the return on equity of banks in Pakistan. The coefficient value of sharia compliance is -0.12 and the value of probability is 0.08, confirming the insignificant effect.

GMM Model 2- GMM (Dependent Variable is ROA)

TABLE 4.4: GMM Model (System GMM)

Variable	**Coefficient**	**Std.Error**	**t-Statistic**	**Prob.**
ROA(-1)	0.487278	0.010153	47.99406	0
NPL	-6.97E-06	0.005127	-0.00136	0.0989
CAT	-0.016153	0.014344	-1.126141	0.0864
GAD	0.021524	0.004628	4.650637	0
CR	0.025347	0.017014	1.489802	0.0078
CFR	0.001861	0.001939	0.959733	0.0083
NMI	0.263036	0.063045	4.172228	0
GC*NPL	0.000251	4.26E-05	5.886205	0
SC*NPL	-0.016566	0.002408	-6.87861	0
	Effects Specification			
Cross-section fixed (orthogonal deviations)				
Mean dependent var	0.000131	S.D. dependent var		0.007481
S.E. of regression	0.006114	Sum squared resid		0.007738
Prob(J-statistic)	0.162923			

Firstly, endogeneity issue is checked by taking lag of return on asset value and result shows that there is an endogeneity issue which leads to application of GMM model. First difference GMM model is run on the collected data of banks of Pakistan. To determine either go for system GMM or first difference GMM, fixed effect model is applied. Coefficient value of fixed effect model is greater than first difference GMM value which confirms for application of system GMM.

As the table shows that NPL to gross advances affects the return on assets (-6.97E-06). It means a percentage change in gross advances to deposit brings an 0.07%

decrease in return on assets. Probability value of NPL is 0.09 which shows that NPL negatively effect on the return on asset but this affect is insignificant. The cash to the total asset has a significant negative effect (-0.016) on return on asset. It means a percentage change in cash to a total asset brings a 16.1% decrease in return on the asset and this affect is insignificant as shown by 0.08 probability value. The gross advances to deposit have a significant negative effect on return on asset (-0.016). It means a percentage change in gross advances to deposit brings a 16% decrease in return on an asset. The capital ratio has a significant positive effect on return on asset (0.025). It means a percentage change in capital ratio brings a 2.5% increase in return on an asset. The cash flow ratio has an significant positive impact on return on assets (0.0018). It means a percentage change in cash flow ratio brings 0.18% increase in return on an asset with 0.008 significant p-values. The non-markup expense on total income has a positive significant impact on return on asset (0.265) It means a percentage change in non-markup to total income brings a 26% increase of return on an asset with a 0.000 p-value. There is a positive moderating effect of green credit on the ROA of banks with a coefficient of 0.00025, and this effect is significant as the p-value is 0.000. The moderating effect of Sharia compliance on ROA is significantly negative as shown by the value of coefficient -0.016 and p-value is 0.000.

Chapter 5

Conclusion and Recommendation

5.1 Conclusions

The basic objective of this study is to find the impact of resource allocation, on the profitability of banks in Pakistan with moderating role of green credit policy and sharia compliance. For this purpose, data have been extracted from the state bank website for the period of ten years from 2011 to 2020. To measure the profitability of banks, return on assets and return on equity are used. For resource allocation, gross advances to deposit ratio are used. Liquidity, leverage, and diversification are the control variables. To measure the liquidity, cash total asset and cash flow ratio is used. To measure the leverage of banks, the capital ratio is used. To measure the diversification, non-markup interest to total income is used.

The result shows that resource allocation has a positive impact on profitability. It means an increase in gross advances to loan ratio increase the profitability of banks in Pakistan. The reason behind the positive relationship between gross advances to loans and profitability is that banks give more advances to borrowers and earn interest income from gross advances. Interest on the gross advances is the income for the banks. A high amount of interest income positively affects the profitability of banks. High gross advances to loan show that bank efficiently allocates their resources. It means banks circulate their money instead of holding the money because holding the money decreases the value of money according to the time value of money. Resource allocation means the efficient allocation of the resources

of an organization to achieve the organizational objectives. Gross advances are the resources of the banks when banks efficiently utilized their gross advances then banks achieve their objectives (improve the profitability of banks).

Green credit policy act as a moderating role in the relationship between resource allocation and the profitability of banks. The result of the data shows that the green credit policy positively moderates the relationship between resource allocation and the profitability of banks. Today, stakeholders of banks are highly concerned about environmental protection. Adopting the green credit policy helps banks to build a positive image of banks. When banks have a positive image then lenders invest their money in those banks and banks have funds to give loans to borrowers and improve their profitability. Bank risk profiles reduce when banks adopt the green credit policy. When a bank's risk profile reduces then more investor lends their money to those banks and banks' profitability improve. The asset quality of banks improved after adopting the green credit policy which positively affects the relationship between resource allocation and profitability of banks in Pakistan.

Sharia compliance is a moderating variable that negatively affects the relationship between resource allocation and the profitability of banks. The transaction cost of banks is increased when banks follow sharia compliance. When the transaction cost of banks increases then banks' profitability is reduced and banks' funds are also negatively affected. With the increase in transaction cost, banks' fund for gross advances reduces, and when banks give fewer advances to borrowers the interest income of banks is reduced which lead to a reduction in profits of banks.

The non-performing loan has a negative effect on the profitability of banks in Pakistan. Non-performing loans are those loans that are not paid by the borrower for a specific period. When borrowers do not pay back the loan then banks became unable to generate revenue. Non-performing loans are an expense for the banks. When banks give more loans to borrowers and borrowers don't pay back the principal as well as the interest amount of the loan then banks' expense increases. Expenses always reduce the profitability of banks. Non-performing loans increase the operating cost of banks which negatively affects the profit of banks in Pakistan.

The capital ratio has a positive relationship with the profitability of banks in Pakistan as shown. A high capital ratio shows that banks have a large number of capital to survive at the time of bankruptcy and solvency. When investors have an idea that banks have enough capital ratio then their trust in the bank increase which motivates investors to lend their money to the bank. When banks have a large number of funds then banks became able to provide more loans to the borrower and earn more interest rates. When banks earn high-interest rate then the profitability of banks improve. A high capital ratio shows that banks have more funds and capital as retained earnings for future risks. When the banks have funds to survive in critical situations the bank became very successful. It shows that banks are efficient. As banks in Pakistan faced the covid-19 situation, banks that have more capital. So that, they recover their losses which occur due to covid-19. As Pakistan faces the flood issue every year, the banks of Pakistan require a high capital ratio. In this way, the capital ratio positively affects the profit of banks.

The cash-to-total asset ratio has a positive impact on the profitability of banks in Pakistan. The high cash-to-total asset ratio shows that banks have more cash to pay the current liabilities. When banks pay their current liability on time then operations of banks run smoothly and this positive effect on the profitability of banks in Pakistan. The result shows that non-markup interest to total income has a positive relationship with the profitability of banks in Pakistan. As non-market interest is the income earned by banks for providing services. When banks provide more services, their profitability of banks improved.

5.2 Recommendations

Banks of Pakistan should properly check the information of borrowers before giving them loans. Currently, Pakistan is facing different uncertainty like covid and floods. Pakistan's economic condition became weak because of these uncertainties. Due to the economic downturn, the inflation rate in Pakistan increased and borrowers became unable to pay back the principal amount of the loan as well as the interest amount. This led to an increase in the non-performing loans of

banks which causes a reduction in the profitability of banks in Pakistan. So, banks should not provide loans to borrowers in high amounts. Although, there is a positive relationship between gross advances to deposits and profitability, due to uncertainties banks should control on it.

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