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# Norms and Practices of State-Owned Commercial Banks In Bangladesh

Banu, Mst. Hasna

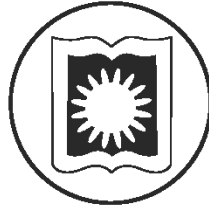
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# **NORMS AND PRACTICES OF STATE-OWNED COMMERCIAL BANKS IN BANGLADESH**



## **PhD Thesis**

*A Thesis Submitted to the Department of Accounting and Information Systems,  
Faculty of Business Studies, University of Rajshahi, in Fulfillment of the  
Requirement for the Award of the Degree of*

*Doctor of Philosophy*

### **Submitted by**

**Mst. Hasna Banu**

PhD Research Fellow

Session: 2015-2016

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Assistant Professor

Department of Accounting and Information Systems

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**Department of Accounting and Information Systems  
University of Rajshahi**

**May, 2021**

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**University of Rajshahi**

**May, 2021**

*Dedicated  
To  
My Beloved Husband  
And  
Lovely Sons*



Date: .....

## **Declaration**

I do hereby declare that the dissertation entitled, “NORMS AND PRACTICES OF STATE-OWNED COMMERCIAL BANKS IN BANGLADESH” submitted to the Department of Accounting and Information Systems, University of Rajshahi, Rajshahi in partial fulfillment of the requirements for the degree of Doctor of Philosophy has been composed entirely by myself and it has not been submitted, in whole or in part, in any previous application for a degree except where stated otherwise by reference or acknowledged.

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## **Supervisors' Certificate**

This is to certify that the PhD thesis titled “NORMS AND PRACTICES OF STATE-OWNED COMMERCIAL BANKS IN BANGLADESH” has been prepared by Mst. Hasna Banu, Assistant Professor, Department of Accounting and Information Systems, University of Rajshahi, Rajshahi–6205 under our supervision. The entire thesis comprises the researcher’s own work and personal achievement. It is an original piece of research work and has not been submitted to any other University or Institution for any Degree or other purpose. We recommend the thesis for evaluation for awarding the degree of Doctor of Philosophy in Accounting and Information Systems under the faculty of Business Studies, University of Rajshahi, Rajshahi-6205.

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**Mst. Hasna Banu**  
PhD Research Fellow

## **Abstract**

Norms mean the body of principles and measures, which investigate the values and rules that govern the individuals and social relations of the humans from moral viewpoint which is essentially based on the parameters of right and wrong, good and bad and they also regulate the relations between the individual members of a profession and the relations of their members with the rest of the society. In Bangladesh the banking sector is regulated by the selected provisions of different legal frameworks such as the Companies Act of 1994, the Bank Companies Act of 1991, Securities and Exchange Rules of 1987, Securities and Exchange Ordinance of 1969 and Bangladesh Bank Order of 1972, International Accounting Standards, International Financial Reporting Standards and other applicable rules prescribed by the Bangladesh Bank and all are the norms of the banking companies which guide the banking sectors for conducting the different practices as per designated provisions prescribed by the different regulatory authorities of the banking sector. The present study has given emphasis on the financial reporting practice, corporate governance practice, credit risk management practice and corporate social responsibility expenditures practice to evaluate the norms and practices of the stated-owned commercial banks in Bangladesh. For achieving the main purpose of the study researcher has taken four stated-owned commercial banks as sample and employed both primary and secondary data to reach the findings as per objectives of the study.

Financial reporting practice is regulated by the provisions of different laws and regulations and it provides information through preparing the financial statements about the operating results and the financial position for the interested stakeholders to make logical decisions as per requirements. The findings report that the majority of the respondents thought that the sample banks have greatly complied with the provisions of Banking Companies Act, 1991 as well as the Bangladesh Bank Order, 1972 but moderately complied with the Companies Act,

1994, the Securities and Exchanges Rules, 1987 as well as with the Securities and Exchange Ordinance, 1969. On the other hand, the sample banks have moderately applied the accounting standards in financial reporting practices. The findings also report that the sample banks have greatly applied the accounting entity assumption, going concern assumption, money measurement assumption, time period as well as historical cost principle but moderately applied the revenue recognition principle, matching principle, full disclosure principle, accrual basis accounting, costs and benefits constraint, materiality constraint, industry practices and conservatism constraint in preparing the financial statements. The study investigates whether there is any significant difference of opinions among the respondents regarding this point and the evidence supports that there is significant and insignificant difference of opinions among the respondents regarding compliance status of the different legal frameworks in financial reporting practices.

Corporate governance is an effective way to achieve and maintain public trust and it is indispensable to ensure the proper functioning and well protecting the interest of stakeholders through ensuring the effective internal control. With a view to investigating whether the different financial performance variables are influenced by the different surrogates of corporate governance, the study has employed multiple regression analysis and the findings reveal that there is positive significant and insignificant influence of the different surrogates of corporate governance on the financial performance variables such as return on assets, return on equity, return on investment and net profit percentage of the sample banks over the study period.

In Bangladesh the soundness of the banking sector is crucial for ensuring the developing economy as well as contributing to the real productivity to the overall standard of living because banks are the major sources of credit and serve the needs of finance related matters. Risk is the element of uncertainty that occurs at any time in any mode of business and credit risk is the possibility of failure of the borrower or counter party to fulfill the commitment and obligations with the banks. Credit risk management plays the important role to ensure the success of

any financial institution. To understand the consequence of different indicators of credit risk management on the different financial performance variables the study has conducted multiple regression analysis and the evidence shows that there is insignificant effect of the different indicators of credit risk management viz loan and advance, classified loan, unclassified loan, leverage ratio, bad debt, default ratio, cost per loan asset and cost to income ratio on the financial performance variables of the sample banks over the study period.

Corporate social responsibility expenditure is widely accepted important issue for economic development and competitive business world. The study reveals that the practices of CSR expenditures of the sample banks are limited within some areas and the expenditures are not sufficient and it has been found that there is no significant variation in CSR expenditures among the sample banks. In the context of the different areas of CSR activities the findings reveal that there is no variation in education and healthcare and environment area but there is variation in case of art and culture and natural disaster area. The findings also reveal that there is no significant positive relationship between the CSR expenditures and the different variables of financial performance.

Referring to the findings of the study some recommendations are made which are:

- (i) Compliance status should be improved and CSR disclosure should be increased.
- (ii) Independent audit should be introduced for the sake of transparency.
- (iii) Bank should disclose about capital conservation buffer and counter cyclical buffer and maintain leverage rate.
- (iv) The banking sector should develop corporate governance policies through ensuring proper internal control structure to increase the faith of the stakeholders.
- (v) Banks should follow ethics of convictions that will increase social and personal values, human dignity and well-being of the society.
- (vi) Banks should be aware of social and environmental impact of their investment.
- (vii) Investment that may destroy the environment should be stopped.
- (viii) Banks should be moral and ethical.
- (ix) Examination of records of securities should be extended to last 20 years for determining the correct ownership of securities.

## List of Abbreviations

ABL	=	Agrani Bank Limited
AIS	=	Accounting and Information System
BA	=	Bank Age
BBO	=	Bangladesh Bank Order
BCBS	=	Basel Committee on Banking Supervision
BD	=	Bad Debt
BRPD	=	Banking Regulation and Policy Department
BS	=	Board Size
CA	=	Chartered Accountants
CAR	=	Capital Adequacy Ratio
CCB	=	Capital Conservation Buffer
CCB	=	Counter-cyclical Buffer
CG	=	Corporate Governance
CIR	=	Cost to Income Ratio
CMA	=	Cost and Management Accountants
CPLA	=	Cost Per Loan Asset
CRM	=	Credit Risk Management
CSR	=	Corporate Social Responsibility
DER	=	Debt Equity Ratio
DR	=	Default Ratio
GAAP	=	Generally Accepted Accounting Principles
GRI	=	Global Reporting Initiative
IAS	=	International Accounting standards
IASB	=	International Accounting Standard Board
ICAB	=	Institute of Chartered Accountants of Bangladesh
ICMAB	=	Institute of Cost and Management Accountants of Bangladesh
IFRS	=	International Financial Reporting Standards

II	=	Interest Income
JBL	=	Janata Bank Limited
LCR	=	Liquidity coverage ratio
LDR	=	Loan to Deposit Ratio
LR	=	Leverage Ratio
NPP	=	Net Profit Percentage
NPR	=	Net Profit Ratio
NSFR	=	Net Stable Funds Rate
OLS	=	Ordinary Least Square
RBL	=	Rupali Bank Limited
ROA	=	Return on Assets
ROE	=	Return on Equity
ROI	=	Return on Interest
SBL	=	Sonali Bank Limited
SEO	=	Security Exchange Ordinance
SER	=	Securities and Exchange Rules
SPSS	=	Statistical Package for Social Science
TA	=	Total Assets
TCL	=	Total Classified Loan
TLA	=	Total Loan and Advance
TUCL	=	Total Unclassified Loan



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# **Chapter One**

## **Introduction**

### **1.1 Prelude**

The bank is a financial service institution that operates the work of the transaction of money and keeps deposits of money and lends to others. Bank collects deposits and accumulates funds to develop the economy of the country. The commercial bank is the popular form of bank and it is a profit-seeking business firm, dealing in money. Economic development requires some basic elements and the banking sector is one of them. The economic development and the development of the banking sector are closely related and the economic development is influenced by the quick growth of the banking sector. The role of the banking sector is commendable for stimulating economic growth and improving the standard of living. Due to globalization, the banking sector becomes a powerful institution for trade and commerce. The banking sector provides facilities by allowing loans, credit and advances. For the attainment of higher levels of economic development, the banking sector is essential. The banking sector is one of the most important industries in Bangladesh and banks perform a crucial role by providing funds to the corporate sector in the emerging economy where the capital market is yet to expand and banks provide maximum part of the capital (Mamun and Kamardin, 2014). The term bank originally referred to an individual or an organization, who or which exchanged one currency for another. But now a days bank refers to an institution in which people keep their cash balances in the form of deposits. Modern business is compassed by the banks. The bank is that type of organization whose debts generally referred to as bank deposits are normally accepted in the final settlement of other people's debts (Bhuiyan, 2010). The bank as a pecuniary organization of any country has a distinct role to perform in the economy of any country. For industrial development of any country banks are extremely needed. The banks' efficient mobilization and allocation of funds lowers the cost of capital to firms, magnifies capital formation and prompts productivity growth. In Bangladesh the banking sector is becoming muscular gradually and it is



performing a critical role in the evaporative economy of this country to become Bangladesh one of the rising economies on earth in coming days (Kar and Sarker, 2014). The banking sector is a pictorial representation of the whole economy of a country. Doubtlessly, industrial sector is growing bit by bit along with different banks and their affiliates. Deposits and debts of these banks are also increasing which have provided to the financial expansion of the country. As a leading bank, Bangladesh Bank provides recommendations for the banking industry and all commercial banks have to ensure that guidance to operate their business in Bangladesh (Mahmood and Islam, 2015).

The term “norms” make sure the way a business act. Norms ensure differentiating between “right” and “wrong” and then selecting the “right” choice. It is relatively easy to identify a lack of practices of the regulatory framework in the banking business. Norms refer to the body of principles and measures, which explore the values and provisions which by that the individuals and social relations of humans are reined from ethical point of view which is materially based on the parameters of right and wrong, good and evil etc. The relation between the individual members of a profession and the relations of the members with the rest of community are also governed by norms. In Bangladesh, the banking sector is regulated by the selected provisions of different legal frameworks such as the Companies Act 1994, the Bank Companies Act 1991, Bangladesh Bank Order 1972, the Requirements of Stock Exchanges, the Securities and Exchange Commission Act 1993, the Securities and Exchange Ordinance 1969, Financial Act 1994, Bangladesh Bank Guidelines, International Accounting Standards, International Financial Accounting Standards as well as others applicable rules and the entire rules are the norms of the banking companies which guide the banking sector for conducting the different practices as per designated provisions prescribed by the different regulatory authorities of the banking sector. For ensuring the different services for the current and future interested users the bank exercises the different practices and the researcher has given emphasis on some distinct practices like financial reporting practice, corporate governance practice, credit risk management practice and corporate social responsibility practice to make a longitudinal study.

## **1.2 Statement of the problem**

At present banking sector is the driving force for a developing country like ours for her sustainable development (Hossain and Sultana, 2014). Banks perform a crucial role in the economic development of a country and they collect funds from the depositors as well as investors and lend to the borrowers in different projects and during the allocation of funds, the banks should scrutinize with great thoroughness the different aspects of loan applications so that the banks' funds are not drained to the projects that may be doubtful or bad in the future. The sound banking systems help safeguard depositor's interest, maintain the stability of the systems and preserve the reputation of the banking sector. In case of sound norms, the banks can prevent infringement of the law and corrupt practices. Presently, we live in a global village and it is natural that some of the borrowers or most of the borrowers may be engaged in trading globally. The borrowers may change their business after obtaining loan or they may change their plan of business. So, it is not possible for a particular branch of a bank to monitor the post loan activities of a borrower. The bank is actually the official intermediary of money. Nobody wants that the banks are engaged in providing funds for performing out of norms because then they cannot maintain the customers' interest. Since most of the money belongs to the investors and not to the owners of banks, the customers desire that the money be handled ethically and for this consideration the banking sector should be operated abiding by the proper norms. Transparency and accountability of banks depend on proper accounting and reporting mainly and it contributes positively to the proper functioning of banks (Bhuiyan and Kamal, 2003). The conception of financial reporting has attained much gravity due to an enhancement in company form of organization, increased competition and extension in the information needs of the users. Financial reporting means the contact between the financial statements and related information by the business organization to the concerning parties like inside as well as outside users (Tewari, 2017). The application of IAS to banking companies is partly true (Chowdhury, Ali and Hayat, 2010). Most of the organizations including banks follow mainly the legal requirements in preparing their financial statement but the forms as

prescribed by the relevant laws for the preparations of financial statements are outdated and inadequate to ensure the desired disclosure (Maleque, Rahman and Ahmed, 2010). Financial institutions like the banking sector are one of the most dynamic sectors in Bangladesh and play a significant role in the operation of the economy. The efficient functioning of the banking systems has a positive impact on the development of any country. In this respect, banks need to prepare their financial reports under the guidelines of the various legal frameworks such as the Companies Act 1994, the Bank Companies Act 1991, Bangladesh Bank Order 1972, the Requirements of Stock Exchanges, the Securities and Exchange Commission Act 1993, the Securities and Exchange Ordinance 1969, Financial Act 1994, Bangladesh Bank Guidelines, International Accounting Standards, International Financial Reporting Standards etc. One of the prime objectives of accounting is to uniformity and standardization. The legal framework sets and establishes the 'rules' for accounting. Business entities want to apply the corresponding set of 'rules', so that enabling broad contrast to be drawn among the financial reports of different companies. Financial reporting is controlled by legal framework, which assist as well as impose understanding among users and producers of financial statements. Due to accounting standards the financial statements of multiple companies are comparable. Before the initiation of different standards, different entities in homogeneous circumstances were applying discrete accounting standards, leading to different and incompatible results. The major argument in favor of a regulatory framework is that standardization is encouraged and, through this, we are able to make an error-free evaluation of financial condition. The regular application of unfitting financial reporting frameworks lessens their degree of accountability (Falk et al., 1992). The opportunities of haphazard reporting, and fraud are created in absence of standards for creative accounting, (Dorminey, Flemming, & Kranacher, 2012). Financial reports will be comparable and relevant if they are produced under the guidance of generally acceptable and appropriate reporting framework. Such reporting needs a regulatory environment that addresses unique needs and furnishes uniform direction for perceive and understandable reports (Van Staden & Heslop, 2009).

Sound corporate governance practices are the foundation upon which the investors and other stakeholders' confidence is built; on the contrary poor corporate governance practices lower the satisfaction level of the company's stakeholder, particularly that of the investors as they are the supplier of corporate finance and require surety that their investment will breed reasonable returns and be protected (Afroze and Jahan, 2005 cited in Islam and Haque, 2015). Bangladesh Enterprise Institute (2003) has given the opinion that a weak regulatory system is a barrier in the way of achieving sound corporate governance. Mamun and Kamardin, (2014) have stated that the level of disclosure items related to corporate governance is lower than those of other disclosure categories. The principal consideration of corporate governance is to develop decision making and the tactical guidance of the organization, to achieve excessive performance, profitability, productivity and competitiveness and this finally develops the organizational financial growth and increase firms' return and improve society financially. Corporate governance is a system of rules, strategic guidance, and practices that rule how a company's board of directors operates and oversees the functions of a company; Corporate governance incorporates principles of transparency, accountability, and security. Corporate governance also makes the framework for achieving an entity's goals. It accommodates effectively plans of action, risk assessment, monitor and internal control and compliance to measure performance and functioning steadily of corporate disclosure. To assess the extent of the influence of CG practices on banks' performance in Bangladesh the present study has developed hypotheses and examined data.

Credit creation is the key operation of banking, but the breach of borrower's commitment with the banks opens out credit risk for the banks. However, banks need to define and manage the credit risk judiciously since it may work on profitability and may lead a bank as well as the economy to the systematized crisis (Noman et al, 2015). Poudel, (2012) has noted that credit risk management is a vital predictor of bank financial performance; thus, prevalence of bank performance is influenced much by credit risk management. Credit risk is one of

the most top-tier and significant types of banking risk (Colquitt, 2007). Credit risk means the chance of failure in which the counterparty of contract does not meet up its commitment due to inability or willingness to breach the contract (Ammann, 2001; Bessis, 2002; Schroeck, 2002; Colquitt, 2007). Consequently, credit risk appears when a bank becomes unable to recover the lending money from a borrower. Hempel and Simonson (1999), stated that, credit risk is an intimidation that the bank may fail to recover the principal or interest income on advance and securities as promised. Normally, loans and advances are the maximal and the most manifest reason of credit risk in the majority of banks (Dhakan, 2006). Banks get rid of the credit risk through effective risk management procedure which adopt a comprehensive credit risk analysis based on the most convincing loan appraisal (Karim, 2006; Greuning and Bratanovic, 2009; Afriyie and Akotey, 2013).

In recent times corporate social responsibility has become an integral part of business. Corporate social responsibility practices by banks ameliorate their own standards as well as affect the socially responsible attitude of other business. Corporate social responsibility ensures a trade-off between economic and social goals to cheer up the effective use of resources (Ullah, 2013). Owing to absence of consciousness, poor execution of existing laws and insufficient pressure from civil society and interest groups the CSR status in many developing and least developed countries is unsatisfactory. In Bangladesh, the aforesaid statement is fully true as because most of the business organizations are not conscious of the merits of CSR (Mohammad and Kamal, 2014). In banking industry, confidence, trust, reliability and goodwill are important characteristics for efficient service and all these are closely associated with ethical norms and transparency in discharging financial transactions (Aminu and Oladipo, 2016). Only seeking of profitability and economic growth do not always help to social improvement as well as an extensive Corporate Social Responsibility (CSR) activity also put serious efforts in sustainable development. In last two decades; the value maximization objective of corporate business has changed and now in strategic decision-making CSR has become a critical aspect. To maximize entities' long-term financial returns, CSR

has emerged as a philosophy that can include the financial value of a company. Even though immense research on CSR has been carried out in developed countries, there is a scarcity of such research in Bangladesh. The principal thrust of the present study is to get intimate with this issue or devise a problem along with attaining new insights into it. This study aims to procure the relationship of CSR with the financial performance of variables of selected firms. From the previous review of literature, the prime concern of the proposed research study is to show the norms and the level of existing practices of commercial banks in Bangladesh.

### **1.3 Research questions**

In this study the researcher has tried to find out the following questions to conduct the research.

1. What are the characteristics of financial reporting practices in the context of legal framework of the sample banks?
2. What is the relationship between corporate governance practices and financial performance of the sample banks?
3. What is the consequence of credit risk management practices on the financial performance of the sample banks?
4. What is the nature of corporate social responsibility expenditure practices and is there any relationship of CSR with the financial performance variables of the sample banks?

### **1.4 Justification of the study**

Commercial banks are the utmost prevalent pecuniary organizations in the domain of trade and industry and because of globalization and a commercialism economy, this sector becomes the most powerful financial intermediary in the field of trade and commerce and is facing severe competition in any country (Alam, 2013).

Financial reporting practices were initially oriented towards the need of the shareholders and creditors. Financial reporting is bounded by a legal framework

and is a tool for communication with the users. In Bangladesh, financial reporting is regulated by the different legal frameworks. The legal frameworks and the application of the International Accounting Standards (IASs) and International Financial Reporting Standards (IFRSs) are likely to make financial reporting effective and user oriented.

Transparency, accountability and professionalism in the financial reporting is assured by corporate governance to promote the authenticity and admissibility of it to the shareholders, employees, current and potential moneylenders, customers, mortgage lender, Government and the mass (Gorkhali, 2010 cited in Adhikari, 2014).

Risk is instinctive in all aspects of commercial operations and credit risk is an emergent ingredient that needs to be managed. In the modern banking concept, one of the most important operations of a bank or financial institution is the management of credit risks (Mohammad and Onni,2015).

In general, corporate social responsibility means transparent business operations which is based on ethical values, that comply with legal requirements esteem for commons, societies and the environment (Chandler, 2001 cited in Hossain, Alam and Masud, 2014).

The bank as a financial institution conducts investment and savings operations by performing a mediate role between lenders and borrowers of the community. We ought to formulate and regulate the interbank connection and the relation of banks with other organizations in addition to their relationship with their customers, sharers and employees in compliance with ethical principle to raise the banks' service quality, to utilize the resources most judiciously and to prevent biased competition among banks'. A bank provides a wide variety of services. True, banks are providers of funds to borrowers. But improper or dangerous use of money is not desirable. Money is a means however not the end, but it is a robust way to do things and for this reason, the wicked use of money can generate a greatly negative impression on society. So, banks should follow the proper norms

of the use of money which is very significant for the society and the environment because money is an important fuel for many happenings in the world. A host of research works like Marston and Robson, (1997); Maleque, Rahman and Ahmed, (2010); Islam, (2000); Bhattacharjee and Hossain, (2010); Hossain and Sultana, (2014); Emenike, (2017); Ullah, (2013); Haldar and Rahman, (2015); Islam and Haque, (2015); Mahmud and Ara, (2015); Uwuigbe, Ranti and Babajide, (2015) and Poudel, (2012) have been done at home and abroad in different aspects of the banking sector but no study has been made on norms and practices of the banking sector in Bangladesh. For this reason, it creates enough scope to conduct this research study on the norms and practices of commercial banks in Bangladesh. The proposed study is very important for banking companies and this study will be helpful for the authorities of banking sectors and customers. Taking clues from the aforesaid discussion the present study has been planned. The present study will be valuable to regulators, policymakers and other stakeholders and our findings will enrich the knowledge about norms and practices of banking systems in Bangladesh.

### **1.5 Objectives of the Study**

The broad objective of the study is to evaluate the norms and practices of state-owned commercial banks in Bangladesh and for achieving the main objective the proposed study has considered the following specific objectives:

- (i) To evaluate the compliance status of the different provisions of legal frameworks prescribed by the regulatory bodies for the guidance of financial reporting practices of the sample banks.
- (ii) To examine the relationship between the different surrogates of corporate governance practices and financial performance indicators of the sample banks.
- (iii) To enquire into the consequence of credit risk management practices on financial performance tools of the sample banks.
- (iv) To measure the corporate social responsibility expenditure practices and their relationship with the financial performance variables of the sample banks.
- (v) To suggest some remedial measures for the improvement of the existing practices to be followed by the commercial banks in Bangladesh.



## **1.6 Scope of the Study**

The present study has been conducted on the norms and practices of commercial banks in Bangladesh covering a period of five years from 2012 to 2016. In order to conduct the study researcher evaluated the financial reporting practice, corporate governance practice, risk management practice and corporate social responsibility expenditures practice of the state-owned commercial banks in Bangladesh. The given study has considered the requirements of the Companies Act of 1994, the Banking Companies Act of 1991, Financial Institutions Act of 1993, the Securities and Exchange Ordinance of 1969, the Securities and Exchange Rules of 1987 and Bangladesh Bank Guidelines. The study also has considered the requirements of International Accounting Standards (IASs)/ International Financial Reporting Standards (IFRSs).

## **1.7 Structure of the Study**

This thesis is integrated with eight chapters. The outline of all chapters is demonstrated below.

**Chapter One:** The first chapter represents the sketch of this study. It narrates the prelude of the study. It provides the representation of statement of the problem, research questions justification of the of the study, objectives of the study, scope and structure of the study.

**Chapter Two:** The second chapter comprises review of related literatures regarding financial reporting practices, corporate governance practices, credit risk management practices and corporate social responsibility expenditures. It also provides different hypotheses which are developed in the light of objectives of the study.

**Chapter Three:** The third chapter incorporates the detail of research methodology that are employed to attain the objectives of the study. It narrates the research approach, research design, time period for the study and short description on population and sample. It also focuses on conceptual issues.

Chapter Four: The fourth chapter measures the degree of compliance status of financial reporting practices under the different legal frameworks like the Banking Companies Act, 1991; the Companies Act, 1994; the Securities and Exchange Rules, 1987; the Securities and Exchange Ordinance, 1969; International Accounting Standards (IASs)/ International Financial Reporting Standards (IFRSs) as well as application of Generally Accepted Accounting Principles (GAAP) and accrual basis accounting.

Chapter Five: The fifth chapter examines the relationship between the selected surrogates of corporate governance practices and the different indicators of financial performance. It explains a short detail on the research instruments and hypotheses. Descriptive as well as inferential statistics are shown in this section.

Chapter Six: This chapter represents an extensive interpretation of the study variables to inquire into the relationship between credit risk management practice and financial performance. Descriptive and inferential statistics are shown in this section.

Chapter Seven: This chapter presents a broad explanation of the different areas of CSR expenditure practices and their variation. This chapter also targets to depict the relationship between CSR expenditure and financial performance variables.

Chapter Eight: The final chapter of the present study provides research findings from the investigation conducted in the former chapters and recommendations for conducting further research in this area. Various limitations of this study have also been mentioned here.

## **Chapter Two**

# **Theoretical Framework, Literature Review and Formulation of Hypotheses**

### **2.1 Introduction**

A unanimous realization of how banks operate is key to access the functioning of neoteric world. Banks are an idiosyncratic part of trade, economy, and daily life. Today's banking is governed by a futuristic set of regulatory norms that are always originated. Bangladesh Bank is the central bank and the supreme authority of banking system in Bangladesh. This study sketches and elucidates the regulatory norms clearly and in detail. These regulatory norms have a great impact on banking industry, bankers, and anyone who deals with functioning of banks . Banking Norms and Practices explain a range of topics that have a direct bearing on the daily operations of banks, from covenants to how to confirm safe and secure lending. It examines the improvement and current status of banking enactment and regulation and facilitates of bankers and their organizations to build their practice to meet all the essential legal and regulatory requirements.

### **2.2 Theoretical Foundation of Norms and Practices**

The procurable literatures impart several theoretical considerations to justify the adoption of Norms and Practices in banks such as, agency theory, stakeholder theory and institutional theory (Jensen & Mackling, 1976; Eisenhardt, 1989, Williamson, 1989; Carman, 2011; Tufano ,1998; Peng, 2015; Freeman, 1984; Gray et al., 1997; Zambon & Del Bello, 2005; Clarkson,1998; Roberts, 1992; Gomes, 2006; Key, 1999; Hansman and Kraakman, 2001; Cornell and Shapiro, 1987; Klimczak, 2007; Cantrell, Kyriazis & Noble, 2015; Perrini, 2006; Cantrell et al., 2015; Moura-Leite & Padgett, 2011; Meyer and Rowan, 1977; DiMaggio and Powell, 1983; Scott, 1995; Powell and DiMaggio, 1991; Lehman, 2005; Collier and Woods, 2011; Hudin and Hamid, (2014). Some important theoretical considerations in this regard are explained in the following sub-sections.

### **2.2.1 Agency Theory and Banking Norms and Practices**

In the 1970s, the fundamental contribution to agency theory is made by the economists Jensen and Mackling (Jensen & Mackling, 1976). It is a contract between two parties where one party is the principal and another party is the agent. The second one performs some services on behalf of another entity “the principal.” (Jensen and Meckling, 1976, p.308). Under this theory, individuals were anticipated to show enclosed rationality, self-interest, risk disgust (Eisenhardt, 1989), and shiftiness to confuse others (Williamson, 1989). Agency theory indicates the presumptions of uncertainty or distrust about the after-effect of the agent-principal relationship (Petersen, 1993). Agency theory draws up accountability and principals-delegators relationships within the organization.

Three vital components are the board of directors, principals and agents which are defined as the tripod of the organization whereas, corporate governance sets up a relationship among them to make a balance (Peng, 2015). Corporate governance should do for the best interest of the entity’s, stakeholders, especially the investors who invested in shares but have no direct speech. The agency theory of corporate governance is quite easy, at least on the surface. It means that corporate executives should be rational and act for the maximum welfare for the parties, specifically the shareholders.

Based on agency theory, Tufano (1998) has built a contention regarding risk management is that managers should go for safeguard as much as achievable without considering the shareholder’s interest. The reasoning behind such conduct is the imparity between the degree of risk aversion of managers and shareholders. Normally, the extent of managerial risk aversion is more advanced than those of the shareholders as managers have more exposure to the market threats (Tufano, 1998). Nonetheless, the promoters of agency theory consider those shareholders’ wealth moves to managers on account of much immense safeguard and oppose such risk management application (Fatemi and Luft, 2002)

Bank is the entity wherein various stakeholders like management, shareholders, clients etc. are involved and there exists an agency relationship. There is a relationship between banking regulatory norms and the agency theory because bank management uses regulatory norms and maintains stakeholder's interest. This study has presented arguments on behalf of positive relation between agency theory and the regulatory norms of banking institutions.

### **2.2.2 Stakeholder Theory and Banking Norms and Practices**

Stakeholder theory is Freeman's conception of stakeholders that is established in 1980s of any group or individuals who are influenced by the attainment of an institution's goals (Freeman, 1984). This theory is applied to interpret inward and outward strengths that affect organizational practices for example accounting (Gray et al., 1997), strategic management, corporate governance and corporate social responsibility (Clarkson, 1998; Roberts, 1992), corporate social responsibility (Zambon & Del Bello, 2005). The stakeholder theory assumes that the institutional environment is affected by its actions and that such an influence has an impact on how they influence the godsend or defeat of that institution (Gomes, 2006; Key, 1999).

“Stakeholder theory holds that managers should make decisions that take account of the interests of all the stakeholders in an organization” (Jensen 2001, p.8). The stakeholder theory of corporate governance concentrates on the impact of company's functions on all detectable stakeholders of the organization. Corporate directors and employees are Inner Stakeholders, who are truly engaged in corporate governance procedure as well as Outer Stakeholders include creditors, customers, suppliers, auditors, Government agencies, and the community at large. According to Hansman and Kraakman (2001), corporate governance should defend only the shareholders' interest whereas contractual and regulatory means should safeguard other corporate constituencies such as creditors, employees, suppliers and consumers.

The stakeholder theory (Freeman, 1984) focuses plainly on the balance of stakeholders' interests as the supreme determining factor of the corporate policy. Hudin and Hamid (2014) indicate that the acceptance of only one theory is not enough to elucidate the rationale of risk management. So, the researcher also examines two theoretical concepts such as institutional theory and agency theory to explain risk management practices in state-owned commercial banks in Bangladesh.

Stakeholder theory is the maximum engaged theoretical concept for assessing CSR and is the main intention of business managers for CSR initiatives besides regulatory requirements (Cantrell, Kyriazis & Noble, 2015; Perrini, 2006). The related features of multiple stakeholders govern the priorities of CSR managerial concentration and accompanying resources (Cantrell et al., 2015). Stakeholder theory affects CSR plan of actions of companies and gives a lens by which assess those plan of actions (Cantrell et al., 2015; Moura-Leite & Padgett, 2011).

### **2.2.3 Institutional Theory and Banking Norms and Practices**

Meyer and Rowan (1977), whilst producing presumptions from institutional theory, stated how firms in the modern globe provide dynamic organizational and relevant knowledge. First, they considered that institutions subsist and conduct in a tremendously institutionalized context featured by highly definite professions, policies, and programs. Secondly, these firms showily presume institutional standards with a guise to attain organizational rationale. They also attend to come to terms the uniqueness in their systems to strengthen productivity and attain legitimacy, capital, permanency, and sustainability, by aligning themselves with global institutions. Contrastingly, DiMaggio and Powell (1983) explicate three institutional systems by which the institutional context dedicates other institutions to homogeneity. The three methods are coercive, mimetic, and normative. According to Lehman (2005), the desperate craving for international legitimacy and acceptance in the global capital markets has resulted into the homogenous adaption of accounting practices. These include IFRS and other standards from supra-national organizations such as OECD, IASB, World Bank, WTO, IOSCO, and international accounting firms, even when they may be inappropriate for NFPOs reporting.

Institutional theory concentrates on the norms and statues those are enforced on firms by the external stakeholders, especially by the Government supervisory authority; and all the rules and standards which are assimilated in roles by means of a part of socialization method (Meyer and Rowan, 1977; DiMaggio and Powell, 1983; Scott, 1995; Powell and DiMaggio, 1991). Some studies employ the institutional theory in describing the aspects of risk management execution (Collier and Woods, 2011; Hudin and Hamid, 2014). They propound that institutionalization become effective when the risk management procedures in most of the organizations develop into extremely uniform. This uniformity can be achieved through the coercive isomorphic technique by which political, legitimacy or regulatory pressures are practiced in firms in the shape of persuasion, direction or invitation (DiMaggio and Powell, 1983; Powell and DiMaggio, 1991; Scott 1995; Hudin and Hamid, 2014). All the state-owned commercial banks have been guided by the Bangladesh Bank to enhance an effective trick for risk management. Considering the uniformity presumption of institutional theory, the elementary concepts regarding risk management are employed by these banking institutions. And so, the current study contributes a significant acumen into promising rationale for risk management in banking industry.

### **2.3 Review of Previous Literature**

The primary investigation and review of subsisting literature support researcher to generate and expurgate their research thinking (Saunders, Lewis and Thornhill, 2012).

As a guardian of banking sector, Bangladesh Bank monitors the different activities of commercial banks but the banking sector do not follow the legal provisions prescribed by the proper authority in the line with properly. In this section researcher has reviewed the related literatures on norms and practices of commercial banks and this research study has considered the limitations of the previous related studies.

### **2.3.1 Literature review regarding the compliance status of financial reporting practices**

**Abata (2015)** has made a study on “The Impact of International Financial Reporting Standards (IFRS) Adoption on Financial Reporting Practices in the Nigerian Banking Sector”. The objectives of the study are: (i) to evaluate the impact of IFRS on financial reporting practices with a focus on the Nigerian banking sector and (ii) to determine whether the quantitative differences in the financial reports prepared by Nigerian listed banks under NGAAP and IAS/IFRS are statistically significant or not. The findings of the study are: (i) the quantitative differences in the financial reports prepared under NGAAP and IAS/IFRS are statistically significant and (ii) the international financial reporting standards (IFRS) have an impact on financial reporting practices of Nigerian banks. The limitations of the study are: (i) the author has taken fourteen banks out of twenty one as sample for the purpose of the study but did not mention the type of sampling technique followed; (ii) to meet the study objective author has considered only year 2010 and 2012 but it is not sufficient to reach the concluding remark about the financial reporting practice of banking sector, (iii) the purpose of the study is to evaluate the impact of IFRS on financial reporting practices but author did not employ regression technique to know the impact and (iv) to reveal the study findings author did not formulate any hypothesis in his study.

**Nwobu et al. (2017)** have undertaken a study entitled “Sustainability Reporting in Financial Institutions: A Study of the Nigerian Banking Sector”. The objective of the study is to investigate the sustainability reporting of Nigerian companies in the banking sector. The study reports that: (i) more importance has been imposed by the banks to reporting economic and social indicators than to environmental indicators of sustainability reporting and (ii) there were changes in sustainability reporting scores across the five years’ time period and the changes were statistically significant. The limitations of the study are: (i) the authors have considered the level of reporting but did not consider to find out any significant relationship between the level of disclosure and bank attributes and (ii) to evaluate



the level of disclosure authors have prepared the disclosure checklist but only twenty items have been considered in this issue.

**Mahmud et al. (2017)** have written an article on “Sustainability Reporting Practices and Implications of Banking Sector of Bangladesh According to Global Reporting Initiative (GRI) Reporting Framework: An Empirical Evaluation.” The objective of the study is to know the current practices of sustainability reporting in the banking sector of Bangladesh. From this study it is revealed that sustainability-related information is disclosed by a few banks in their financial report. But those were not adequate enough and in the majority of cases the facts with regard to sustainable reporting are not meeting the standard of Global Reporting Initiative (GRI) guidelines. The limitations of the study are: (i) good governance is an important dimension in case of sustainability reporting practices but the authors have not considered it and (ii) to reach the study findings as per objective this study has not developed and tested any hypothesis.

**Demaki (2013)** has made a study on “Prospects and Challenges of International Financial Reporting Standards to Economic Development in Nigeria”. The study revealed that the goal of financial reporting is to make information available for decision-making. But the decisions have been made in absence of pertinent and reliable IFRS based financial reports on account of disorganization, inaccurate labor, weak control and leadership and for other managerial problems. The limitation of the study is that the author has conducted an armed study and has not chair considered any specific objective, sample size, time period as well as the different dimensions of methodology.

**Adekunle and Taiwo (2013)** had an attempt to make a study on “An Empirical Investigation of the Financial Reporting Practices and Banks’ Stability in Nigeria”. The objective of the study is to examine the relationship between financial reporting practices and the performance and stability of Nigerian banks. The findings of the study are: (i) there is a positive relationship between disclosure and firms’ performance and stability (ROA), (ii) there is no significant impact of

disclosure on bank assets quality and liquidity, (iii) there is a positive and significant impact of composite disclosure index on the banks' performance (ROA), (iv) Bank liquidity is influenced by disclosure and capital adequacy and (v) there is no significant influence on banks' asset quality, however their asset quality is extremely negatively and significantly reactive to changes in banks size (total assets). The limitations of the study are: (i) there are different techniques to select the sample but the authors have not given any information about what type of sample technique that has been used in this regard and (ii) the authors have employed multiple regression analysis to evaluate the influence of financial disclosure on bank performance but did not consider the different assumptions such as normality test, zero conditional mean, checking the multicollinearity as well homoscedasticity and did not design any hypothesis in favor of this issue.

**Dmour (2018)** has made a study entitled "The Impact of the Reliability of the Accounting Information System upon the Business Performance via the Mediating Role of the Quality of Financial Reporting". The objective of the study is to examine and validate the impact of SysTrust's framework as an internal control for assuring the reliability of AIS upon business performance through the mediating role of the quality of financial reporting. The findings of the study are: (i) the expanse of SysTrust principles being implemented is deliberated to be moderate, (ii) some variations are noticed regarding their level of authenticity of AIS among public listed companies in Jordan, (iii) the effectuation of SysTrust principles is not compulsory in Jordan and based on their requirement one or more of those partially or fully might be implemented by public listed companies, (iv) based on a review of this study one relationship among the reliability of AIS, business performance and the quality of financial reporting is examined. These three are all significantly and positively related and (v) the ability of quality of financial performance to mediate the relationship between the reliability of AIS and business performance. The limitations of the study are: (i) the target respondents of the study are accounting and auditing managers of listed public companies in Amman Stock Market but in case of selecting respondents' author has considered

only the service and industries sector and (ii) The author has prepared self-administrated questionnaire to collect required data from the designated respondents but the author has not mentioned what type of questionnaire has been used for the purpose of the study.

**Chinedu and Chukwuma (2016)** had an attempt to write a study entitled “Implications of International Public Sector Accounting Standards on Financial Accountability in the Nigerian Public Sector: A Study of South-Eastern States”. The objective of the study is to determine the implications of IPSASs on accountability of Nigeria public sector with emphasis on its effects on management of public funds, effective budget implementation, and checking of cases of corruption among public officers in the South Eastern States of Nigeria. The results of the study stated that (i) the well-organized administration of public fund has a highly strong positive connection with IPASA adoption and it reveals that international public sector accounting standards keep up high level of consistence and conservatism in the governance of public funds, (ii) the effective budget performance has a highly positive influential relationship with IPASA adoption and it elicits that IPSASs publish the level of budget execution in the public sector and its entities other than public sector business enterprises and (iii) in cases of reduced corruption it has a highly strong positive connection with IPASA adoption that means corruption cases within public officer in the governmental entities are checked IPASA adoption. The limitations of the study are: (i) to determine the implication status of international public sector accounting standards on financial accountability the authors have considered accountants and international auditors as target respondents to collect opinions but the perceptions of external auditors in this regard is important whereas the authors did not considered it and (ii) the authors have tried to know the effect of IPSASs on efficient management of public funds but did not conduct regression analysis.

**Mensah and Korea (2013)** have made a study on “Adoption of International Financial Reporting Standards (IFRS) in Ghana and the Quality of Financial Statement Disclosures”. The objectives of the study are: (i) to investigate the

quality of financial reports of firms listed on the Ghana Stock Exchange before and after adopting IFRS in Ghana and (ii) to examine the influence of firm-specific characteristics which include firm size, profitability, debt-equity ratio, liquidity and audit firm size on quality of financial information disclosed by these listed firms. The findings of the study are (i) after adoption of IFRS there is a great upliftment in the quality of financial reports and (ii) accounting disclosure quality is normally reinforced by the implementation of IFRSs. The limitations of the study are (i) the authors have mentioned in the methodology section that the sample consists of thirty five listed firms on the Ghana Stock Exchange but which sector has been considered as sample for the purpose of the study was not mentioned clearly and (ii) the authors have considered only two years like 2006 and 2008 for the purpose of the study but this short time period is not adequate to focus the proper scenario about the quality of financial statement disclosure for the interested stakeholders.

**Edogbanya and Kamardin (2014)** have undertaken a study on “Adoption of International Financial Reporting Standards in Nigeria: Concepts and Issues” has undertaken and the objective of the study is to bring out issues and concepts of IRFS in general and its relationship to corporate business. The study reports that there is a high degree of compliance and adoption by financial institutions and other corporate bodies in Nigeria. The limitations of the study are: (i) the authors have conducted an armed chair study, (ii) The authors did not mention sample size and period of time in their study, (iii) the authors did not develop any hypothesis to reach the conclusion as per objective and (iv) the authors did not use any statistical techniques in their study.

**Aminu and Oladipo (2016)** have carried out a study entitled “Application of Financial Ethics in Annual Financial Reporting of Banks”. The objective of the study is to examine the application of financial ethics in the annual financial reporting of banks. The findings of the study are: (i) there is a persistence of ethical code of conduct for the management and employee of all banks in Nigeria, (ii) immensely significant unethical cultures are exercised in preparation of banks’

financial reports (iii) making confidence and fidelity, ensuring participation, cultivating more businesses, cultivating international recognition and respect are the mechanism for ethics, (iv) stakeholders use financial reports to plan, to decide and to control an organization and (v) belief, conviction, authenticity and goodwill are essential indicators for effective banking services and are closely associated with ethical norms and transparency. The limitations of the study are: (i) the required primary data has been generated from the designated respondents with the use of questionnaire but there is no information in the methodology section about what type of questionnaire that has been used in this regard and (ii) to meet the purpose of the study the authors have used primary data but did not conduct reliability test of the result of opinion survey.

### **2.3.2 Review of Previous Literature on Corporate Governance Practice**

**Mahmood and Islam (2015)** have conducted a study on “Practices of Corporate Governance in the Banking Sector of Bangladesh”. The objective of the study is to critically observe the current corporate governance status and practices in the banking sector of Bangladesh. The study findings stated that proficient and effective banking system depends on sound corporate management however, the lending procedures are influenced by higher authority, as well as political mastery and others unethical practices which exists in the banking sector. The limitations of the study are: (i) the authors have considered six banks as the sample for the purpose of the study but the sample size is not sufficient to represent the population properly, (ii) to reach the study findings authors have employed primary data but did not take any attempt to conduct reliability test, (iii) to serve the study objective the authors did not consider to develop and test any hypothesis and (iv) no statistical techniques have been employed to analyze the collected required data.

**Aggarwal (2013)** had endeavored to make a study entitled “Impact of Corporate Governance on Corporate Financial Performance”. The objective of the study is to investigate the impact of corporate governance on corporate financial performance in an Indian context. The finding of the study stated that a company’s governance rating has an important positive influence on its fiscal performance. The

limitations of the study are: (i) the author has considered non-financial companies as sample for the purpose of the study but did not include any information in favor of what techniques has been used to select the sample from the population, (ii) the time framework of the study was only two years but to conduct a longitudinal study the considerable time span is not enough, (iii) the author has not considered the market-based measures of financial performance to investigate the impact but it is true that the different mechanisms of corporate governance have impact on market-based measures and (iv) to meet the study objectives the author did not consider the different control variables such as age of the firm, growth of the firm, capital intensity, leverage, risk, research and development intensity, industry types, etc.

**Mahmud and Ara (2015)** have written an article entitled “Corporate Governance Practices in Bangladesh-An Overview of Its Present Scenario in Banking Industry”. The objectives of the given study are: (i) to review the present scenario of corporate governance practices in the banking industry of Bangladesh and (ii) to evaluate the requirements of accountability, fairness and transparency in the banking industry of Bangladesh. The findings of the study are: (i) the quality of the regulation in Bangladesh banking system stands at an unsatisfactory level, (ii) 32% of the respondents strongly disagree and another 32% of the respondents disagree that board members of their respective bank are aware of their responsibilities in terms of accountability, transparency and fairness, (iii) there is no active participation of the independent directors in the board meeting and (iv) 58% of respondents strongly agree and 32% of the respondents agree with greater accountability, transparency and fairness to bring potential investors into the business. The limitations of the study are: (i) the authors have employed primary data to reach the concluding remarks but they did not consider the reliability test to ensure the reliability of collecting opinions from the designated respondents, (ii) to serve the study objectives the authors have taken fifty four respondents that was not sufficient to know the existing scenario in banking industry, (iii) the authors have considered only percentage analysis to evaluate the respondents’ opinions but it is important to investigate whether there is any significant difference of opinion

among respondents and (iv) to reveal the study outcomes the authors have not considered any hypothesis in their study.

**Kar and Sarker (2014)** have conducted a study on “Corporate Governance Practices in Private Commercial Banks-A Study on Khulna City” and the objective of the study is to evaluate the practices of corporate governance codes by the private commercial banks of Bangladesh. The study exposed that the Bangladeshi banking sector is being stronger gradually along with playing an emergent role in the fickle economy like Bangladesh nevertheless the main issue as corporate governance codes namely owners’ right, board of directors, management, auditing, information disclosure is not practiced accurately by the private banks. The limitation of the study is that (i) the authors have conducted a study on ten scheduled private banks of Khulna City but the limited area did not show the overall scenario of corporate governance practices of the sample banks and (ii) the authors have employed primary data in their study to meet the study objectives but did not consider to investigate whether the collected primary data are reliable to draw the concluding remarks.

**Mudashiru et al. (2014)** have tried to make a study entitled “Good Corporate Governance and Organizational Performance: An Empirical Analysis”. The objective of the study is to examine the relationship between corporate governance and the performance of organizations from various perspectives: better decision making, effective asset management, better competitive advantage, and improvement in the level of confidence, among others. The outcomes of the study are there exists a conspicuous relationship between corporate governance and organizational performance besides the correlation between the degree of relationship of corporate governance and organizational performance is robust and positive which was statistically significant level. The limitations of the study are (i) the authors have considered only the top employees who are helm in the management to collect required data as per objective but the number of designated respondents are not sufficient to reach the conclusion and (ii) to investigate the nexus between the corporate governance and organization performance authors

have conducted regression analysis but did not give any information about the different mechanisms of corporate governance and the different indicators of organizational performance.

**Qadir and Kwanbo (2012)** have made a study entitled “Corporate Governance and Financial Performance of Banks in the Post-Consolidation Era in Nigeria”. The study objective is to determine the relationship and impact of compliance with the corporate governance code on the financial performance of the sample banks. The given study has gleaned sixty annual financial reports of twelve banks covering the period of study 2006 to 2010 to reveal the study findings through employing the techniques such as t-test and ANOVA test and the findings of the study are: (i) the dispersed equity holding has a significant impact on financial performance such as earnings per share and dividend per share, (ii) There is a relationship between board size and profitability and (iii) there is no significant relationship between financial performance and presence of compliance officer. The limitations of the study are: (i) the authors have tried to know the impact of compliance with the corporate governance code on financial performance but did not conduct regression analysis to report the study findings about this and (ii) the authors have developed a model to test the hypothesis but they did not consider the different assumptions those are relevant with this issue.

**Ajanthan et al. (2013)** have carried out a study on “Corporate Governance and Banking Performance: A Comparative Study between Private and State Banking Sector in Sri Lanka”. The objectives of the study are: (i) to ascertain the dimensions which illustrate the corporate governance and banking performance, (ii) to determine the kinship between corporate governance and banking performance in private and state-owned banks and (iii) to assess the influence of corporate governance on banking performance. The given study stated that the corporate governance and return on equity (ROE) is positively correlated with each other and that is not significant. Corporate governance is negatively correlated with ROA except BMF. BD shows a strong negative relationship with ROA in case of state banks however BS and OSDP are negatively correlated with



ROE. But the other variables BD and BMF are positively correlated which is not significant. Corporate governance is correlated with ROA which is not significant in case of private banks. The study also reported that the performance of both private and state banks is moderately influenced by corporate governance. The limitations of the study are: (i) the authors have considered only two private and two state-owned banks in Sri Lanka to meet the objectives but the sample size is not sound to display the overall scenarios of banking sector and (ii) the authors did not include relevant information about the study population in their study but this information is important to know whether the sample selection represents the study population properly.

**Shungu et al. (2014)** have conducted a study entitled “Impact of Corporate Governance on the Performance of Commercial Banks in Zimbabwe” and the main objective of the study is to identify whether corporate governance has an influence on commercial banks’ performance in Zimbabwe. The results of the study are: (i) there is a significant negative relationship between return on equity and board size; (ii) there is a relatively positive relationship between return on equity and board diversity; (iii) there is a negative relationship among return on equity, capital adequacy ratio and internal board committees; and (iv) all the four variables such as board size, board composition ratio, internal board committees’ ratio and board diversity ratio have a constructive influence on banks performance. The limitations of the study are: (i) the authors have taken five listed commercial banks as sample for the purpose of the study but information about what type of sampling technique has been used in this regard and the population of the study have not mentioned in the methodology section; and (ii) to reveal the impact of corporate governance on the banks’ performance the authors have considered only return on equity (ROE) as an indicator of banks’ performance in their study.

**Bahadur (2016)** has conducted an article on “Corporate Governance and Firm Performance: Empirical Evidence from India”. The objectives of the study are: (i) to investigate the extent to which corporate governance has an influence on overall firm performance; (ii) to evaluate the causal relationship between corporate

governance and firms' performance; and (iii) to investigate the inter-relationship between corporate governance, performance, ownership, and capital structure. The study revealed that corporate governance mechanisms such as board independence, number of board committees and director remuneration affect performance positively whilst promoter shareholding, the board size, and leverage have a negative effect on performance. There is a two-way connection between corporate governance and financial performance. Corporate governance practices depend on their ownership structure and ownership concentration is found to affect corporate governance negatively. The limitations of the study are: (i) the author has conducted multiple regression with ordinary least square (OLS) models to report the association between corporate governance characteristics variables and firm performance but did not consider the different assumption to develop the model; and (ii) formally no hypothesis has been formulated to demonstrate the concluding remarks as per early mentioned objectives.

**Gupta and Sharma (2014)** have made a study entitled "A Study of the Impact of Corporate Governance Practices on Firm Performance in Indian and South Korean Companies". The objectives of the study are: (i) to ascertain whether there is any association between corporate governance and firm performance and (ii) to know whether higher and good governance leads to better performance of the companies. The study stated that good governance assists in promoting a brand name for the firm and it develops the shareholders and stakeholder's conviction of the company and also corporate governance practices have a little influence on both share price of the firm and on the financial performance too. The limitations of the study are (i) the authors have tried in their study to determine the relationship between corporate governance practices and firm performance but did not conduct the regression analysis whereas it is important statistical technique to report the relationship in this regard; and (ii) to meet the study objectives the authors did not formulate and test any hypothesis in their study to reach the concluding remarks.

### 2.3.3 Review of Previous Literature on Credit Risk Management Practice

**Noman et al. (2015)** have undertaken a study entitled “The Effect of Credit Risk on the Banking Profitability: A Case on Bangladesh”. The aims of the study are: (i) to identify the impact of credit risk on profitability and (ii) to investigate the impact of Basel II implementation on the banks’ profitability in Bangladesh. The findings of the study are: (i) the credit risk influence on profit generating capacity of the commercial banks negatively and (ii) the implementation of Basel II has a significantly positive impact on NIM but it has significantly opposite impact on ROAE. The limitations of the study are: (i) there are several techniques to select the sample but the authors have not mentioned what kinds of techniques have been employed in this regard in the methodology section and (ii) with a view to investigating the effect of credit risk on banks profitability authors have used basic panel linear regression model but did formulate any hypothesis in favor of designing model to reach the study findings.

**Lalon (2015)** has pioneered research on “Credit Risk Management (CRM) Practices in Commercial Banks of Bangladesh: A Study on Basic Bank Limited”. The prime objective of this study is to reveal the banks CRM practice and also to examine whether there is a relationship between CRM practices and the bank's profitability. The objective of this study is to assess how the Basic bank limited in Bangladesh is efficient in executing credit risk management throughout its operation. The study reports that the defaulters are the great problem for the banking institutions continually. Therefore, the financial institutions have been making an effort to lessen the default issues all along. The finding of the study is that the relationship between CRM and a bank's profitability is positive and the effective CRM can contribute to bank's financial performance. The limitations of the study are that (i) the author has considered only one state-owned commercial bank namely BASIC bank limited for the purpose of the study but it is not possible to get the overall picture of CRM practices of banking sector with the use of this study findings; and (ii) to reveal the impact of credit risk management on the bank financial performance as well as to compare relationship between CRM and bank

profitability author has employed multiple regression analysis with respective models but did not develop any hypothesis properly to reach the concluding remarks as per study objectives.

**Murithi et al. (2016)** have undertaken a study on the “Effect of Credit Risk on the Financial Performance of Commercial Banks in Kenya”. The objective of the study is to assess the effect of credit risk on the financial performance of commercial banks. From the study it is revealed that in Kenya the financial performance of commercial banks always affected in significantly negative way by the bank credit risk. For this reason, the health of banks’ loan portfolio may be reflected by the change in credit risk and influence the financial performance of commercial banks. This picture indicates that poor asset quality or high non-performing loans to total assets is related to poor bank performance. The limitations of the study are: (i) the authors has taken only return on equity (ROE) as an indicator of financial performance to report the effect of credit risk on financial performance of commercial banks but it is relevant to say that the only one indicator does not represent the financial performance of banking sector properly; and (ii) the authors have considered only one assumption like normality test among the different assumptions for conducting the regression analysis with designated models to meet the objective of the study but other relevant assumptions like zero conditional means, Ramsey’s RESET Test for model specification error, checking the multicollinearity problem as well as homoscedasticity test have not been considered in their study.

**Mercylynne and Omagwa (2017)** have carried out a study on “Credit Risk Management and Financial Performance of Selected Commercial Banks in Kenya”. The objectives of study are: (i) to identify the influence of loan appraisal process on financial performance, (ii) to assess the impact of lending requirements on financial performance, (iii) to determine the effect of debt recovery process on financial performance; and (iv) to establish the effect of credit policy on the financial performance of selected commercial banks in Kenya. In the study, both primary and secondary data were employed and primary data have been collected

through a questionnaire as well as secondary data from the sample banks' reports. The findings of the study are: (i) the loan appraisal process is a major factor that influences the financial performance of commercial banks, (ii) the lending requirements are a factor that influences the financial performance of commercial banks; and (iii) the debt recovery process has a significant effect on the financial performance of commercial banks and the credit policy had a significant effect on the financial performance of commercial banks. The limitations of the study are: (i) the authors have used primary data to serve the study purpose but did not consider reliability test to confirm whether the collected data are reliable; and (ii) to reveal the study findings on the basis of study objective authors have conducted multiple regression analysis with respective model but did not develop any hypothesis in their study.

**Poudel (2012)** has made a study on “The Impact of Credit Risk Management on Financial Performance of Commercial Banks in Nepal”. The broad objective of this paper is to ascertain the impact of credit risk management on banks’ financial performance and the specific objective is to determine the impact of default rate, debt collection as well as cost per loan asset on banks’ performance. This study states that (i) there is a significant relationship between return on assets and default rate, cost per loan assets as well as capital adequacy ratio; and (ii) there is a negative relationship between return on assets and cost per loan assets nevertheless the relation is not statistically significant that reveals there is no relationship between cost per loan assets and performance. The limitations of the study are: (i) the author has given concentration on only return on assets (ROA) as a representative of financial performance to evaluate the impact of credit risk management on financial performance of commercial banks but it is not logical to say that this indicator bears the overall scenario of financial performance of the banking sector; and (ii) the author has considered only three indicators as independent variables for fitting the regression model but other important indicators of credit risk management such as bad debts, leverage ratio, cost to income ratio, total classified loan and total unclassified loan have not been included in the regression model for the purpose of the study.

**Uwuigbe et al. (2015)** have studied “Credit Management and Bank Performance of Listed Banks in Nigeria” and the objective of the study is to examine whether there is any relationship between credit management and bank performance in Nigeria. The findings of the study are: (i) there is an inverse relationship between the ratio of non-performing loans and the performance of banks; (ii) there is a negative association between secured and unsecured loan and the performance of banks; and (iii) there is a significant negative relationship between bad debt and the performance of the sampled banks in Nigeria. The limitations of the study are: (i) the authors have taken ten listed banks as sample for the purpose of the study but did not include any information about the study population; and (ii) the authors have tried to examine the relationship between credit management and performance of the bank but did not consider other any other relevant indicator out of profit after tax that was not sufficient to reach the findings of the study in this regard.

**Soyemi et al. (2014)** have conducted a study entitled “Risk Management Practices and Financial Performance: Evidence from the Nigerian Deposit Money Banks (DMBs)”. The objective of the study is to evaluate risk management practices among deposit money banks in Nigeria. The study asserted that the risk management practices (credit, liquidity, operating, and capital risk practices) in the banking sector have a significant impact on their financial performance. The limitations of the study are: (i) the authors have taken eight commercial banks as sample and the required data have gleaned only from one financial year that was not enough to conduct any study but the information about the study population is missing in this study; and (ii) the authors have employed OLS regression to estimate the significant influence between banks’ risk management practices and their financial performance and depicted that the explanatory variables significantly accounted for variations in the financial performance but did not consider any hypothesis.

**Taiwo et al. (2017)** have undertaken a study on “Credit Risk Management: Implications on Bank Performance and Lending Growth” with the aim of evaluating the quantitative impact of credit risk management on the performance

of Nigeria's Deposit money banks (DMBs). To examine the time-series statistics in this study ordinary least square multiple linear regression model has been employed. The study stated that there exists a positive relationship between the non-performing loans and the dependent variable but the relationship is not statistically significant at 5% level of significance. At 5% level of significance Interest rate spread is not statistically significant and there is a negative relationship with total loans and advances. There is a linear relationship between actual liquidity ratio and total loans and advances. But at 5% level of significance the independent variable is not statistically significant. The findings exposed that credit risk management has an insignificant impression on the growth of total loans and advances by Nigerian Deposit money banks. The limitations of the study are: (i) the authors have revealed that the credit risk management has no significant impact on the growth of total loans and advances but did not formulate any hypothesis; and (ii) the authors have investigated the impact of non-performing loans on bank performance and lending growth but the authors did not include any information about the relevant indicators of bank financial performance.

**Kariuki (2017)** has done a study on "Effect of Credit Risk Management Practices on Financial Performance of Deposit Taking Savings and Credit Cooperatives in Kenya". The objective of the study is to investigate the impact of credit risk identification, credit analysis practices, and credit monitoring and credit mitigation measures on the financial performance of DTSSs. As stated by the findings of the study it is evident that credit analysis, credit mitigation measures and credit risk identification have a significant positive impact on financial performance. The limitations of the study are (i) the author has used semi-structured questionnaire to collect required data and the target respondents are credit officers, business unit managers, finance manager and risk managers but did not give any information about the number of respondents; and (ii) the author has evaluated the effect of credit risk management practices on financial performance but there is no information about what indicators have been used to measure the financial performance in his study.

**Olabamiji and Michael (2018)** have carried out an article entitled “Credit Management Practices and Bank Performance” Evidence from First Bank”. The objective of the study is to examine the influence of credit management practices on the financial performance of First Bank in Nigeria. As stated by the study findings it is revealed that (i) the majority opinion of the respondents is that the status of credit risk control and collection policy in the First Bank is outstanding and; (ii) credit management practices have a significant positive impact on the financial performance as well as on the client appraisal. Credit risk control and collection policy are major predictors of the financial performance of the First Bank. The limitations of the study are: (i) the authors have considered only thirty respondents as sample size for the purpose of the study but the number of respondents is not enough at all to conduct an in-depth study; and (ii) to reveal the findings as per objective the authors have employed primary data but did not check the reliability of collected data.

#### **2.3.4 Review of Previous Literature on Corporate social responsibility expenditure practice**

**Haldar and Rahman (2015)** had an effort to conduct a study entitled “Assessing Impact of Corporate Social Responsibility on Bank Performance in Bangladesh: A Study on Some Selected Banks”. The intention of the study is to investigate whether there is any relationship between corporate social responsibility and corporate financial performance, bank size, the degree of risk in the bank and advertising intensity in the commercial banks in Bangladesh. From the study it is revealed that (i) corporate social responsibility is needed to attain fruitful financial performance in the banking sector in Bangladesh, (ii) There is a positive correlation between CSR expenditure and the CFP, SIZE, ADT and RISK of the banks and; (iii) among the levels of CSR and CFP, bank size, the level of risk in the bank and ADINT commercial banks in Bangladesh there are significant relationship. The limitations of the study are: (i) the authors have selected seventeen commercial banks for the purpose of the study but did not mention in the methodology section what types of banks have been considered in their study and the authors also considered only one year like 1<sup>st</sup> July, 2012-30<sup>th</sup> June to



analyze the data that were not enough for the study; and (ii) to assess the relationship between corporate social responsibility and banks' financial performance the authors have conducted multiple regression analysis where authors have considered only return on assets (ROA) as a representative of corporate financial performance that was not enough to focus the financial performance.

**Ullah (2013)** has written an article on “Corporate Social Responsibility Practices in the Banking Sector in Bangladesh-An assessment”. The aim of the study is to assess the quality and propagation of CSR implantation and practices by the banks in Bangladesh and examine the relationship among CSR and some key indicators of bank's performance. The finding of the study is that the bank can be benefited by CSR activities directly or indirectly but there is no statistically significant relationship between CSR expenditure and total revenue, net income after tax, number of branches, and deposit growth. The limitations of the study are: (i) to show the relationship between CSR expenditures and some other variables like total revenues, net income after tax, number of branches and deposit the author has not developed any hypothesis in his study; and (ii) to evaluate the relationship between CSR expenditures and other variables author has stated that there is poor and moderate relationship between the CSR expenditures and other variables but did not mention what are the parameters used in the study.

**Mohammad and Kamal (2014)** have written an article on “Social Impact and Sustainability of Corporate Social Responsibility in the Banking Sectors: Bangladesh Perspective” and the intention of the study is to trace the current CSR operations of sample banks and how these operations lead to the overall bank's performance in the long run. The study stated that (i) the CSR contribution of the sample banks shows a significant increase after the year 2009 towards social causes, (ii) the influence effect of CSR expenditure on profit after tax of the most banks is scanty, (iii) there is significant association between CSR expenditure and after-tax profit at 5% level in case of Dhaka Bank Limited and Mercantile Bank Limited; and (iv) between CSR expenditure and after-tax profit at 10% level of significance in case of Jamuna Bank Limited and Pubali Bank Limited. The

limitation of the study is that ten private commercial banks have been considered by the authors to make a study but what types of sampling technique has been employed has not been mention in their study.

**Gololo (2016)** has written an article entitled “Corporate Social Responsibility and Financial Performance of Some Selected Banks in Nigeria: An Empirical Analysis”. The aim of the study is to investigate the influence of banks' financial performance on corporate social responsibility. The findings of the study are: (i) the amount of CSR contribution which is measured in terms of donations differs from bank to bank, it is evident from the study that the higher the PAT the higher the investments in CSR and (ii) the financial performance measured by PAT, ROCE and EAS have a significant positive impact on corporate social responsibility. The limitations of the study are: (i) the author has taken six banks as sample but has not gathered information about what kinds of banks has been considered for the purpose of the study and (ii) the author has employed multiple regression analysis to investigate the relationship between the different components of CSR and financial performance indicators but has not formulated and tested any hypothesis in this regard in his study.

**Neogy et al. (2018)** have undertaken a study entitled “Corporate Social Responsibility Practices of State-Owned Commercial Banks in Bangladesh: An Evaluation”. The study objectives are: (i) to examine the total contributions of corporate social responsibility program, (ii) to evaluate the contributions of different areas of corporate social responsibility program and (iii) to measure the association among the corporate social responsibility expenditures and financial performance variables of the study banks. The findings of the study are: (i) the sample banks have spent in the different areas of corporate social responsibility activities but the spending amounts were not significant and there is no significant difference between the total corporate social responsibility contributions of the sample banks as well as (ii) there is no effect of financial performance variables on corporate social responsibility expenditures of the banks under the study. The limitation of the study is that the authors have taken two state-owned commercial

banks as sample to make a study that was not enough to get proper scenarios about the CSR activities of banking sector.

**Roy and Mahmud (2015)** have written an article entitled “Corporate Social Responsibility in the Banking Sector of Bangladesh; A Case Study on AB Bank Limited”. The objective of the study is to scrutinize the practices of corporate social responsibility (CSR) of AB bank in Bangladesh. The findings of the study are: (i) the CSR contribution was in rising mode over the study period but the growth rate of total CSR contribution has shown reducing trend, (ii) the growth rate of CSR contribution in education and environment sector has reduced in 2013 compared to those of the previous years and; (iii) the CSR practices of Bangladesh are confined with some selected sectors. The limitations of the study are: (i) the authors have considered only one private commercial bank as sample for the purpose of the study but this sample did not focus the CSR activities of banking sector properly and (ii) to report the outcomes of the study as per objective the authors have utilized only growth rate and have not formulated and tested any hypothesis in this regard in their study.

**Banu et al. (2018)** have made a study entitled “An Evaluation on CSR Expenditures and Its Relationship with Financial Performance Variables of the Nationalized Commercial Banks (NCBs) in Bangladesh”. The objectives of the study are: (i) to examine the total contributions in different years under the corporate social responsibility (CSR) program, (ii) to evaluate the relationship between corporate social responsibility (CSR) expenditures and the financial performance variables of the sample (nationalized commercial) banks in Bangladesh. The study concluded that the sample banks have contributed to the several programs as corporate social responsibility (CSR) and shown increasing and decreasing tendency but the contributions were not adequate over the study period and have no significant difference between the corporate social responsibility (CSR) contributions of the sample banks. The study also concluded that there is no significant impact on the different financial performance variables of (CSR) expenditures of the sample banks. The limitations of the study are: (i)

there are different sampling techniques to select sample and the authors have considered four state-owned commercial banks as sample to make a study but did not mention what types of technique has been used in this issue; and (ii) to assess the relationship between the different indicators of financial performance and CSR expenditures the authors have conducted multiple regression analyses but did not design any regression model.

**Abiodun (2012)** has written an article on “The Impact of Corporate Social Responsibility on Firms’ Profitability in Nigeria”. The aim of the study is to investigate the relationship between corporate social responsibility and the firms’ profitability in Nigeria. Findings of the study reported that the committed CSR expenditure varies from company to company and all the sample firms invested in this sector less than ten percent of their annual profit. The study also has reported that there exists a negative relationship between a firm’s performance measure represented by profit after tax and investments in CSR and also shows that there is an inverse relationship between the two variables (PAT and CSR). The limitations of the study are: (i) the author has selected ten firms randomly on the Nigerian Stock Exchange as sample for the purpose of the study but has not given any information about the population of the study; and (ii) the author has not developed and tested any hypothesis to examine the impact of corporate social responsibility on the firms’ profitability in his study.

**Kamatra and Kartikaningdyas (2015)** had an attempt to make a study on “Effect Corporate Social Responsibility on Financial Performance”. The objective of the study is to examine the effect of CSR on financial performance as measured by profitability ratios viz, return on assets, return on equity, net profit margin and earnings per share. The findings of the study revealed that the CSR has influence on financial performance ROA and has no effect on ROE and EPS in the mining companies’ and industrial sectors listed chemical base in the IDX. The limitation of the study is that the authors have considered twenty-four (company’s mining and basic chemical industry) companies listed in Indonesia Stock Exchange during

the period 2009-2012 as sample to conduct the study but did not give any information in their study about the total number of target population.

**Yeh Lin and Amin (2017)** have written an article on “The Relationship between Corporate Social Responsibility and Financial Performance: Evidence from Indonesia and Taiwan”. The objective of the study is to investigate the relationship between CSR and financial performance of companies in Taiwan and Indonesia. The findings of the study are: (i) both in Indonesia and Taiwan, companies have a significant association between CSR and financial performance and (ii) the effect of CSR in Taiwan is higher than in Indonesia. So, it indicates that CSR activities help companies’ financial performance. The limitations of the study are: (i) the authors have used only return on assets as the indicator of financial performance in their study to reach the findings as per objective but did not use other indicators of financial performance and (ii) the authors have employed multiple regression analysis to report the relationship of CSR and financial performance with the use of regression model but did not consider the different assumptions of designing regression model.

#### **2.4 Hypotheses of the Study**

Researcher has reviewed a good number of related literatures and on the basis of related literatures this study has formulated the following null hypotheses:

- H<sub>01</sub>: The data used in developing the different regression models are not abnormal.
- H<sub>02</sub>: This model does not suffer from any omitted variables.
- H<sub>03</sub>: There is no heteroscedasticity in designing the different regression models.
- H<sub>04</sub>: There is no significant difference of opinions among the designated respondents regarding the compliance of the different legal frameworks in financial reporting practices of the sample banks.
- H<sub>05</sub>: There is no significant difference of opinions among the designated respondents regarding the application of accounting standards for preparing the financial statements of the sample banks.

- H<sub>06</sub>: There is no significant difference of opinions among the designated respondents regarding the application of different components of generally accepted accounting principles (GAAP) for preparing the financial statements of the sample banks.
- H<sub>07</sub>: There is no significant difference of opinions among the designated respondents regarding the application of accrual basis accounting for preparing the financial statements of the sample banks.
- H<sub>08</sub>: There is no significant variation in different surrogates of corporate governance and financial performance variables among the sample banks.
- H<sub>09</sub>: There is no significant variation in different indicators of financial performance among the sample banks.
- H<sub>010</sub>: There is no significant influence of corporate governance surrogates on the financial performance variables of the sample banks.
- H<sub>011</sub>: There is no bank-to-bank variation between required capital and regulatory capital maintained by the sample banks.
- H<sub>012</sub>: There is no significant variation between statutory and regulatory capital of each sample bank.
- H<sub>013</sub>: There is no year-to-year variation among the sample banks regarding the maintenance of required capital and regulatory capital.
- H<sub>014</sub>: There is no significant variation in different indicators of credit risk management among the sample banks.
- H<sub>015</sub>: There is no significant impact of credit risk indicators on financial performance variables of the sample banks.
- H<sub>016</sub>: There is no significant variation in total corporate social responsibility expenditures as well as the different areas of CSR program among the sample banks over the study period.
- H<sub>017</sub>: There is no significant difference in total corporate social responsibility expenditures as well as the different areas of CSR program among the different sample banks over the study period.

H<sub>018</sub>: There is no significant difference in total corporate social responsibility expenditures as well as the different areas of CSR program among the different years under the study period of the sample banks.

H<sub>019</sub>: There is no significant association between the corporate social responsibility expenditures and financial performance variables of the sample banks.

## **2.5 Conclusion**

This section has reviewed the various related literatures of home and abroad which helped establish the theoretical basis of proposed research study. Review of related literature is an essential part of research for creating scope and opportunity to receive relevant and sufficient information for the proposed research study. In order to glean the proper knowledge of the research gap and design the present research study, the relevant studies are reviewed here in the light of research title, objectives, the different aspects of methodology and the concluding remarks.

## **Chapter Three**

# **Research Methodology and Conceptual Framework**

### **3.1 Introduction**

The objective of the methodology chapter is to specify how the study has been conducted during the study period. Research methodology is a system that sketches the techniques that are used scientifically by the researcher to accomplish the research. This chapter has been designed on the basis of two aspects such as research methods and conceptual issues of the study. The research method is a systematic scheme to complete the research work properly and it includes the different aspects like what type of research has been conducted, what kinds of data have been extracted, what method of the survey has been adopted, what type of questionnaire has been prepared and what sorts of statistical techniques have been employed. It needs a detailed experiment of those events through rational approaches (Datta & Tanmay, 1989). The aim of this chapter is to set up the early mentioned distinct aspects related to the objectives and hypotheses of the research to reach the research findings. This chapter incorporates various sections covering nature of the current research, population and sampling, research design, study time horizon, preparation of questionnaire, primary as well as secondary data collection, data analysis procedures, reliability and validity. The different annual reports of the sample banks are the main source of required data and used as per the requirements of the present research. At the end, the last section summarizes the whole research methodology of this study.

### **3.2 Research Approach**

Two different forms of research approaches are deduction as well as induction. The two approaches deductive with inductive have been used in collaboration with insight and observations Babbie (2010). The deductive approach supports researchers to presume a hypothesis based on a specific theory. The researcher assembles definite data to accept or reject the hypothesis for answering the research question (Gill and Johnson, 2010). Deductive approach has several steps



where researcher develops one or more hypotheses for the certain study based on theoretical consideration and then deduces proper data collection method(s). The accumulated data is statistically analyzed to make sure the acceptance or rejection of the hypotheses. At the end, researchers examine whether there is any implication of data analysis on social theory. (Bryman and Bell, 2011).

On the contrary, the induction approach is fully opposite of the deduction approach. Induction approach starts with empirical observations as well as a new theory is developed from the obtained findings that are followed as an origin to develop new theory (Bryman and Bell, 2011).

### **3.3 Research Approach of the Study**

The given research study is empirical in nature as well as this study applies deductive reasoning due to the sense that it has been conducted depending on experiments and observations. The research procedure of this study begins with an in-depth appraisal of literature so as to realize the context of research. Depending on this contextual consideration, hypotheses of the study are developed. To test the hypotheses, both the primary as well as secondary data have been used. To establish acceptance or rejection of each hypothesis or to evince or modify the theory the collected data have been statistically examined.

### **3.4 Research Design**

A research design means a definite scheme to collect and to assess data based on the research question(s) of a certain study (Bryman and Bell, 2011; Saunders, Lewis and Thornhill, 2012; Sekaran and Bougie, 2013). It establishes a bridge between the research objectives and data collection and analysis needed to attain the objectives (Hussey and Hussey, 1997). Bryman and Bell (2011) explained five specific research designs which are experimental design, survey design, longitudinal design, case study design and comparative design.

Experimental research is a technique by which researcher can manipulate one or more independent variables and assess their effect on one or more dependent variables. Experimental design refers to create a set of process to test a hypothesis.

Experimental design measures the casual relationship among study variables (Bryman and Bell, 2011; Sekaran and Bougie, 2013). On the contrary, Survey research design explains the method of conducting research. Researchers use surveys and send questionnaire to respondents. The collected data from surveys are then analyzed statistically to draw meaningful end of the research. Survey design may collect data for more than one case at single point of time and assess quantitatively to detect the form of relationship between dependent and constant variables for certain study (Sekaran and Bougie, 2013). A longitudinal research design is a pattern of correlational research where researchers frequently assess the same individuals to observe any changes that might occur over a period of time. Moreover, A comparative research design is engaged in compare and contrast among two or more distinct dependent and independent variable or groups at a single point of time based on specific attributes such as knowledge level, perceptions and attitudes; physical or psychological symptoms; and so on.

Then again, the research designs are also classified into three broad types which are quantitative, qualitative and multi-strategy (combination of quantitative and qualitative) research design. The selection of a specific design strategy depends on some factors such as the objectives of study and the process of investigation (Creswell, 2003; Robson, 2011).

A quantitative research method is basically associated with a deductive approach. Nevertheless, the inductive approach can be included to establish a new theory too. However, this design applies numerical data collection and investigation to ascertain the relationship between variables by employing various statistical tools (Saunders, Lewis and Thornhill, 2012).

By contrast, a qualitative research method is normally allied with inductive approach. However, the deductive approach is appointed in some qualitative studies to try-out existing theory at the beginning of study too (Yin, 2009). Non-numerical data is generally used in qualitative research that is collected and analyzed to examine the relationship between variables of the research by applying some analytical tools.

Furthermore, a multi-strategy (hybrid design) research method includes both quantitative and qualitative techniques to collect or analyze data in particular study (Creswell, 2003; Johnson and Onwuegbuzie, 2004; Williams, 2007; Tashakkori and Teddlie, 2010; Bryman and Bell, 2011). This form of research method may apply either an inductive or deductive approach and is likely to combine both (see Saunders, Lewis and Thornhill, 2012, p.164). “Researchers assemble and assess numerical data, which is conventional for quantitative study as well as narrative data. To collect mixed data, researchers might distribute a survey that takes on close-ended questions to collect the numerical, or quantitative data and conduct an interview employing open-ended questions to collect the narrative, or qualitative data” (Williams, 2007, p.70).

### **3.5 Research Population and Sampling of the Study**

The researcher uses sampling method in order to solve particular problem. Sekaran and Bougie, (2013) emphasize on some driving issues of the sample process that considers logistical, money and time constraints. The choice of the right sample is most significant because of fruitful research that assists in generalizing the outcome of the sample to the entire population.

#### **3.5.1 Study Population**

“The universe of units from which sample is to be selected is the population of the study” (Bryman and Bell, 2011, p. 176). There are six State-Owned Commercial Banks in Bangladesh; three Specialized Banks; thirty-three Conventional Private Commercial Banks; eight Islamic Shariah Based Private Commercial Banks; nine Foreign Commercial Banks as well as four Non-Scheduled Banks (Source: Bangladesh Bank website). Presently the population of this study consists of six state-owned commercial banks which are working in Bangladesh. This study has considered the entire state-owned commercial banks as the target population for the study. State-owned commercial banks are the public sector banks. More than fifty percent (50%) share of these banks are held by the Government. This category of banks has been selected on the basis of its wide area of banking

products and services, extensive market-share and participation in more risk supervision activities than those other classes of banks in Bangladesh.

### 3.5.2 Sample Selection of the Study

A simple random sampling and purposive sampling techniques were applied to choose the sample banks and respondents of the present study. As a sampling technique the simple random sampling ensures that every item of the population has the same possibility of being selected in the sample. Sample size selection process was applied to get optimum and reasonable information. In this research study, probability (simple random sampling) as well as nonprobability (purposive) sampling techniques were executed since the nature of the banks varies. As because the features of data sources which allowed the researcher to apply the multi-methods, the reliability of the research findings and the resulting decision has increased. This study has taken listed and unlisted four state-owned commercial banks functioning in Bangladesh out of six and it considers this sample size as representative of the population. The use of purposive sampling approach is based on the convenience in data collection for the study and the list of sample banks is given below:

**Table 3.1: Information about the list of the sample banks**

Sl. No.	Acronym	Full Name of Banks	Using Status	Listed or Unlisted
01.	SBL	Sonali Bank Limited	Sample_1	Unlisted
02.	ABL	Agrani Bank Limited	Sample_2	Unlisted
03.	JBL	Janata Bank Limited	Sample_3	Unlisted
04.	RBL	Rupali Bank Limited	Sample_4	Listed

### 3.6 Coverage of the Study Period

The time frame for which survey respondents are asked to report activities or experiences is the reference period of the study. However, there are fixed reference period and for example, it may be a calendar year or quarter of a calendar year which depends on the study design. Researcher has selected five years starting from 2012 to 2016 for the present research study. The period of the study has been selected on the facility of data collection as because no significant change or abnormality in economic factors such as monetary policy, recession,

government economic law and policy, gross domestic product (GDP), inflation rate, exchange rate, interest rate has occurred within this period.

### **3.7 Coverage of the Reports**

To meet the different objectives the study has analyzed the different parts of audited annual reports of each sample bank like chairman's report, director's report, auditor's report, necessary information regarding financial statements, corporate governance, credit risk management as well as corporate social responsibility with respective footnotes.

### **3.8 Sources of Data**

The study has employed both qualitative as well as quantitative data which is extracted from both primary and secondary sources for the present study.

#### **3.8.1 Procedures of Data Collection**

Primary data have been collected through the close-ended questionnaire from the selected respondents which was developed for the study. The secondary data have been collected mainly from the audited annual reports and official sources of the sample banks. Moreover, to develop the theoretical issues, review of literature and to develop hypotheses the present research study relies upon the related literature, different books, study reports and related publications.

### **3.9 Preparation of Questionnaire**

A structured questionnaire for the selected respondents has been constructed on the basis of different legal frameworks like the Bank Companies Act 1991, the Company Act 1994, the Securities and Exchange Rules of 1987, the Securities and Exchange Ordinance of 1969, Bangladesh Bank Order, 1972 and the different units of Generally Accepted Accounting Principles (GAAP). The questionnaire has been tested by the experts in this field. The questionnaire is divided into two sections and the first section includes name, occupation, designation, department/section, academic qualifications, basic discipline, professional

qualifications, age, gender and experience. The second section is related to measuring the respondents' opinions regarding the level of compliance and application of different legal frameworks in preparing the different financial statements by the sample banks.

### **3.10 Reliability Test**

“Reliability means performing consistency of an assessment or a concept” (Bryman and Bell, 2011, p.158). The goal to authenticate reliability is to minimize the potentiality of biased results. The reliability of operation is tested by using an internal consistency statistic tool which is Cronbach’s alpha (Pallant, 2001; Gujarati and Porter, 2009). It thus calculates the firmness of responses across both a subgroup of the questions or all the questions from the questionnaire. To assess internal consistency avoiding the repeated test and involvement of other researchers it's a better way to measure reliability when there is one data set. The study has employed the Cronbach Alpha test to check the reliability for collecting primary data from the respondents to meet the study objectives.

### **3.11 Measuring the Opinions**

To measure the respondents' opinions on the level of compliance and application of different legal frameworks for accounting practices the study has applied the Likert 5-point scale which includes five values ranging from strongly agree to disagree like strongly agree=5, moderately agree=4, slightly agree=3, neutral=2 and disagree=1 for the study.

### **3.12 Selection of the Respondents**

The study has considered the different types of 150 respondents for collecting the opinion. The respondents have been selected of professional experts like 50 Chartered Accountants (CAs) as well as 50 Cost and Management Accountants (CMAs) and 50 experts in accounting namely academicians for the study.

### 3.12.1 Demographic Information of the Respondents

#### 3.12.1.1 Academic Qualifications

**Table 3.2: Information about the academic qualifications of the respondents**

Particulars	Frequency	Percentage (%)
01. Graduate	15	10
02. Post Graduate	135	90
03. Others (please specify)	-	-
Total	150	100

(Source: Analysis of Survey Reports)

Table 3.2 indicates the academic qualifications of the selected respondents and it is visible from the aforesaid discussion that 10% of the respondents were Graduate and the remaining 90% of the respondents were Post Graduate. Based on this information it is evident that the majority of the respondents who have given opinions were highly qualified.

#### 3.12.1.2 Basic Discipline of the Respondents

**Table 3.3: Information about the basic discipline of the respondents**

Particulars	Frequency	Percentage (%)
01. Arts	-	-
02. Commerce	143	95
03. Science	7	5
04. Engineering	-	-
05. Others (please specify)	-	-
Total	150	100

(Source: Analysis of Survey Reports)

Table 3.3 displays the basic discipline of the selected respondents and it has been obtained from the previous discussion that the basic discipline of 95% of the respondents was commerce and the remaining 5% of the respondents were science which means that the majority of the respondents have come from the commerce background.

### 3.12.1.3 Professional Qualifications of the Respondents

**Table 3.4: Information about the professional qualifications of the respondents**

Particulars	Frequency	Percentage (%)
01. CA	50	33
02. CMA	50	33
03. Others (PhD)	12	8
04. None of the above	38	26
Total	150	100

(Source: Analysis of Survey Reports)

Table 3.4 states information about the professional qualifications of the selected respondents. From the above evidence, it is found that 33% of the respondents have a CA degree, 33% of the respondents have a CMA degree, 8% of the respondents have PhD degree, and 26% of the respondents have no professional degree. Referring to this it is apparent that above 60% of the respondents have professional degree.

### 3.12.1.4 Age of the Respondents

**Table 3.5: Information about the age of the respondents**

Particulars	Frequency	Percentage (%)
21-30	24	16
31-40	70	47
41-50	32	21
51-60	13	9
Above 60	11	7
Total	150	100

(Source: Analysis of Survey Reports)

Table 3.5 explains the age of the selected respondents and this discussion establishes that the age of 16% was between 21 to 30, 47% were between 31 to 40, 21% were between 41 to 50, 9% were between 51 to 60 and 7% were above 60. From the previous discussion, it is evident that the ages of the majority of the respondents were in the range of 31 to 40.



### 3.12.1.5 Gender of the Respondents

**Table 3.6: Information about the gender of the respondents**

Particulars	Frequency	Percentage (%)
01. Male	136	91
02. Female	14	9
Total	150	100

(Source: Analysis of Survey Reports)

Table 3.6 presents information about the gender of the selected respondents and considering this it is evident that 91% of the respondents were male and the remaining 9% of the respondents were female which means that both male and female were contributors to solicit the information on the given questionnaire.

### 3.12.1.6 Experience of the Respondents

**Table 3.7: Information about the experience of the respondents**

Particulars (Years)	Frequency	Percentage (%)
1-10	76	51
11-20	48	32
21-30	13	9
31-40	9	6
Above 40	4	2
Total	150	100

(Source: Analysis of Survey Reports)

Table 3.7 shows information about the working experience of the selected respondents and this discussion states that 51% of the respondents had working experience in the range between 1 to 10 years, 32% of the respondents had between 11 to 20 years, 9% of the respondents had between 21 to 30 years, 6% of the respondents had between 31 to 40 years and 2% of the respondents had working experience above 40 years. By using the above information, it concludes that the working experience of the majority of respondents had in the range between 1 to 10 among the total respondents.

### 3.13 Multiple Regression Models

To examine the association between each dependent variable and some independent variables of each objective the present research study has developed nine regression models as per study requirements and conducted multiple regression analysis with the use of Statistical Package for Social Science (SPSS).

#### 3.13.1 Corporate Governance

$$ROA = \alpha + \beta_1 BS + \beta_2 BA + \beta_3 TA + \beta_4 II + \beta_5 CAR + \beta_6 LDR + \beta_7 DER + \varepsilon$$

$$ROE = \alpha + \beta_1 BS + \beta_2 BA + \beta_3 TA + \beta_4 II + \beta_5 CAR + \beta_6 LDR + \beta_7 DER + \varepsilon$$

$$ROI = \alpha + \beta_1 BS + \beta_2 BA + \beta_3 TA + \beta_4 II + \beta_5 CAR + \beta_6 LDR + \beta_7 DER + \varepsilon$$

$$NPR = \alpha + \beta_1 BS + \beta_2 BA + \beta_3 TA + \beta_4 II + \beta_5 CAR + \beta_6 LDR + \beta_7 DER + \varepsilon$$

**Where,**

BS= Board Size

BA= Bank Age

TA= Total Assets

II= Interest Income

CAR= Capital Adequacy Ratio

LDR= Loan to Deposit Ratio

DER= Debt Equity Ratio

$\alpha$  = Constant Term of the Model

$\beta$  = Coefficients of the Model

$\varepsilon$  = Error Term

#### 3.13.2 Credit Risk Management

$$ROE = \alpha + \beta_1 TLA + \beta_2 TCL + \beta_3 TUL + \beta_4 LR + \beta_5 BD + \beta_6 DR + \beta_7 CPLA + \beta_8 CIR + \varepsilon$$

$$ROA = \alpha + \beta_1 TLA + \beta_2 TCL + \beta_3 TUL + \beta_4 LR + \beta_5 BD + \beta_6 DR + \beta_7 CPLA + \beta_8 CIR + \varepsilon$$

$$ROI = \alpha + \beta_1 TLA + \beta_2 TCL + \beta_3 TUL + \beta_4 LR + \beta_5 BD + \beta_6 DR + \beta_7 CPLA + \beta_8 CIR + \varepsilon$$

$$NPP = \alpha + \beta_1 TLA + \beta_2 TCL + \beta_3 TUL + \beta_4 LR + \beta_5 BD + \beta_6 DR + \beta_7 CPLA + \beta_8 CIR + \varepsilon$$

**Where,**

TLA= Total Loan and Advance

TCL= Total Classified Loan

TUL= Total Unclassified Loan

BD= Bad Debt

LR= Leverage Ratio

DR= Default Ratio

CPLA= Cost Per Loan Asset

CIR= Cost to Income Ratio

$\alpha$  = Constant Term of the Model

$\beta$  = Coefficients of the Model

$\varepsilon$  = Error Term

### **3.13.3 Corporate Social Responsibility Expenditures**

CSR Expenditures=  $\alpha + \beta_1\text{ROA} + \beta_2\text{ROE} + \beta_3\text{ROI} + \beta_4\text{NPP} + \varepsilon$

Where,

CSR= Corporate Social Responsibility Expenditures

ROA= Return on Assets

ROE= Return on Equity

ROI= Return on Investment

NPP= Net Profit Percentage

$\alpha$ = the constraint

$\beta$  = Coefficients of the Model

$\varepsilon$ = the error term

### 3.14 Explanation of the Results of the Different Assumptions for Fitting the Designated Regression Model

#### 3.14.1 Explanation of the Results of Zero Conditional Mean

In order to know whether the including of different independent variables in formulating the different regression models have selected properly this study has conducted zero conditional mean and the results in this regard have stated below:

**Table 3.8: Information about the results of zero conditional mean**

ROA Vs. CGM	ROE Vs. CGM	ROI Vs. CGM	NPP Vs. CGM	ROA Vs. CRMI	ROE Vs. CRMI	ROI Vs. CRMI	NPP Vs. CRMI	CSR Vs. FPV
0.75713	0.69228	-1.74933	-72.4753	-1.12369	-1.7589	-1.4762	-70.6527	65.05985
1.13852	1.50305	0.49772	18.40481	0.20763	0.41672	0.68094	46.34611	1.58232
-0.66062	-0.88543	-0.10883	16.1674	1.33756	1.73046	0.64282	16.50426	1.53644
-0.66337	-0.76019	-0.51839	7.24995	-0.1284	-0.05661	0.33512	13.32191	1.4285
0.01059	0.11039	0.92155	22.43442	0.76672	1.11505	0.30681	7.82192	-39.1622
-0.77814	-0.81274	0.98017	44.48202	-3.00887	-3.87507	1.53107	40.47892	4.30391
1.34397	1.67848	-1.26939	2.66811	2.52562	3.22489	-0.87765	12.89042	38.22409
0.21541	0.22691	0.69168	-19.0622	-0.25202	-0.33407	0.08782	1.76882	-11.3623
-0.07781	-0.14657	-0.24045	-19.4495	-0.27838	-0.40775	-0.15389	-7.87308	-29.335
-0.89659	-1.11435	-0.13723	11.6294	0.6646	0.96737	-0.26213	-1.70661	-26.8485
-0.64322	-0.7069	0.70969	34.82457	0.30792	0.43093	0.0675	4.63	27.1031
0.32232	0.44382	0.15236	10.95269	0.63643	0.93754	0.54443	4.29875	173.1032
-0.24073	-0.40606	-0.30636	-18.3625	-0.7129	-0.9841	-0.18452	-1.03896	70.9009
0.32026	0.37322	0.47334	-13.4908	-0.193	-0.32973	0.16592	-7.04525	-44.3841
0.04389	0.05741	-0.38018	-19.6954	-0.33634	-0.45071	-0.8085	-14.9082	-46.4488
0.328	0.46759	-1.0826	6.3376	1.28955	1.70559	-0.05583	-12.1521	-33.115
-0.28535	-0.37505	-0.36183	2.46189	-0.06657	-0.05639	-1.50924	-8.44104	-20.1886
-0.75574	-0.94139	1.23326	0.32871	-0.59876	-0.78413	0.56132	-2.54644	-63.8349
-0.22685	-0.21983	0.80673	-0.70234	-0.45374	-0.55133	0.62292	-4.61162	-79.3555
0.74836	0.81536	-0.31192	-14.7036	-0.58337	-0.93976	-0.2187	-17.0851	10.79246
0	0	0	0	0	0	0	0	0

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

By referring to the aforesaid results of zero conditional mean about the different regression models it is evident that the sum of regression residual of each regression model is 0 which signifies that the inclusion of different independent variables in case of developing the distinct regression model is proper.

### 3.14.2 Explanation of the Results of Normality Test

With a view to examining whether the used data in developing the different regression models are normal, this study has employed the Kolmogorov-Smirnov and Shapiro-Wilk test using SPSS 14 through formulating the null hypothesis which is  $H_{01}$ : The data used in developing the different regression models are not abnormal and the results in this regard are given below:

**Table 3.9: Information about the results of normality test**

<b>ROA= <math>\alpha + \beta_1BS + \beta_2BA + \beta_3TA + \beta_4II + \beta_5CAR + \beta_6LDR + \beta_7DER + \epsilon</math></b>						
	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual	.138	20	.200*	.945	20	.295
*. This is a lower bound of the true significance.						
a. Lilliefors Significance Correction						
<b>ROE= <math>\alpha + \beta_1BS + \beta_2BA + \beta_3TA + \beta_4II + \beta_5CAR + \beta_6LDR + \beta_7DER + \epsilon</math></b>						
	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual	.114	20	.200*	.949	20	.356
*. This is a lower bound of the true significance.						
a. Lilliefors Significance Correction						
<b>ROI= <math>\alpha + \beta_1BS + \beta_2BA + \beta_3TA + \beta_4II + \beta_5CAR + \beta_6LDR + \beta_7DER + \epsilon</math></b>						
	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual	.123	20	.200*	.955	20	.453
*. This is a lower bound of the true significance.						
a. Lilliefors Significance Correction						
<b>NPR= <math>\alpha + \beta_1BS + \beta_2BA + \beta_3TA + \beta_4II + \beta_5CAR + \beta_6LDR + \beta_7DER + \epsilon</math></b>						
	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual	.164	20	.161	.920	20	.098
a. Lilliefors Significance Correction						
<b>ROA= <math>\alpha + \beta_1TLA + \beta_2TCL + \beta_3TUL + \beta_4LR + \beta_5BD + \beta_6DR + \beta_7CPLA + \beta_8CIR + \epsilon</math></b>						
	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual	.161	20	.189	.931	20	.165
a. Lilliefors Significance Correction						
<b>ROE= <math>\alpha + \beta_1TLA + \beta_2TCL + \beta_3TUL + \beta_4LR + \beta_5BD + \beta_6DR + \beta_7CPLA + \beta_8CIR + \epsilon</math></b>						
	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual	.152	20	.200*	.950	20	.373
*. This is a lower bound of the true significance.						
a. Lilliefors Significance Correction						

<b>ROI= <math>\alpha + \beta_1 TLA + \beta_2 TCL + \beta_3 TUL + \beta_4 LR + \beta_5 BD + \beta_6 DR + \beta_7 CPLA + \beta_8 CIR + \varepsilon</math></b>						
	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual	.162	20	.176	.946	20	.316
a. Lilliefors Significance Correction						
<b>NPP= <math>\alpha + \beta_1 TLA + \beta_2 TCL + \beta_3 TUL + \beta_4 LR + \beta_5 BD + \beta_6 DR + \beta_7 CPLA + \beta_8 CIR + \varepsilon</math></b>						
	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual	.182	20	.080	.869	20	.711
a. Lilliefors Significance Correction						
<b>CSR Expenditures= <math>\alpha + \beta_1 ROA + \beta_2 ROE + \beta_3 ROI + \beta_4 NPP + \varepsilon</math></b>						
	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual	.174	20	.113	.886	20	.623
a. Lilliefors Significance Correction						

(Source: Researcher's Own Analysis using Financial Data of Annual Reports)

From the results of above normality test it is apparent that the significant values of both types statistical techniques like Kolmogorov-Smirnov and Shapiro-Wilk are higher than 5% level of significance for each regression model which means that the null hypothesis is accepted that confirms that the used data in developing the different regression models are normal.

### 3.14.3 Explanation the Results of Ramsey's RESET Test

Ramsey's RESET test has employed to know whether the regression models have developed properly through designing the null hypothesis which is  $H_{02}$ : This model does not suffer from any omitted variables.

**Table 3.10: Information about the results of beta value, t value and significant level (p-statistics)**

<b>ROA= <math>\alpha + \beta_1 BD + \beta_2 BA + \beta_3 TA + \beta_4 II + \beta_5 CAR + \beta_6 LDR + \beta_7 DER + \varepsilon</math></b>	
Particulars	Different Values
Beta value	0.446
T value	0.383
Significant Level (p-statistics)	0.710
<b>ROE= <math>\alpha + \beta_1 BD + \beta_2 BA + \beta_3 TA + \beta_4 II + \beta_5 CAR + \beta_6 LDR + \beta_7 DER + \varepsilon</math></b>	
Particulars	Different Values
Beta value	0.362
T value	0.319
Significant Level (p-statistics)	0.756

<b>ROI= <math>\alpha + \beta_1BD + \beta_2BA + \beta_3TA + \beta_4II + \beta_5CAR + \beta_6LDR + \beta_7DER + \epsilon</math></b>	
Particulars	Different Values
Beta value	1.085
T value	0.210
Significant Level (p-statistics)	0.838
<b>NPP= <math>\alpha + \beta_1BD + \beta_2BA + \beta_3TA + \beta_4II + \beta_5CAR + \beta_6LDR + \beta_7DER + \epsilon</math></b>	
Particulars	Different Values
Beta value	0.309
T value	0.190
Significant Level (p-statistics)	0.853
<b>ROA= <math>\alpha + \beta_1TLA + \beta_2TCL + \beta_3TUL + \beta_4LR + \beta_5BD + \beta_6DR + \beta_7CPLA + \beta_8CIR + \epsilon</math></b>	
Particulars	Different Values
Beta value	-0.150
T value	-0.653
Significant Level (p-statistics)	0.959
<b>ROE= <math>\alpha + \beta_1TLA + \beta_2TCL + \beta_3TUL + \beta_4LR + \beta_5BD + \beta_6DR + \beta_7CPLA + \beta_8CIR + \epsilon</math></b>	
Particulars	Different Values
Beta value	0.872
T value	0.302
Significant Level (p-statistics)	0.769
<b>ROI= <math>\alpha + \beta_1TLA + \beta_2TCL + \beta_3TUL + \beta_4LR + \beta_5BD + \beta_6DR + \beta_7CPLA + \beta_8CIR + \epsilon</math></b>	
Particulars	Different Values
Beta value	1.937
T value	0.564
Significant Level (p-statistics)	0.585
<b>NPP= <math>\alpha + \beta_1TLA + \beta_2TCL + \beta_3TUL + \beta_4LR + \beta_5BD + \beta_6DR + \beta_7CPLA + \beta_8CIR + \epsilon</math></b>	
Particulars	Different Values
Beta value	0.656
T value	0.705
Significant Level (p-statistics)	0.498
<b>CSR Expenditures= <math>\alpha + \beta_1ROA + \beta_2ROE + \beta_3ROI + \beta_4NPP + \epsilon</math></b>	
Particulars	Different Values
Beta value	-0.731
T value	-0.625
Significant Level (p-statistics)	0.980

(Source: Researcher's Own Analysis using Financial Data of Annual Reports)

Based on the results of beta value, t value and p-value about the different regression models it is evident that the significance levels (p-statistics) of the different regression models are higher than 5% level of significance that leads to conclude that the formulated null hypothesis is accepted which confirms that this model does not suffer from any omitted variables.

### 3.14.4 Explanation the Results of Homoscedasticity Test

In order to identify whether there is any heteroscedasticity. in designing the different regression models this study has conducted Breusch-Pagan and Koenker test through formulating the null hypothesis which is  $H_{03}$ : There is no heteroscedasticity in designing the different regression models.

**Table 3.11: Information about the results of Breusch-Pagan and Koenker test**

<b>ROA= <math>\alpha + \beta_1BD + \beta_2BA + \beta_3TA + \beta_4II + \beta_5CAR + \beta_6LDR + \beta_7DER + \epsilon</math></b>		
	LM	Sig
BP	5.543	.971
Koenker	3.320	.754
<b>ROE= <math>\alpha + \beta_1BD + \beta_2BA + \beta_3TA + \beta_4II + \beta_5CAR + \beta_6LDR + \beta_7DER + \epsilon</math></b>		
	LM	Sig
BP	2.549	.694
Koenker	3.320	.857
<b>ROI= <math>\alpha + \beta_1BD + \beta_2BA + \beta_3TA + \beta_4II + \beta_5CAR + \beta_6LDR + \beta_7DER + \epsilon</math></b>		
	LM	Sig
BP	5.563	0.592
Koenker	7.376	0.391
<b>NPP= <math>\alpha + \beta_1BD + \beta_2BA + \beta_3TA + \beta_4II + \beta_5CAR + \beta_6LDR + \beta_7DER + \epsilon</math></b>		
	LM	Sig
BP	28.095	.735
Koenker	14.352	.845
<b>ROA= <math>\alpha + \beta_1TLA + \beta_2TCL + \beta_3TUL + \beta_4LR + \beta_5BD + \beta_6DR + \beta_7CPLA + \beta_8CIR + \epsilon</math></b>		
	LM	Sig
BP	20.337	.859
Koenker	10.747	.216
<b>ROE= <math>\alpha + \beta_1TLA + \beta_2TCL + \beta_3TUL + \beta_4LR + \beta_5BD + \beta_6DR + \beta_7CPLA + \beta_8CIR + \epsilon</math></b>		
	LM	Sig
BP	18.353	.819
Koenker	11.072	.198
<b>ROI= <math>\alpha + \beta_1TLA + \beta_2TCL + \beta_3TUL + \beta_4LR + \beta_5BD + \beta_6DR + \beta_7CPLA + \beta_8CIR + \epsilon</math></b>		
	LM	Sig
BP	8.403	.395
Koenker	7.978	.436
<b>NPP= <math>\alpha + \beta_1TLA + \beta_2TCL + \beta_3TUL + \beta_4LR + \beta_5BD + \beta_6DR + \beta_7CPLA + \beta_8CIR + \epsilon</math></b>		
	LM	Sig
BP	29.291	.683
Koenker	11.617	.769
<b>CSR Expenditures= <math>\alpha + \beta_1ROA + \beta_2ROE + \beta_3ROI + \beta_4NPP + \epsilon</math></b>		
	LM	Sig
BP	13.510	.839
Koenker	6.029	.797

(Source: Researcher's Own Analysis using Financial Data of Annual Reports)



Based on the previous discussion it is visible that the significance level of both the Breusch-Pagan and Koenker test of the entire regression models are greater than 0.05 level of significance which indicates that the null hypothesis is accepted in case of the entire regression models that confirms that those models do not suffer from heteroscedasticity.

### **3.15 Using Variables in Collecting Respondents' Opinion**

The different variables have been used to collect the opinion from the respondents regarding the level of compliance and application of different legal frameworks in preparing the different financial statements by the sample banks.

V\_1: The Bank Company Act of 1991

V\_2: The Companies Act of 1994

V\_3: The Securities and Exchange Rules of 1987

V\_4: The Securities and Exchange Ordinance of 1969

V\_5: Bangladesh Bank Order, 1972

V\_6: Accounting Entity Assumption

V\_7: Going Concern Assumption

V\_8: Monetary Measurement Assumption

V\_9: Time Period Assumption

V\_10: Historical Cost Principle

V\_11: Revenue Recognition Principle

V\_12: Matching Principle

V\_13: Full Disclosure Principle

V\_14: Costs and Benefits Constraint

V\_15: Materiality Constraint

V\_16: Industry Practice Constraint

V\_17: Conservatism Constraint

V\_18: Financial Disclosure

V\_19: Accrual Basis Accounting

### **3.16 Using the Different Variables**

To achieve the study objectives and to test hypotheses the study has used the different variables through developing the different regression models. Some variables have been used as dependent as well as independent for the study.

### **3.17 Measurement Scale of Compliance and Application Level**

The respondents' opinions on the level of compliance and application of different legal frameworks in preparing the different financial statements by the sample banks have been evaluated by the single unit of descriptive statistics like mean value whether the opinion of the respondents in this regard are statistically significant or not.

### **3.18 Selection of Statistical Techniques**

To arrive at the findings based on the achievement of the different research objectives and hypotheses several statistical techniques like descriptive statistics, paired sample t-test, chi-square technique, ANOVA technique, simple regression analysis and multiple regression analysis have been employed for analyzing the collected data for the purpose of the study.

#### **3.18.1 Descriptive Statistics**

The study has employed different parts of descriptive statistics like range, minimum value, maximum value, mean, standard deviation and variance to analyze the financial characteristics included in the financial statements by the sample banks.

#### **3.18.2 Paired Sample t-test**

The study has utilized the paired sample t-test to see whether there is any significant variation between the different variables of the sample banks.

#### **3.18.3 Chi-square Technique**

The study has employed the chi-square technique to investigate whether there is any significant difference of opinions among the selected respondents regarding

the level of the compliance and application of distinct legal frameworks for accounting practices by the sample banks.

#### **3.18.4 ANOVA Technique**

To gather information about whether there is any significant variation among different variables as per requirements of the study among the sample banks over the study period and to measure the difference in the opinion of the respondents' opinions the study has used the ANOVA technique.

#### **3.18.5 Simple Regression Analysis**

The study has employed the simple regression analysis to examine the impact of each independent variable on the dependent variable of the sample banks.

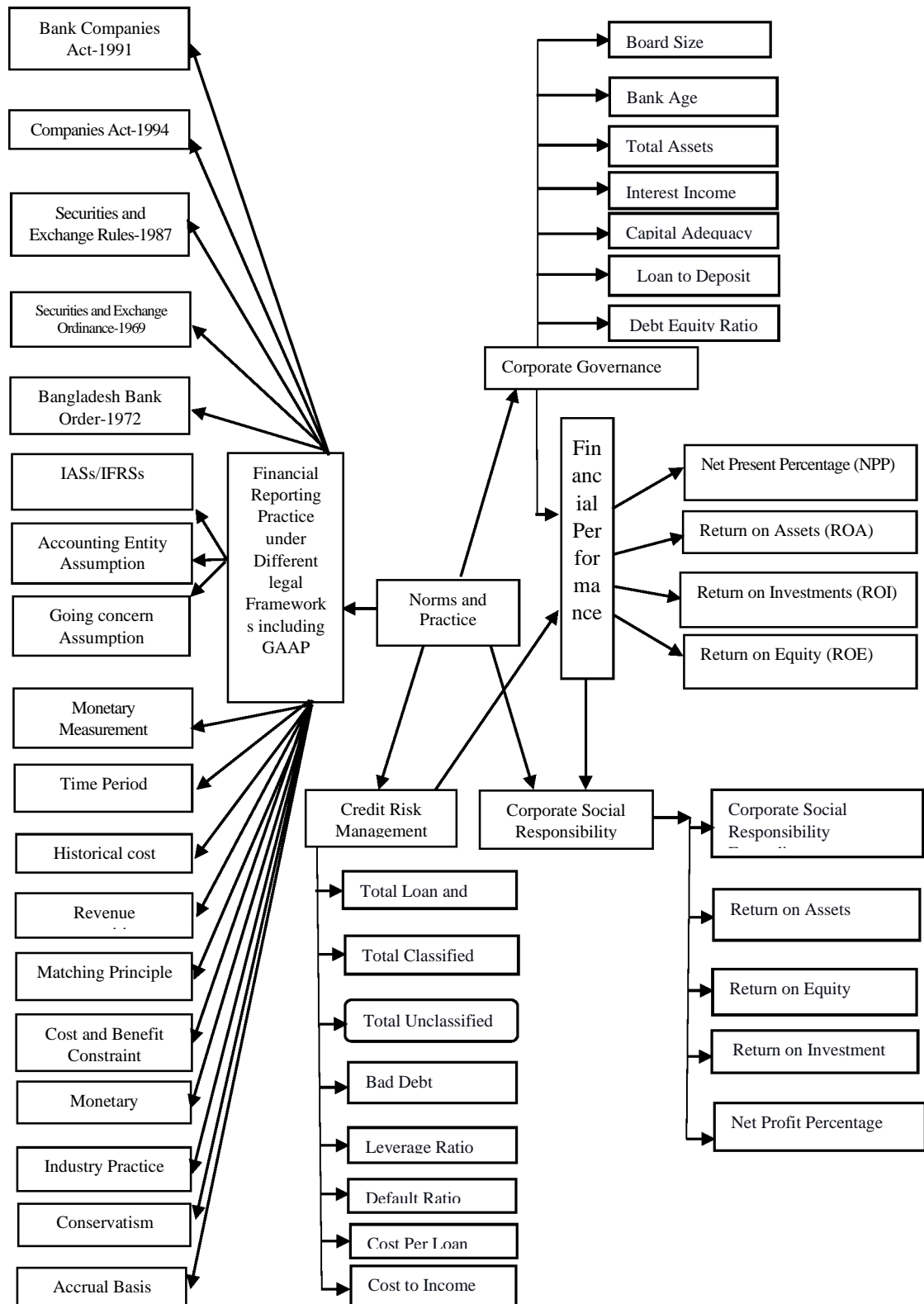
#### **3.18.6 Multiple Regression Analysis**

To investigate whether there is any significant influence of all the independent variables on the dependent variable of the sample banks the study has conducted multiple regressions designing the respective models according to the research objectives.

### **3.19 Conceptual Framework of the study**

The conceptual framework of this study is presented in Figure 3.1. Different areas are considered as important aspects of norms and practices in state-owned commercial banks in Bangladesh, i.e., banking company establishment, ethical principle, general banking, corporate governance, core risk management, Basel-I, II, III compliance, human resource, sustainable banking, green banking, Islamic banking, CSR, financial reporting, foreign exchange, anti-money laundering, and agent banking etc. Linkage between corporate governance practices mechanisms which are board size, bank age, bank size and financial performance indicators are NPP, ROA, ROE, ROI demonstrated at right side of the figure. The figure 3.1 also illustrates the consequence of credit risk management practices on financial performance tools as well as corporate social responsibility expenditure practices and its relationship with the financial performance variables.

### 3.19.1 Conceptual Framework of the study at a glance



(Source: Developed by Researcher)

### **3.20 Financial Reporting**

Financial reporting incorporates financial statements as well as other information that are useful to the users in making an economic decision such as a report on the vision, mission and objectives of the company, chairman and board of director's report, report on the compliance of regulatory requirements, audit report, report on corporate social responsibility, explanatory notes to the financial statements, report on the economic impact, price-sensitive information etc. Financial reporting is directed towards the common information needs of a wide variety of users, such as shareholders, employees, creditors, investors, lenders, Government and its agencies and the public at large (Alam, 2013).

#### **3.20.1 Objectives of Financial Reporting**

In an endeavor to set up a base for financial accounting and reporting some common objectives of financial reporting has been designed. Financial statements should disclose information which:

Is effective to existing and potential users to take necessary decisions. It should be understandable to those users who have a rational perception of trade and economic operations and are intending to practice information with logical perseverance.

Assists existing and prospective investors, creditors, and other users in appraising the amounts, timing, and uncertainty of potential return on investment and the revenue from the sales, extrication or maturity of securities or loans. Since shareholders' and creditors' cash circulation are connected to business cash circulation, financial reporting should supply information to assist different users in appraising the amounts, timing, and incertitude of potential net cash inflows to the related enterprise.

Evidently draws the financial resources of an enterprise, the claims to those resources (obligations of the enterprise to transfer resources to other entities and owners' equity), and the influence of transactions, events, and circumstances that

change its resources and claims to those resources (Kieso, Weygandt and Warfield, Eleventh Edition).

### **3.20.2 Financial Reporting Regulation**

Financial reporting is the way by which a set of statements are produced that bring out the financial status of an entity to owners, management, Government and others. Financial statements are prepared under the governance of some statutory and common laws as well as it should maintain ethical standards. Regrettably, financial reporting often loses its both legal and ethical entity. The necessary standards and guidelines for accounting and financial reporting frequently change, therefore it is needed to stay updated (Ahmed and Saha, 2015). With a view to bringing uniformity of global financial reporting, International Accounting Standard Board (IASB), a standard setting body of IFRS foundation, emerged for issuing globally accepted International Financial Reporting Standard (IFRS). The world is a global village and as such, the business network has been easier and extensive across the globe. The global uniformity in accounting has been essential for understanding and analyzing the financial statements for decision of investment, trade and business all over the world (Roy, 2015).

### **3.20.3 Challenges to Implement of Financial Reporting Regulations**

The existing financial reporting practices, standards and regulations are controlled and navigated mostly by two international bodies, viz., IASB and FASB. IASB has introduced IFRS as a standard reporting system and many countries in Europe implemented IFRS as backed by legal authorities. FASB on the other hand has been following Generally Accepted Accounting Principle (GAAP) especially in US and local GAAP has been followed by many countries in Asia, Africa and Latin America. Many challenges are there that hinder the swift implementation of global financial reporting regulations. The location of the country, her culture, trading, the education and skill of the people, financial and economic creditworthiness of a country are the determinants for smooth implementation of uniform financial reporting standard. There are plethora of challenges and

bottlenecks but these can be summarized under three categories as bounded rationality, process and technical challenges (Hussain, 2015).

#### **3.20.4 The Challenges Facing Financial Accounting**

Financial accounting is the mechanism to produce the culmination in the financial reports of enterprises to meet the demand of both internal and external users. Generally, shareholders creditors, management, unions, and government agencies are included as the users of these financial reports.

- (1) **Non-Financial Measurements:** Financial report fails to supply some key tasks extensively used by internal users like customer satisfaction indexes, backlog information, and refusal rates on goods purchased.
- (2) **Forward-Looking Information:** Financial reports fails to supply prudent information required by existing and prospective investors and creditors.
- (3) **Soft Assets:** Soft assets are some intangible assets which are important cog in modern business and are required for the smooth and successful running of day-to-day management such as brand, software, a specific team member's knowledge or cloud storage etc. Financial reports highlight on solid assets like inventory, plant etc. but sometimes failed to supply adequate information of a business soft assets.
- (4) **Timeliness:** Financial reports are produced on quarterly basis whereas audited reports are prepared and supplied annually. But in real time the required information regarding financial statement is not available. (Kieso, Weygandt and Warfield, Eleventh Edition).

#### **3.20.5 Financial Statements**

After transactions are identified, recorded, and summarized, the following financial reports are prepared from the concise accounting data:

- (1) **Income Statement:** An income statement represents the revenues and expenses and the arithmetic difference between them shows net income or net loss for a certain period of time.

- 2) **Owner's Equity Statement:** The statement of owner's equity incorporates changes in the net worth of business for a certain period of time.
- (3) **Balance Sheet:** A balance sheet is a list that represents the assets, liabilities and owner's equity at a specific moment of a date.
- (4) **Cash Flow Statement:** A cash flow statement concise data or information about the cash circulation (acquirement and payments) for a specific period of time (Weygandt, Kieso and Kimmel, 7th Edition).

### **3.20.6 Elements of Financial Statements**

Financial statements are the premier way by which financial information is notified to the outside users of the organization and at the same time such statements deliver the enterprise's quantified tale in monetary terms.

- (1) **Asset:** As a result of previous transactions, a specific entity which has potential future benefits is called asset.
- (2) **liabilities:** Prospective future abandonment of financial interest appearing from present obligation of specific entity to shift assets or provide services to other entities in the future as a result of previous transactions or events.
- (3) **Equity:** Equity means the ownership interest which represent the amount of capital contributed by the owner. In another way it's the difference between a company's total assets and total liabilities.
- (4) **Investment by Owners:** Enhancement in net assets of an enterprise which is contributed or invested by the owners. This amount of contribution may be in terms of money or in other assets that is contributed to the business either to start it or to keep it running.
- (5) **Distribution to owners:** A payment of the retained earnings of an enterprise to its owners. This distribution decreases the equity and assets of the business. Generally, it is made in cash, it can also be made by any other asset of the enterprise.



- (6) **Comprehensive income:** Comprehensive income includes all variation in net assets of an entity which arises from non-owner sources during a certain period. Comprehensive income consists of all revenues, gains, expenses, and losses incurred during a specific period as well as unrealized gains and losses within an accounting period. Comprehensive income gives the external users a complete scenario of an enterprise's revenue not fully expressed on the income statement.
- (7) **Revenues:** Revenues mean arrivals or other increments of resources of an enterprise or resolution of its liabilities or a mixture of both throughout a specific period from providing or manufacturing goods, extending services, or other activities that comprise the enterprise's continuing main or central functions.
- (8) **Expenses:** An expense means the outflows or cost which is incurred to make revenue during the accounting period. This outflow is not only in cash it includes other assets or liabilities that reduces owners' equity.
- (9) **Gain:** A gain refers to the increase in equity (net income) resulting from outside or accessory events of a business and from all other affairs and circumstances influencing the organization throughout a period besides those that resulting from revenues or investments by owners. (Kieso, Weygandt and Warfield, Eleventh Edition).
- (10) **Losses:** Losses refer to decrease in equity (net income) resulting from outside or accessory events or the normal operations of the business influencing the enterprise throughout an accounting period except those that from expenses or distributions to owners. Losses may come from different functions like; sale of an asset for less than its carrying amount, the write-down of assets or a loss from lawsuits. (Kieso, Weygandt and Warfield, Eleventh Edition).

### **3.21 Development of Accounting Profession in Bangladesh**

The accounting profession in Bangladesh has developed during the British colonial period. Now it is governed by two professional bodies, the Institute of Chartered Accountants of Bangladesh (ICAB) and the Institute of Cost and Management Accountants of Bangladesh (ICMAB). ICAB is a leading professional membership

Institution that improves as well as enhance Accounting Profession in Bangladesh. Chartered accountants are being specialized in financial accounting, financial audit and tax after completion of their training in practicing firms. Cost and management accountants take their training in cost audit, management audit and management accounting as well as general accounting and taxation. Both the ICMAB and ICAB are governed by the Ministry of Commerce. Both types of professional accountants are considered equal by the Government of The Peoples' Republic of Bangladesh regarding employment in Government services. ICAB develops the Generally Accepted Accounting Principles (GAAP) in the context of Bangladesh based upon standards which has stated its intention to adopt international financial reporting standards (Hossain, Hasan and Safiuddin, 2015).

### **3.22 Corporate Governance**

Corporate governance is a way to make sure transparency and accountability and is a set of rules, policies, and practices which should be embodied into every phase of the entity. Corporate governance principles and practices identify the distribution of rights and duties among different parties in the organization such as management, owners, creditors, auditors, regulators and others. Banking industries have a crucial role to perform in the economy of a country. The banking sector should act in accordance with the corporate governance codes for Bangladesh. (Kar and Sarker, 2014).

The term management is extremely connected with the day-to-day management of a company's functioning whereas corporate governance apprises these activities of management as under a homogenize formation (Khan et al., 2004 cited in Raihan and Hoque, 2013). Based on the previous research work made by the different authors like Qadir and Kwanbo, (2012); Bahadur, (2016); Gupta and Sharma, (2014); Aggarwal, (2013); Mudashiru et al., (2014); Ajanthan et al., (2013); Shungu et al., (2014); Ene and Bello, (2016); Haque and Arun, (2016); Ashraf and Asghar, (2017); Hassan and Ahmed, (2012); Adeusi et al., (2013); Miah and Alam, (2017); Alam and Akther, (2017); Yasser, (2011) as well as Ayorinde et al. (2012) in local and abroad the present research study has used the different surrogates of corporate governance as the independent variable to know the

influence on the financial performance measured by net profit ratio, return on assets, return on equity and return on investments. The different corporate governance surrogates are:

### **3.22.1 Board Size**

Board size is an important parameter to ensure transparency, as well as accountability and the board size, focuses the numbers of individuals who are engaged in giving service in favor of institution though there is argument about what types of board size are better to enrich the performance but as per the Bank Company Act 1991, the maximum board member is twenty persons for any bank in Bangladesh. Fama & Jensen, (1983) cited in Ajanthane et al., (2013) state that large scale boards are less effective and easy to control for the CEO. Large scale boards are difficult to coordinate, uplifts free-riding and asserts problems. Smaller boards however are just opposite of Large-scale boards and enhance the accountability of individual directors. For the study, the board size has been used as a unit of independent variables to state the influence on financial performance and the null hypothesis is:

H<sub>0</sub>: There is no significant influence of board size as a surrogate of corporate governance on the financial performance variables of the sample banks.

### **3.22.2 Bank Age**

Bank age is another potential key mechanism of corporate governance practice. In general, the longtime established bank is better than the newly started banks and the bank age may influence the financial performance and due to this the present study has used bank age as a unit of the independent variable to report the results of influence on financial performance and the null hypothesis is:

H<sub>0</sub>: There is no significant influence of bank age as a unit of corporate governance mechanism on the financial performance variables of the sample banks.

### **3.22.3 Bank Size**

The size of a bank is a potentially significant independent variable to explain the results of influence on financial performance and it is measured by total assets and interest income. To achieve the study objective the size of the bank has been employed as a unit of the independent variable and the null hypothesis is:

H<sub>0</sub>: There is no significant influence of bank size as a unit of corporate governance mechanism on the financial performance variables of the sample banks.

### **3.22.4 Capital Adequacy Ratio**

Capital Adequacy Ratio (CAR) indicates a bank's capital to risk assets ratio. The ratio of capital in relation to its risk weighted assets and current liabilities is called Capital Adequacy Ratio. In this course, the central bank and the bank's regulatory body decides to prevent commercial banks from taking too much leverage and becoming insolvent. Bank's capital is measured by CAR. Currently, the minimum ratio of CAR is 8% under Basel II and 12.9% under Basel III. High capital adequacy ratios are above the minimum requirements under Basel II and Basel III. Bank legislators introduce this ratio to assure credit to safeguard depositors and enhance stability and efficiency in the financial system.

To report the results of influence on financial performance, the given study has utilized capital adequacy ratio as a unit of the independent variable and the hypothesis is:

H<sub>0</sub>: There is no significant influence of the capital adequacy ratio as a unit of corporate governance mechanism on the financial performance variables of the sample banks.

### **3.22.5 Loan Deposit Ratio**

Loan Deposit ratio is the ratio between the bank's total loans and total deposits. Loan Deposit ratio is applied to measure a banks' liquidity, which in turn influences the profitability of the banks. Total loans in the numerator are

considered as investments or assets for a bank in the balance sheet. The total deposit in the denominator can be considered as debt since the individual depositors are essentially depositing money with the bank having an expected return equal to the prevailing deposit rates. These deposits can be called by the depositor at any time. If the ratio is lower than one, it would mean that the bank is using its own deposits to make loans to its customers. A ratio greater than one would mean that to extend the loan, the bank itself is borrowing money from an external source, which is then re-loaned at higher rates to its customer. The present research study has used loan deposit ratio as a unit of independent variables for knowing the results of the influence on financial performance and the null hypothesis is:

H<sub>0</sub>: There is no significant influence of the loan deposit ratio as a unit of corporate governance mechanism on the financial performance variables of the sample banks.

### **3.22.6 Debt Equity Ratio**

The debt-to-equity (D/E) ratio indicates the ratio between enterprise's total liabilities and shareholder equity. Company's financial leverage is evaluated by this ratio. It is accepted as a balance sheet ratio since all of the items are listed in the balance sheet. This ratio focuses on company's capital structure, either it is debt or equity financing. The D/E ratio shows the shareholders' capacity to cover the outsiders' loan when it is needed. This is one type of gearing ratio. A higher debt to equity ratio means that the more creditors' finance (bank loans) is employed than investors' finance (shareholders). On the other hand, a lower debt to equity ratio implies that the business is financially more stable.

For this study, the debt-equity ratio has been used as a unit of independent variables to ensure the outcomes of the influence on financial performance and the null hypothesis is:

H<sub>0</sub>: There is no significant influence of debt-equity ratio as a unit of corporate governance mechanism on the financial performance variables of the sample banks.

### **3.23 Credit Risk Management**

#### **3.23.1 Credit**

Credit means trust that grants one party to give money or resources to another party whereas the second party does not repay the first party instantly, however undertakes either to repay or return those resources in due course (Wikipedia). Credit is the capacity to lend money or access goods or services with the negotiation that you'll pay at a specified time in future (Mosharrafa, 2013).

#### **3.23.2 Risk**

Risk is the uncertainty of future loss. Risk assesses the uncertainty that an investor is prepared to accept to obtain a gain from an investment. Risk raises when there exists a chance of more than one result and that is uncertain. Risk can be identified as the variability or suspicion of unexpected and unfavorable outcomes (Hussan, 2015).

#### **3.23.3 Credit Risk**

Credit risk is the probability of borrowers' failure to repay a loan or to meet other contractual commitments (Lalon, 2015). It means the risk that a lender may not receive the outstanding principal amount and interest, that creates an obstruction of cash flows and increases costs of collection.

#### **3.23.4 Credit Management**

Credit management incorporates the entire process of granting loan, setting the terms and conditions of its, recovering of this credit on defined time and insuring compliance with company's credit policy and other credit activities. Effective Credit Management process performs to prevent late payment or non-payment. From banking perspective, credit management is associated with several functions such as accepting an application, loan appraisal, loan approval, monitoring and recovery of non-performing loans (Shekhar, 1985 cited in Pasha and Mintesinot, 2017).

### 3.23.5 Risk Management

Risk management is the proactive procedure to identify, to assess and to control threats to an organization's capital and earnings. Risk management is the process of planning, organizing, leading and controlling the various types of risks that are related with the organization's short and long-term functioning (Jain, Sharma and Somani, 2017). Credit risk management surrounds identification, assessment, harmonize remission, monitoring and control of the credit risk exposures. Effective credit risk management practices assist in improving the existing and potential profitability and long-term sustainability of commercial banks. The significance of credit risk management for banking sector is enormous because banks and other financial organizations earn from lending. So, banks and other financial organizations need to manage credit risk effectively and efficiently. The main challenges of credit risk management are an excessive cost for training and employee motivation (Lalon, 2015). The given study has been conducted to investigate whether there is any significant relationship between the different indicators of credit risk management and financial performance. The researcher has used the different indicators of credit risk management as independent variables which are supported by Mohammad and Onni, (2015); poudel, (2012); Iftikhar, (2016); Alshatti, (2015); Getahun et al., (2015); Banik and Das, (2013); Bayyound and Sayyad, (2015); Norman et al., (2015); Uwuigbe et al., (2015); Soyemi et al., (2014) as well as Taiwo et al., (2017) and the different indicators of credit risk management are given below:

### 3.23.6 Loan and Advance

Loan and advance mean payment of credit in the form of money in consideration of future repayment to the borrower by banks or financial institutions. In most of the cases, the lender adds some interest or charges to the principal amount that the loanee must repay in addition to the principal balance.

$H_0$ : There is no significant impact of loan and advance as an indicator of credit risk management on financial performance indicators of the sample banks.

### **3.23.7 Total Classified Loans**

The bank loans which are considered by the lender to be in hazard of default are classified loans. Though both principal and interest may be in risk of default but it doesn't mean always in arrears. They 're just in hazard of default, they don't have to be past due. Classified loans are reordered as adversely classified assets. These assets are unsound since repayment is dubious due to the trustworthiness of the borrowers. This is only a defense against a possible loss and to prevent any further risk.

H<sub>0</sub>: There is no significant impact of classified loan as an indicator of credit risk management on financial performance indicators of the sample banks

### **3.23.8 Total Unclassified Loan**

An unclassified loan is that bank loan which is considered by the lender to be at high risk of default. If there is a strong possibility that a borrower will stop making payment on a loan, it can change the classification of the loan from unclassified to classified. The bank may decide to change a loan's status from classified to unclassified if the borrower misses a payment.

H<sub>0</sub>: There is no significant impact of unclassified loan as an indicator of credit risk management on financial performance indicators of the sample banks

### **3.23.9 Leverage Ratio**

Leverage ratio is a financial ratio which indicates how much capital comes in the form of debt or measures a company's ability to meet its financial obligations. The leverage ratio is vital as because companies confide on debt equity composition for funding their operations and is useful to evaluate whether it can pay its debts off as they come due. Leverage ratios give an indication of the financial health of a bank.

H<sub>0</sub>: There is no significant impact of a leverage ratio as an indicator of credit risk management on financial performance indicators of the sample banks.



### **3.23.10 Bad Debt**

Simply, bad debt means receivable / note receivable which is irrecoverable or that will not be collected. It is one kind of expenses that take place when repayment by a borrower is no longer considered to be collectable. Bad debt is a contingency that must be accounted for by all businesses.

H<sub>0</sub>: There is no significant impact of bad debt as an indicator of credit risk management on financial performance indicators of the sample banks.

### **3.23.11 Default Ratio**

Default Ratio is the percentage of all unrealized credit which a lender has written off as unpaid after an extended period of missed payments. It's another name is penalty rate which may be imposed on a borrower for his missed regular payments on a loan. The default ratio is essential for firms to reappraise risk from borrowers and this represents firm's economic conditions.

H<sub>0</sub>: There is no significant impact of default ratio as an indicator of credit risk management on financial performance indicators of the sample banks.

### **3.23.12 Cost per Loan Asset**

The present research study has used cost per loan asset as an independent variable and the null hypothesis is:

H<sub>0</sub>: There is no significant impact of cost per loan asset as an indicator of credit risk management on financial performance indicators of the sample banks.

### **3.23.13 Cost to Income Ratio**

The cost to income ratio is an efficiency ratio applied to compare the operating expenses of a bank relating to its income. It delineates the efficiency at which the company is being run. The lower it is, the better is the performance, it indicates more profitability of the bank. Changes in the Cost to Income ratio implies prospective problems. Comparative higher ratio from one period to the next,

indicates that costs are growing more than income, which could suggest that the company has taken its eye off the ball in the drive to attract more business.

H<sub>0</sub>: There is no significant impact of cost to income ratio as an indicator of credit risk management on financial performance indicators of the sample banks.

### **3.24 Corporate Social Responsibility Expenditures**

Corporate social responsibility is the relationship between the company and its stakeholders. These stakeholders include shareholders, employees, customers, Government, suppliers, communities and competitors. Investment in community outreach, employee relations, creation and maintenance of employment, environmental stewardship and financial performance are considered as CSR elements (Khoury et al., 1999 cited in Dahlsrud, 2006). CSR is a tool for a firm to voluntarily merge social and environmental concerns into its jobs and interactions with stakeholders, that exceeds the responsibility of the firm in the field of law (Kusumadilaga, 2006 cited in Kamatra and Kartikaningdyah, 2015). Evidence from the work of Gololo, (2016); Das, Dixon and Michael, (2015); Neogy, Aishi and Banu, (2018) and Banu, Aishi and Neogy, (2018) on the different aspects of corporate social responsibility the present research study has used CSR expenditures as the dependent variable to identify the relationship with the financial performance variables of the sample banks over the study period and the null hypothesis is:

H<sub>0</sub>: There is no significant relationship between CSR expenditure and financial performance variables of the sample banks.

### **3.25 Financial Performance Indicators**

Financial performance can be explained as an assessment of the outcomes of companies' policies and activities from the monetary viewpoint. Income statement and the balance sheet are important reports to measure the firms' overall financial position, as because the income statement shows the firm's operating achievement and the balance sheet displays its net worth. Financial performance can be

ascertained applying some basic measures that are essential to assess the present financial condition and achievement. These are descriptive and analytical measures of financial condition and achievement (performance) (Adam, 2014). The given study has used different indicators like net profit margin, return on assets, return on equity and return on investment for measuring the financial performance and these indicators are:

### **3.25.1 Net Profit Percentage (NPP)**

Net Profit Percentage or net profit margin ratio is used to determine the profit percentage relating to total revenue. NPP measures the size of net earnings a business attains from its revenue. The net profit percentage is an indicator of management's competency to operate the organization with enough success not only to regain from revenues of the period, but also to realize the cost of merchandise or services, the operating expenses of the business and the cost of the borrowed funds and to leave a margin of reasonable indemnification to the owners for supplying their capital at risk (Khan and Jain, 2017).

### **3.25.2 Return on Assets**

Return on Assets (ROA) is a profitability ratio that measures the percentage of revenue a business generates in relation to its total assets. It is also defined as; the Return on Assets (ROA) which is the mechanism to measure how efficient a management is generating profit from the resources of the business. The return on assets ratio ascertains the efficiency with which total assets are employed within the firm (Foster, 2013). The higher rate of ROA means more well-organized management of a business in managing assets. Here, the profitability ratio is measured in terms of the relationship between net profits and assets. The ROA can also be stated as the profit-to-asset ratio (Khan and Jain, 2018). The investment may be explained as total assets or net assets. The fund engaged in net assets is known as capital employed (Pandey, 2018).

### **3.25.3 Return on Equity**

Return on Equity (ROE) is the financial performance ratio also known as “return on net worth.” Return on Equity is a quantification of how successfully a company uses equity- or the contributed worth of shareholders. ROE indicates the profitability of a business in relation to shareholders equity. The higher the ROE the higher the efficiency of a corporation’s management to generate income. A return on owners’ equity is ascertained to see the productivity of shareholders’ investment (Pandey, 2018). The return on equity ratio measures the efficiency with which common shareholder’s equity is being employed within the firm (Foster, 2013).

### **3.25.4 Return on Investment**

Return on Investment (ROI) is a means to evaluate the performance of a business by dividing net profit by the cost of investment. ROI assess either profit or loss produced on an investment relative to the amount of money invested. ROI is a financial or profitability ratio by which an investor decides whether he should accept or reject the investment opportunity.

### **3.26 Conclusion**

The research method is the foundation of any study that provides direction to design the appropriate techniques systematically to meet the purpose of the study and this chapter includes the different aspects of the research methodology. Besides, the conceptual issue there is a fundamental dimension that assist in developing theoretical knowledge and in line with the research objectives, this chapter also includes the conceptual framework.

## **Chapter Four**

# **Evaluation of the Compliance Status in Financial Reporting Practices**

### **4.1 Introduction**

Financial reporting is accused in those circumstances as there are conspicuous alleges that the disclosed financial information could have saved the destruction to some extent, though not absolutely (Hussain, 2015). The financial statement idea has achieved more concentration for increasing the company form of business, rising competition among corporations as well as for rising the users' demand of information. Financial reporting is the way to communicate financial statements and other related information by the business organization among the concerned individuals and entities. Sound business practices and profitability of a business entity is evaluated and interpreted with financial condition as disclosed in the annual reports. Annual reports are the most extensive way to communicate among different stakeholders of the business entity. The company that makes full disclosure receives more attention by the investors. (Tewarg, 2017). To report the level of compliance status with the different legal frameworks for financial reporting practices by the sample banks the study has gleaned the opinions from the designated respondents in this regard and to check the consistency of respondents' opinions both ANOVA and Chi Square statistical techniques have employed. In this regard the null hypothesis is:  $H_{04}$ : There is no significant difference of the opinions among the respondents regarding the compliance with the different legal frameworks for financial reporting practices of the sample banks.

### **4.2 Compliance with the Different Legal Frameworks**

Banking industry in Bangladesh follows the various legal frameworks during the operation. Among them, the study has emphasized the different legal frameworks like the Banking Companies Act, 1991, the Companies Act, 1994, the Securities and Exchanges Rules, 1987, the Securities and Exchange Ordinance, 1969 as well as the Bangladesh Bank Order, 1972 and collect respondents' opinion in this

regard to know the level of compliance in preparing and presenting the financial statements of the sample banks while performing the banking activities.

#### 4.2.1 The Provisions concerning Financial Reporting under the Banking Companies Act, 1991

The significant disclosure provisions in the Banking Companies Act, 1991 are given below:

Sec. 18:	Transaction related to directors should be disclosed
Sec. 36:	Half yearly Returns
Sec. 37:	Power for publishing Information
Sec. 38:	Accounts and Balance Sheets
Sec. 39:	Audit
Sec. 40:	Report Submission
Sec. 40:	Sending Balance Sheet etc. to the Registrar
Sec. 42:	Display of Audited Balance Sheet by the Banking Company incorporated outside Bangladesh
Sec. 43:	Accounting Provisions not Retrospective

(Source: Researcher's Own Analysis)

**Opinions of the Respondents regarding the Banking Companies Act, 1991:** To know the level of compliance status with the Banking Companies Act, 1991 in financial reporting practices the study has utilized the opinions of the respective respondents in this regard and the outcomes are given in the following section:

**Table 4.1: Information about the results of opinions survey statement regarding the Banking Companies Act, 1991 as a unit of legal frameworks**

RG	Extremely Complied		Moderately Complied		Slightly Complied		Neutral		Not Complied		Total		Mean
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Acad.	26	52	21	42	02	04	01	02	00	00	50	100	4.580
CA	36	72	11	22	01	02	01	02	01	02	50	100	
CMA	37	74	12	24	00	00	01	02	00	00	50	100	
Total	99	66	44	29.33	03	02	03	02	01	0.67	150	100	

(Source: Analysis of Opinion Survey Report)

Table 4.1 shows the results of respondents' opinions regarding the Banking Companies Act, 1991 as a unit of legal frameworks in financial reporting practices by the sample banks and it shows that 66.00% of the respondents have extremely complied, 29.33% of the respondents have moderately complied and 2.00% of the

respondents have slightly complied and 2.00% of the respondents were neutral but 0.67% of the respondents thought that the sample banks did not comply. The discussion also talks that the mean value of the responses is 4.580 which is important. It is observed from the above Table that the most of the respondents thought that the sample banks have extremely complied with the Banking Companies Act, 1991 in financial reporting practices.

#### 4.2.1.1 The Formulation of Null Hypothesis

To investigate whether there is any significant variation in the respondents' opinions regarding the compliance status in this regard as well as to check consistency of the results of respondents' opinions the study has employed both ANOVA and Chi Square techniques with the use of null hypothesis which is:  $H_{04.1}$ : There is no significant variation in the opinions of the respondents regarding the compliance with the Banking Companies Act, 1991 for financial reporting practices of the sample banks.

#### 4.2.1.2 The Results of ANOVA Test

**Table 4.2: Information about the results of ANOVA test**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.720	2	0.860	1.785	0.171
Within Groups	70.820	147	0.482		
Total	72.540	149			

(Source: Analysis of Opinion Survey Report)

By considering the above information of ANOVA test it is found that the value of F is 1.785 and its P value is 0.171 which is higher than 5% level of significance that indicates that the null hypothesis is accepted and confirms that there is no significant variation of the opinions of the respondents in this regard.

#### 4.2.1.3 The Results of Chi-Square Test:

**Table 4.3: Information about the results of chi square test**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.3788	8	0.239
Likelihood Ratio	11.2342	8	0.189
Linear-by-Linear Association	3.4713	1	0.062
N of Valid Cases	150		

(Source: Analysis of Opinion Survey Report)

From the aforesaid discussion it is visible that the value of  $\chi^2$  is 10.3788 and the P value is 0.239 which is higher than 0.05 level of significance which indicates that the null hypothesis is accepted and it can be concluded that there is no significant variation in the opinions of the respondents regarding the compliance with the Banking Companies Act, 1991 for financial reporting practices of the sample banks.

#### **4.2.2 The Provisions Concerning Financial Reporting under the Companies Act, 1994**

It was highly expected to coincide and amend the regulations in respect of companies financial reporting and The Companies Act, 1994 mainly issues the fundamental requirements for accounting and financial reporting practices which is eligible to all business enterprises and other associations. The key statutes of the Companies Act, 1994 relating to reporting is pointed out under Sections 181 to 185 and 192.

Section 181 of the Companies Act, 1994 interprets the legal provisions for maintaining the books of accounts. Section 181 of the Companies Act, 1994 emphasis on Inspection of Books of Accounts, etc. of Companies which indicates mainly the auditors' rights, duties and responsibilities as well as directors' duties and responsibilities. The dominant statutes in the Companies Act, 1994 relating to disclosure are stated below:

Sec. 181: Books to be kept by Company and Penalty for not keeping them
Sec. 182: Inspection of Books of Accounts, etc. of Companies
Sec. 183: Annual Balance Sheet
Sec. 184: Board's Report
Sec. 185: Form and Contents of Balance Sheet and Profit and Loss Accounts
Sec. 186: Balance Sheet of Holding Company to include certain Particulars as to its Subsidiary
Sec. 187: Financial Year of Holding Company and Subsidiary
Sec. 189: Authentication of Balance Sheet, Profit and Loss Accounts, etc.
Sec. 190: Copy of Balance Sheet etc. to be filed with Registrar
Sec. 191: Rights of Members to copies of accounts and reports
Sec. 192: Statement to be published by Banking and Certain other Companies

(Source: Researcher's own analysis from the Companies Act, 1994)



**Opinions of the Respondents regarding the Companies Act, 1994:** To see the level of compliance status with the Banking Companies Act, 1991 in case of financial reporting practices of sample banks the study has utilized the opinions of the respondents in this regard and the consequences are tabulated in the following section:

**Table 4.4: Information about the results of opinions survey regarding the Companies Act, 1994 as a unit of legal framework**

RG	Extremely Complied		Moderately Complied		Slightly Complied		Neutral		No Complied		Total		Mean
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Acad.	21	42	23	46	05	10	01	02	00	00	50	100	4.360
CA	23	46	23	46	03	06	00	00	01	02	50	100	
CMA	26	52	21	42	03	06	00	00	00	00	50	100	
Total	70	46.67	67	44.67	11	7.33	01	.67	01	0.67	150	100	

(Source: Analysis of Opinion Survey Report)

Table 4.4 determines the results about the opinions of the respondents regarding the extent of compliance with the Companies Act 1994 by the sample banks in financial reporting practices. The Table shows that 46.67% of the respondents have extremely complied, 44.67% of the respondents have moderately complied, 7.33% of the respondents have slightly complied and. The 0.67% of the respondents were neutral but in this point 0.67% of the respondents thought the sample banks did not comply. In addition, the value of descriptive statistics like mean is 4.360 that infer the opinions are momentous. The above evidence has been revealed that the majority respondents have given opinions that the sample banks are extremely complied with the Companies Act, 1994 in financial reporting practices.

#### 4.2.2.1 The Formulation of Null Hypothesis

To examine whether there is any significant variation in the opinions of the respondents regarding the compliance with the Companies Act 1994 the study has been conducted ANOVA as well as chi-square test and developed a null hypothesis which is:  $H_{04.2}$ : There is no significant difference of opinion among the respondents regarding the compliance with the Companies Act, 1994 in financial reporting practices of the sample banks.

#### 4.2.2.2 The Results of ANOVA Test:

**Table 4.5: Information about the results of ANOVA test**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.840	2	0.420	0.837	0.435
Within Groups	73.720	147	0.501		
Total	74.560	149			

(Source: Analysis of Opinion Survey Report)

From the examination of results of ANOVA test it has been clear that the value of F ratio is 0.837 the P value is 0.435 and it indicates that this value is higher than 0.05 level of significant. So, the null hypothesis is accepted and it is clear that there is no significant difference of opinions among the respondents in this point.

#### 4.2.2.3 The Results of Chi-Square Test

**Table 4.6: Information about the results of chi square test**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.390	8	0.715
Likelihood Ratio	5.749	8	0.675
Linear-by-Linear Association	1.619	1	0.203
N of Valid Cases	150		

(Source: Analysis of Opinion Survey Report)

Referring to the above Table it is evident that the value of  $\chi^2$  is 5.390 and its P value is 0.715 which is higher than 5% level of significance that supports that the null hypothesis is accepted. So, it can be inferred that there is no significant difference of opinions among the respondents regarding the compliance with the Companies Act, 1994.

#### 4.2.3 Financial Reporting Provisions under the Securities and Exchange Rules, 1987

According to Part I of the Schedule of the SER, 1987 the assets and liabilities shall be classified under the headings appropriate for the company's business, distinguishing as regards assets between fixed assets, long-term prepayments and deferred costs, investments, loans and advances and current assets, and as regards liabilities between share capital and reserves, long-term loans and deferred liabilities and current liabilities and provisions.

As per Part II the profit and loss account shall be so made out as to disclose clearly the result of the working of the company during the period covered by the account and shall show, arranged under the most convenient heads, the gross income and the gross expenditure of the company during the period, disclosing every material feature. Part-III depicts that the cash flows statement shall be so made out as to disclose clearly the cash flows of the company from its operating, investing and financial activities, disclosing every material features.

It is mentioned in the Rule 13 that every issuer shall, within one month of close of the first half-year, transmit to the stock exchange in which its securities are listed, to the security holders and to the SEC half-yearly financial statements which shall be prepared in the same manner and form as the annual financial statements.

Prescribed form may be amended for compliance with IASs and it is stated in the Rule13A.

**Opinions of the Respondents regarding the Securities and Exchanges Rules, 1987:** To know the level of compliance status with the Securities and Exchange Rules, 1987 in financial reporting practices of sample banks the study has collected the opinions of the respective respondents in this regard and the outcomes of the opinion's analysis are tabulated in the following section:

**Table 4.7: Information about the results of opinions survey regarding the Securities and Exchanges Rules, 1987 as a unit of legal frameworks**

RG	Extremely Complied		Moderately Complied		Slightly Complied		Neutral		No Complied		Total		Mean
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Acad.	08	16	28	56	10	20	03	06	01	02	50	100	3.927
CA	17	34	19	38	10	20	01	02	03	06	50	100	
CMA	13	26	28	56	09	18	00	00	00	00	50	100	
Total	38	25.33	75	50	29	19.33	04	2.67	04	2.67	150	100	

(Source: Analysis of Opinion Survey Report)

Table 4.7 has been reported the opinion of the respondents about the compliance status with the Securities and Exchange Rules, 1987 by the sample banks in financial reporting practices and it is observed from the above discussion that 25.33% of the respondents are extremely complied, 50% of the respondents are

moderately complied, 19.33% of the respondents are slightly complied and 2.67% of the respondents were neutral on the other hand 2.67% of the respondents thought that the sample banks did not comply. Again, the mean value of the opinions of the respondents is 3.927 which ensure their opinions are momentous. It had been found from the above discussion that the majority respondents thought that the sample banks have moderately complied with the Securities and Exchange Rules, 1987 for financial reporting practices.

#### 4.2.3.1 The Formulation of Null Hypothesis

In order to see whether there is any significant difference of opinions among the respondents regarding the compliance with the Securities and Exchange Rules, 1987 the study has conducted ANOVA as well as chi-square test with a null hypothesis which is:  $H_{04.3}$ : There is no significant difference of opinion among the respondents regarding the compliance with the Securities and Exchange Rules, 1987 by the sample banks.

#### 4.2.3.2 The Results of ANOVA Test

**Table 4.8: Information about the results of ANOVA test**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.253	2	1.127	1.428	0.243
Within Groups	115.940	147	0.789		
Total	118.193	149			

(Source: Analysis of Opinion Survey Report)

By analyzing the results of ANOVA test it is visible that the value of F ratio is 1.428 and the p value is 0.243. So, the null hypothesis is accepted and it can be concluded that there is no significant difference of opinion among the respondents regarding the compliance with the Securities and Exchange Rules, 1987.

#### 4.2.3.3 The Results of Chi-Square Test

**Table 4.9: Information about the results of chi square test**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.439	8	0.133
Likelihood Ratio	14.241	8	0.076
Linear-by-Linear Association	2.836	1	0.092
N of Valid Cases	150		

(Source: Analysis of Opinion Survey Report)

The results of chi-square test shows that the value of  $\chi^2$  is 12.439 and the value of P is 0.133 which is higher than 0.05 level of significance that confirms that the null hypothesis is accepted and it can be concluded that there is no significant difference of opinions among the respondents regarding the compliance with the Securities and Exchange Rules, 1987 by the sample banks in financial reporting practices.

#### **4.2.4 Financial Reporting Provisions under the Securities and Exchange Ordinance, 1969**

The Securities and Exchange Ordinance, 1969 was expedient to provide for the protection of investors, regulations of capital markets and issues and dealings in securities and for matters ancillary thereto (The President of the People's Republic of Bangladesh, 1969).

Section 11 of SEO, 1969 stated that an issuer of a listed security shall furnish to the Stock Exchange, to the security holders and to the SEC an annual report of its affairs and such statements and other reports as may be prescribed.

The Securities and Exchange Rules (SER), 1987 is applicable to companies that are trading on the Stock Exchanges in Bangladesh. As per Rule 12, the annual report required by Section 11 of the Securities and Exchange Ordinance, 1969 to be furnished by an issuer of a listed security shall include a balance sheet, profit and loss account, cash flow statement and notes to the accounts and collectively that refer to the financial statements. It is also depicted in this rule that the financial statements of an issuer of a listed security shall be prepared in accordance with requirements laid down in the Schedule of this rules and the International Accounting Standards as adopted by the Institute of chartered Accountants of Bangladesh.

**Opinions of the Respondents regarding the Securities and Exchange Ordinance, 1969:** To know the level of compliance status with the Securities and Exchange Ordinance, 1969 in financial reporting practices of sample banks the given study has utilized the opinions of the respective respondents in this regard and the outcomes of the opinion's analysis are tabulated in the following section:

**Table 4.10: Information about the results of opinions survey regarding the Securities and Exchange Ordinance, 1969 as a unit of legal frameworks**

RG	Extremely Complied		Moderately Complied		Slightly Complied		Neutral		No Complied		Total		Mean
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Acad.	07	14	26	52	08	16	05	10	04	08	50	100	3.827
CA	17	34	18	36	10	20	01	02	04	08	50	100	
CMA	16	32	22	44	12	24	00	00	00	00	50	100	
Total	40	26.67	66	44	30	20	06	04	08	5.33	150	100	

(Source: Analysis of Opinion Survey Report)

Table 4.10 provides information about the results of opinions of the respondents regarding the compliance with the Securities and Exchange Ordinance, 1969 by the sample banks for financial reporting practices. The evidence shows that 26.67% of the respondents have extremely complied, 44.00% of the respondents have moderately complied, 20.00% of the respondents have slightly complied and 4.00% of the respondents were neutral but 5.33% of the respondents thought that the sample banks did not comply. Moreover, the evidence also shows that the mean value is 3.827 and it indicates that the opinions in this regard are important. The aforesaid discussion has reported that the majority respondents thought that the sample banks have moderately complied with the Securities and Exchange Ordinance, 1969 in financial reporting practices.

#### 4.2.4.1 The Formulation of Null Hypothesis

In order to see whether there is any significant difference of opinions among the respondents regarding the compliance with the Securities and Exchange Ordinance, 1969 the study has conducted ANOVA as well as chi-square test and developed a null hypothesis which is:  $H_{04.4}$ : There is no significant difference of opinion among the respondents regarding the compliance with the Securities and Exchange Ordinance, 1969 for the financial reporting practices by the sample banks.

#### 4.2.4.2 The Results of ANOVA Test:

**Table 4.11: Information about the results of ANOVA test**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.373	2	3.687	3.516	0.032
Within Groups	154.120	147	1.048		
Total	161.493	149			

(Source: Analysis of Opinion Survey Report)

It is evident from the results of ANOVA test that the value of F ratio is 3.516 and its P value is 0.032 which is lower than 5% level of significance that supports the null hypothesis is rejected and it can be concluded that there is significant difference of opinion among the respondents regarding the compliance with the Securities and Exchange Ordinance, 1969 by the sample banks for financial reporting practices.

#### 4.2.4.3 The Results of Chi-Square Test:

**Table 4.12: Information about the results of chi square test**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	17.805	8	0.023
Likelihood Ratio	21.606	8	0.006
Linear-by-Linear Association	6.726	1	0.010
N of Valid Cases	150		

(Source: Analysis of Opinion Survey Report)

The value of  $\chi^2$  is 17.805 and the P value is 0.023 which is lower than 5% level of significant that confirms the null hypothesis is rejected which means that there is significant difference of opinions among the respondents regarding the compliance with the Securities and Exchange Ordinance, 1969 by the sample banks in financial reporting practices.

#### 4.2.5 Opinions of the Respondents regarding the Bangladesh Bank Order, 1972

As per the Bangladesh Bank Order, 1972 the central bank named Bangladesh bank is established which synchronizes the banks and financial institutions' activities based on powers vested by the Bangladesh Bank Order 1972. This Order governs the establishment, incorporation capital and management, business and function, and collecting and furnishing credit information etc. which are closely related to corporate governance (Saha, 2012). To know the level of compliance status with the Bangladesh Bank Order, 1972 in financial reporting practices of sample banks the study has considered the opinions of the respective respondents in this regard and the outcomes of the opinions analysis are tabulated in the following section:

**Table 4.13: Information about the results of opinions survey regarding the Bangladesh Bank Order, 1972 as a unit of legal frameworks**

RG	Extremely Complied		Moderately Complied		Slightly Complied		Neutral		No Complied		Total		Mean
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Acad.	11	22	21	42	16	32	02	04	00	00	50	100	4.080
CA	23	46	16	32	05	10	04	08	02	04	50	100	
CMA	26	52	16	32	07	14	01	02	00	00	50	100	
Total	60	40	53	35.33	28	18.67	07	4.67	02	1.33	150	100	

(Source: Analysis of Opinion Survey Report)

Table 4.13 reveals the opinion of the respondents regarding the compliance with the Bangladesh Bank Order, 1972 as a unit of legal frameworks for financial reporting practices of the sample banks. It is observed from the aforesaid documents that 40.00% of the respondents are extremely complied, 35.33% of the respondents are moderately complied, 18.67% of the respondents are slightly complied and 4.67% of the respondents were neutral but 1.33% of the respondents thought that the sample banks did not comply. The mean value is 4.08 and referring to this it is visible that the opinions of respondents in this regard are supportive. Based on the above discussion it is evident that the majority respondents thought that the sample banks extremely complied with the Bangladesh Bank Order, 1972 for financial reporting practices.

#### 4.2.5.1 The Formulation of Null Hypothesis

In order to see whether there is any significant difference of opinions among the respondents regarding the compliance with the Bangladesh Bank Order, 1972 for financial reporting practices by the sample banks the study has conducted ANOVA as well as chi-square test with designated null hypothesis which is:  $H_{04.5}$ : There is no significant difference of opinions among the respondents regarding the compliance with the Bangladesh Bank Order, 1972 for financial reporting practices by the sample banks.



#### 4.2.5.2 The Results of ANOVA Test

**Table 4.14: Information about the results of ANOVA test**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.760	2	3.380	3.935	0.022
Within Groups	126.280	147	0.859		
Total	133.040	149			

(Source: Analysis of Opinion Survey Report)

By considering the results of ANOVA test it is visible that the value of F ratio is 3.935 and its P value is 0.022 which is lower than 5% level of significant that means the null hypothesis is rejected and signifies that there is significant difference of opinion among the respondent regarding the compliance with the Bangladesh Bank Order, 1972 for financial reporting practices by the sample banks.

#### 4.2.5.3 The Results of Chi-Square Test

**Table 4.15: Information about the results of chi square test**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	20.601	8	0.008
Likelihood Ratio	21.211	8	0.007
Linear-by-Linear Association	7.571	1	0.006
N of Valid Cases	150		

(Source: Analysis of Opinion Survey Report)

By referring the results of chi-square test it is evident that the value of  $\chi^2$  is 20.601 and the significant level is 0.008 levels which is lower than 0.05 level of significant. So, the null hypothesis is rejected and it can be indicated that there is significant difference of opinion among the respondents regarding the compliance with the Bangladesh Bank Order, 1972 for financial reporting practices of the sample banks.

### 4.3 The Provisions Regarding International Accounting Standards (IASs) or International Financial Reporting Standards (IFRSs) in Bangladesh

Accounting standards mean the rules and guidelines of accounting policies and practices governed by the national and international accounting bodies relating to the presentation of the events by which the financial reports are prepared as well as their disclosure therein (Azizuddin, 2001). Accounting standards are aimed at analyzing accounting or disclosure procedures to employ all adopted accounting

standards anticipated to provide an authentic presentation of financial status and outcomes (Hossain, 2007). The set up and effective enforcement of accounting standards is a significant matter of question for the accounting profession as well as its concerned parties. Resolving the supreme technique to apply for establishing uniform accounting standards may be necessary for the admissibility and effectiveness of accounting standards (Belkaoui and Jones, 1996).

ICAB is the unique body for adopting the International Accounting Standards (IASs) In Bangladesh. The Securities and Exchange Commission has circulated a notification (Notification No. SEC/Section-7/SER/03/132 dated October 22, 1997, published in official gazette on December 29, 1997) compelling entire listed companies to follow the adopted Accounting Standards by the ICAB. Consequently, there is an extreme impact of the accounting standards on financial reporting practices in Bangladesh. BAS 30 or IFRS 7, BAS 32, 39 are decisive standard regarding disclosure of information the banking companies in their annual reports. If the companies of IASB associate countries do not abide by the propagated accounting and financial reporting standards, the achievement of universal harmonization will not be possible. (Hossain, Cooper and Islam, 2006). The Current Status of BASs vis-à-vis IASs/IFRSs in Bangladesh BFRSs are reported below:

1	Presentation of Financial Statements Adopted, on or after 1st January 2007
2	Inventories Adopted, on or after 1st January 2007
7	Statements of Cash Flows Adopted, on or after 1st January 1999
8	Accounting Policies, Changes in Accounting Estimates and Errors Adopted, on or after 1st January 2007
10	Events after the Balance Sheet Date Adopted, on or after 1st January 2007
11	Construction Contracts Adopted, on or after 1st January 1999
12	Income Taxes Adopted, on or after 1st January 1999
16	Property, Plant & Equipment Adopted, on or after 1st January 2007
17	Leases Adopted, on or after 1st January 2007
18	Revenue Adopted, on or after 1st January 2007
19	Employee Benefits Adopted, on or after 1st January 2004
20	Accounting of Government Grants and Disclosure of Government Assistance Adopted, on or after 1st January 1999
21	The Effects of Changes in Foreign Exchange Rates Adopted, on or after 1st January 2007

23	Borrowing Costs Adopted, on or after 1st January 2010
24	Related Party Disclosures Adopted, on or after 1st January 2007
26	Accounting and Reporting by Retirement Benefit Plans Adopted, on or after 1st January 2007
27	Consolidated and Separate Financial Statements Adopted, on or after 1st January 2010
28	Investments in Associates Adopted, on or after 1st January 2007
29	Financial Reporting in Hyperinflationary Economics Not yet adopted by ICAB as Impracticable for Bangladeshi context
31	Interests in Joint Ventures Adopted, on or after 1st January 2007
32	Financial Instruments: Presentation Adopted, on or after 1st January 2010
33	Earnings per Share Adopted, on or after 1st January 2007
34	Interim Financial Reporting Adopted, on or after 1st January 1999
36	Impairment of Assets Adopted, on or after 1st January 2005
37	Provisions, Contingent Liabilities and Contingent Assets Adopted, on or after 1st January 2007
38	Intangible Assets Adopted, on or after 1st January 2005
39	Financial Instruments: Recognition and Measurement Adopted, on or after 1st January 2010
40	Investment Property Adopted, on or after 1st January 2007
41	Agriculture Adopted, on or after 1st January 2007

#### **IFRS Title Adoption Status of ICAB**

IFRS 1	First-time adoption of International financial Reporting Standards Adopted as BFRS 1, effective on or after 1 January 2009
IFRS 2	Share-based Payment Adopted as BFRS 2, effective on or after 1 January 2007
IFRS 3	Business Combinations Adopted as BFRS 3, effective on or after 1 January 2010
IFRS 4	Insurance Contracts Adopted as BFRS 4, effective on or after 1 January 2010
IFRS 5	Non-current Assets Held for Sale and Discontinued Operations Adopted as BFRS 5, effective on or after 1 January 2007
IFRS 6	Exploration for and Evaluation of Mineral Resources Adopted as BFRS 6, effective on or after 1 January 2007
IFRS 7	Financial Instruments: Disclosures Adopted as BFRS 7, effective on or after 1 January 2010
IFRS 8	Operating Segments Adopted as BFRS 8, effective on or after 1 January 2010
IFRS 9	Financial Instruments Not yet adopted by ICAB
Source: <a href="http://www.icab.org.bd/bas.php">http://www.icab.org.bd/bas.php</a> , cited on May 5, 2016	

**Opinions of the Respondents regarding the compliance with Accountings Standards:** To know the level of application of accounting standards for financial reporting practices the study has been conducted opinion survey of the respondents in this regard and the outcomes of the opinions analysis are tabulated in the following section:

**Table 4.16: Information about the results of opinions survey regarding the application of accounting standards for preparing the financial statements by the sample banks**

RG	Fully Applied		Moderately Applied		Slightly Applied		Neutral		No Applied		Total		Mean
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Acad.	11	22	26	52	11	22	02	04	00	00	50	100	4.093
CA	14	28	25	50	09	18	01	02	01	02	50	100	
CMA	25	50	18	36	07	14	00	00	00	00	50	100	
Total	50	33.33	69	46	27	18	03	02	01	0.67	150	100	

(Source: Analysis of Opinion Survey Report)

Table 4.16 has been shown the opinion of the respondents regarding the application of accounting standards for financial reporting practices by the sample banks. It has been obtained from the above Table that 33.33% of the respondents think that sample banks have fully applied, 46.00 % of the respondents are moderately applied, 18.00% of the respondents think that sample banks have slightly applied and 2.00% of the respondents were neutral but 0.67% of the respondents thought that the sample banks did not apply. The above document also reports that the mean value of the responses is 4.093 that signifies that the opinions of the respondents in this point are of great importance. Based on the aforesaid discussion it is evident that the majority respondents thought that the sample banks moderately applied the accounting standards in case of financial reporting practices.

#### **4.3.1 The Formulation of Null Hypothesis**

In order to see whether there is any significant difference of opinions among the respondents regarding the application of accounting standards in financial reporting practices the study has employed the ANOVA as well as chi-square test and designed null hypothesis which is:  $H_{05}$ : There is no significant difference of

opinion among the respondents regarding the application of accounting standards for financial reporting practices by the sample banks.

### 4.3.2 The Results of ANOVA Test

**Table 4.17: Information about the results of ANOVA test**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.493	2	2.747	4.427	0.014
Within Groups	91.200	147	0.620		
Total	96.693	149			

(Source: Opinion Survey Report)

By using the results of ANOVA test it is found that the value of F ratio is 4.427 and the P value is 0.014 levels which is lower than 5% level of significance. So, the null hypothesis is rejected and it is evident that there is significant difference of opinions among the respondents regarding the application of accounting standards in this regard.

### 4.3.3 The Results of Chi-Square Test

**Table 4.18: Information about the results of chi square test**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.061	8	0.110
Likelihood Ratio	13.836	8	0.086
Linear-by-Linear Association	7.458	1	0.006
N of Valid Cases	150		

(Source: Analysis of Opinion Survey Report)

It is observed from the results of chi-square test that the value of  $\chi^2$  is 13.061 and the P value is 0.110 which means that the null hypothesis is accepted and it can be decided that there is no significant difference of opinion among the respondent regarding the application of accounting standards for financial reporting practices by the sample banks.

## 4.4 The Application of Generally Accepted Accounting Principles (GAAP)

Generally Accepted Accounting Principles (GAAP) are very important for financial reporting practices and the accounting profession has developed a common set of rules and guidelines which are followed by the accounting professional universally in accounting practices which are called Generally

Accepted Accounting Principles (GAAP). From the review of the annual reports of the sample banks it is evident that the sample banks follow the different units of Generally Accepted Accounting Principles (GAAP) to prepare the financial statements and to know the level of application of the different units of Generally Accepted Accounting Principles (GAAP) in producing and introducing the financial reports by sample banks the researcher has collected the opinions of the respondents and conducted ANOVA test and chi-square test with a null hypothesis which is  $H_{06}$ : There is no significant difference of opinion among the respondents regarding the application of the different units of Generally Accepted Accounting Principles (GAAP) by for preparing and presenting the financial statements the sample banks.

#### 4.4.1 Opinions of the Respondents regarding the Application of Accounting Entity Assumption

The economic entity assumption means the financial events of the business organization must be maintained separately and distinctly from its owner as well as other business entities (Weygandt et al., 2009). To report the level of application of accounting entity in preparing the financial statements the study has collected opinions of the respondents in this regard and the results are given below:

**Table 4.19: Information about the results of opinions survey regarding the application of accounting entity assumption for preparing the financial statements**

RG	Extremely Agreed		Moderately Agreed		Slightly Agreed		Neutral		Disagreed		Total		Mean
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Acad.	31	62	18	36	01	02	00	00	00	00	50	100	4.727
CA	36	72	13	26	00	00	01	02	00	00	50	100	
CMA	45	90	05	10	00	00	00	00	00	00	50	100	
Total	112	74.67	36	24	01	0.67	01	0.66	00	00	150	100	

(Source: Analysis of Opinion Survey Report)

Table 4.19 has presented the opinion of the respondents regarding the application of accounting entity assumption by the sample banks for preparing the financial statements. The Table shows that that 74.67% of the respondents fully agreed, 24.00% of the respondents moderately agreed 0.67% of the respondents slightly agreed and 0.66% of the respondents were neutral. In addition, the mean value of

response is 4.727 which mean that the respondent opinions in this regard are greatly important. It has been found from the above discussion that the majority respondents thought that the sample banks fully applied the accounting entity assumption in preparing the financial statements.

#### 4.4.1.1 The Formulation of Null Hypothesis

In order to see whether there is any significant difference of opinion among the respondents regarding the compliance with the accounting entity assumption by the sample banks researcher conducted ANOVA as well as chi-square test and developed a null hypothesis which is:  $H_{06.1}$ : There is no significant difference of opinion among the respondents regarding the application of accounting entity assumption by the sample banks for preparing the financial statements.

#### 4.4.1.2 The Results of ANOVA Test

**Table 4.20: Information about the results of ANOVA test**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.413	2	1.207	5.014	0.008
Within Groups	35.380	147	0.241		
Total	37.793	149			

(Source: Analysis of Opinion Survey Report)

By referring to the results of ANOVA test it is evident that the value of F ratio is 5.014 and its the value of P is 0.008 which is lower than 0.05 level of significance. So, the null hypothesis is rejected and it can be decided that there is significant difference of opinion among the respondent regarding the application of accounting entity assumption by the sample banks in preparing the financial statements.

#### 4.4.1.3 The Results of Chi-Square Test

**Table 4.21: Information about the results of chi square test**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.863	6	0.031
Likelihood Ratio	14.983	6	0.020
Linear-by-Linear Association	8.871	1	0.003
N of Valid Cases	150		

(Source: Analysis of Opinion Survey Report)

By analyzing the results of chi-square test it is apparent that the value of  $\chi^2$  is 13.863 and the P value is 0.031 at 5% level of significance which means that the

null hypothesis is rejected and it indicates that there is significant difference of opinion among the respondents regarding the application of accounting entity assumption by the sample banks in preparing the financial statements.

#### 4.4.2 Opinions of the Respondents regarding the Application of Going Concern Assumption

The accounting unit is considered to have a long life to carry out its commitments, obligations, objectives, and so on than that of any asset which it now owns. For accounting purposes, the assumption always goes in favor of considering the business to operate for an indefinitely long period of time (Khan, 1995). To know the level of application of going concern assumption in maintaining the financial statements the study has conducted opinions survey in this regard and the analysis of the opinions are given below:

**Table 4.22: Information about the results of opinions survey regarding the application of going concern assumption for preparing the financial statements**

RG	Extremely Agreed		Moderately Agreed		Slightly Agreed		Neutral		Disagreed		Total		Mean
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Acad.	32	64	14	28	04	08	00	00	00	00	50	100	4.620
CA	26	52	20	40	04	08	00	00	00	00	50	100	
CMA	43	86	07	14	00	00	00	00	00	00	50	100	
Total	101	67.34	41	27.33	08	5.33	00	00	00	00	150	100	

(Source: Analysis of Opinion Survey Report)

Table No. 4.22 reveals the opinion of the respondents regarding the application of going concern assumption by the sample banks in preparing the financial statements. It is evident from the above evidence that 67.34% of the respondents have fully agreed, 27.33% of the respondents have moderately agreed and 5.33% of the respondents have slightly agreed. The above evidence also reports that the mean value of the respondents' responses is 4.620 that supports the opinions of the respondents in this point are momentous. Based on the aforesaid deliberation it is found that most of the respondents thought that the sample banks have fully applied the going concern assumption for maintaining the financial statements.



#### 4.4.2.1 The Formulation of Null Hypothesis

In order to see whether there is any significant difference of opinions among the respondents regarding the application of going concern assumption for preparing the financial statements the study has conducted ANOVA as well as chi-square test and developed a null hypothesis which is:  $H_{06.2}$ : There is no significant difference of opinion among the respondents regarding the application of going concern assumption for preparing the financial statements by the sample banks.

#### 4.4.2.2 The Results of ANOVA Test

**Table 4.23: Information about the results of ANOVA test**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.680	2	2.340	7.372	0.001
Within Groups	46.660	147	0.317		
Total	51.340	149			

(Source: Analysis of Opinion Survey Report)

By considering the results of ANOVA test it is evident that the value of F ratio is 7.372 and the p value is 0.001 which means the value is lower than 0.05 level of significance that signifies the null hypothesis is rejected and it is apparent that there is significant difference of opinion among the respondents regarding the application of going concern assumption for preparing the different financial statements by the sample banks.

#### 4.4.2.3 The Results of Chi-Square Test

**Table 4.24: Information about the results of chi square test**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.611	4	0.006
Likelihood Ratio	17.383	4	0.002
Linear-by-Linear Association	6.530	1	0.011
N of Valid Cases	150		

(Source: Analysis of Opinion Survey Report)

The results of chi-square test delineates that the value of  $\chi^2$  is 14.611 and its P value is 0.006 at 5% level of significance. So, the null hypothesis is rejected and it is logical to say that there is significant difference of opinion among the respondents regarding the application of going concern assumption for preparing the financial statements by the sample banks.

#### 4.4.3 Opinions of the Respondents regarding the Application of Monetary Measurement Assumption

The monetary unit assumption assumes on that the economic entities record the transactions and data in the accounting records which can be measured in terms of money. This assumption believes in stable monetary unit. The monetary unit assumption is important to employ the cost principle (Weygandt et al., 2009). To know the level of application of monetary measurement assumption for preparing the financial statements the study has conducted opinions survey in this regard and the analysis of the opinions are given below:

**Table 4.25: Information about the results of opinions survey statement regarding the application of monetary measurement assumption for preparing the financial statements**

RG	Extremely Agreed		Moderately Agreed		Slightly Agreed		Neutral		Disagreed		Total		Mean
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Acad.	31	62	17	34	02	04	00	00	00	00	50	100	4.540
CA	24	48	23	46	00	00	02	04	01	02	50	100	
CMA	36	72	13	26	01	02	00	00	00	00	50	100	
Total	91	60.67	53	35.33	03	02	02	1.33	01	0.67	150	100	

(Source: Analysis of Opinion Survey Report)

Table 4.25 has reported the opinion of the respondents regarding the application of monetary measurement assumption by the sample banks for preparing the financial statements. From the previous evidence it is apparent that 60.67% of the respondents have fully agreed but 0.67% of the respondents disagreed in this point. Moreover 35.33% have moderately agreed, 2.00% of the respondents have slightly agreed and 1.33% of the respondents were neutral in this regard. The mean value of the respondent opinions is 4.540 which mean that the opinions of the respondents in this regard are of paramount importance. It has been obtained from the above evidence that the majority respondents thought that the sample banks fully agreed that they have applied the monetary measurement assumption for preparing the financial statements.

##### 4.4.3.1 The Formulation of Null Hypothesis

In order to see whether there is any significant difference of opinion among the respondents regarding the application of monetary measurement assumption the

researcher has conducted ANOVA as well as chi-square test with a null hypothesis which is:  $H_{06.3}$ : There is no significant difference of opinion among the respondents regarding the application of monetary measurement assumption in preparing the financial statements by the sample banks.

#### 4.4.3.2 The Results of ANOVA Test

**Table 4.26: Information about the results of ANOVA test**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.360	2	1.680	3.865	0.023
Within Groups	63.900	147	0.435		
Total	67.260	149			

(Source: Analysis of Opinion Survey Report)

From the results of ANOVA test it is found that the value of F ratio is 3.865 and the P value is 0.023 at 5% level of significance which means that the null hypothesis is rejected and it can be concluded that there is significant difference of opinion among the respondents regarding the application of monetary measurement assumption for preparing the financial statements by the sample banks.

#### 4.4.3.3 The Results of Chi-Square Test

**Table 4.27: Information about the results of chi square test**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.264	8	0.103
Likelihood Ratio	14.655	8	0.066
Linear-by-Linear Association	0.798	1	0.372
N of Valid Cases	150		

(Source: Analysis of Opinion Survey Report)

By analyzing the results of chi-square test it is evident that the value of  $\chi^2$  is 13.264 and the significant level is 0.103. So, the null hypothesis is accepted that indicates there is no significant difference of opinion among the respondent regarding the application of monetary measurement assumption for preparing the financial statements.

#### 4.4.4 Opinions of the Respondents regarding the Application of Time Period Assumption

Timeliness is a character which makes the information important. To take important decisions and appropriate actions necessary information must gain

decision makers customarily and rapidly. To provide latest, relevant and reliable financial information accounting systems produce statements at regular intervals. The time period assumption holds that an entity's tasks can be divided into definite and equal time periods such as a month, a quarter, or a year. Generally, most of the entities use a year as their accounting period (Larson et al., 16<sup>th</sup> Edition). To know the level of application of time period assumption for preparing the financial statements the study has been conducted opinions survey in this regard and the analysis of the opinions are given below:

**Table 4.28: Information about the results of opinions survey regarding the application of time period assumption for preparing the financial statements**

RG	Extremely Agreed		Moderately Agreed		Slightly Agreed		Neutral		Disagreed		Total		Mean
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Acad.	27	54	22	44	01	02	00	00	00	00	50	100	4.673
CA	36	72	12	24	02	04	00	00	00	00	50	100	
CMA	42	84	07	14	01	02	00	00	00	00	50	100	
Total	105	70	41	27.33	04	2.67	00	00	00	00	150	100	

(Source: Analysis of Opinion Survey Report)

Table 4.28 presents the opinion of the respondents regarding the application of time period assumption for preparing the financial statements by the sample banks and it reports that 70.00% of the respondents have extremely agreed, 27.33% of the respondents have moderately agreed and 2.67% of the respondents have slightly agreed in this regard. The aforesaid discussion reports that the mean value of the responses is 4.673 that indicate the opinions of the respondents are suggestive. Referring to the previous evidence it is found that the majority respondents thought that the sample banks extremely apply the time period assumption for preparing the different financial statements by the sample banks.

#### 4.4.4.1 The Formulation of Null Hypothesis

In order to see whether there is any significant difference of opinion among the respondents regarding the application of time period assumption for preparing the financial statements researcher conducted ANOVA as well as chi-square test with a null hypothesis which is:  $H_{06.4}$ : There is no significant difference of opinion

among the respondents regarding the application of time period assumption for preparing the financial statements by the sample banks.

#### 4.4.4.2 The Results of ANOVA Test

**Table 4.29: Information about the results of ANOVA test**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.253	2	1.127	4.275	0.016
Within Groups	38.740	147	0.264		
Total	40.993	149			

(Source: Analysis of Opinion Survey Report)

By using the results of ANOVA test it is apparent that the value of F ratio is 4.275 and the P value is 0.016 at 5% level of significance which means that the null hypothesis is rejected and it indicates that there is significant difference of opinion among the respondents regarding the application of time period assumption for preparing the financial statements by the sample banks.

#### 4.4.4.3 The Results of Chi-Square Test

**Table 4.30: Information about the results of chi square test**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.294	4	0.015
Likelihood Ratio	12.261	4	0.016
Linear-by-Linear Association	8.178	1	0.004
N of Valid Cases	150		

(Source: Analysis of Opinion Survey Report)

By analyzing the results of chi-square test it is evident that the value of  $\chi^2$  is 12.294 and the P value is 0.015 at 5% level of significant. So, the null hypothesis is rejected which means that there is significant difference of opinion among the respondent regarding the application of time period assumption for preparing the financial statements by the sample banks.

#### 4.4.5 Opinions of the Respondents regarding the Application of Historical Cost Principle

The cost principle focuses that, financial treatments depend on original costs of business transactions. Under historical cost principle the goods and services purchased are recorded on balance sheet at its original acquisition cost. The cost principle emphasizes reliability and relevance. It is also consistent with objectivity

in that information based on cost is considered objective (Larson, 16<sup>th</sup> Edition). To know the level of application of historical cost principle for preparing the financial statements the study has conducted opinions survey in this regard and the analysis of the opinions are given below:

**Table 4.31: Information about the opinions of the respondents regarding the application of historical cost principle for preparing the financial statements of the sample banks**

RG	Extremely Agreed		Moderately Agreed		Slightly Agreed		Neutral		Disagreed		Total		Mean
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Acad.	21	42	18	36	08	16	03	06	00	00	50	100	4.427
CA	30	60	15	30	03	06	01	02	01	02	50	100	
CMA	37	54	11	22	02	04	00	00	00	00	50	100	
Total	88	58.66	44	29.33	13	8.67	04	2.67	01	0.67	150	100	

(Source: Analysis of Opinion Survey Report)

Table 4.31 shows the opinion of the respondents regarding the application of historical cost principle by the sample banks for preparing the financial statements. The Table shows that 58.66% of the respondents have extremely agreed but 0.67% of the respondents have disagreed on this point. Again 29.33% of the respondents have moderately agreed, 8.67% of the respondents are slightly agreed and 2.67% of the respondents were neutral in this regard. The aforesaid discussion also shows that the mean value of the opinions of the respondents is 4.427 that signify the responses in this regard are greatly important. From the above discussion it has been apparent that the majority respondents thought that the sample banks fully apply the historical cost principle during the preparation of the financial statements by the sample banks.

#### 4.4.5.1 The Formulation of Null Hypothesis

In order to see whether there is any significant difference of opinion among the respondents regarding the application of historical cost principle in preparing the financial statements researcher conducted ANOVA as well as chi-square test and developed a null hypothesis which is:  $H_{06.5}$ : There is no significant difference of opinion among the respondents regarding the application of historical cost principle for preparing the financial statements by the sample banks.

#### 4.4.5.2 The Results of ANOVA Test

**Table 4.32: Information about the results of ANOVA test**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.853	2	3.927	6.354	0.002
Within Groups	90.840	147	0.618		
Total	98.693	149			

(Source: Analysis of Opinion Survey Report)

Based on the results of ANOVA test it is evident that the value of F ratio is 6.354 and its P value is 0.002 which is lower than 5% level of significance that supports the null hypothesis is rejected which means that there is significant difference of opinion among the respondent regarding the application of historical cost principle for preparing the financial statements by the sample banks.

#### 4.4.5.3 The Results of Chi-Square Test

**Table 4.33: Information about the results of chi square test**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	16.337	8	0.038
Likelihood Ratio	17.210	8	0.028
Linear-by-Linear Association	11.836	1	0.001
N of Valid Cases	150		

(Source: Analysis of Opinion Survey Report)

From the results of chi-square test it is apparent that the value of  $\chi^2$  is 16.337 and the P value is 0.038 which means that this value is lower than 0.05 level of significance. So, the null hypothesis is rejected and it presents that there is significant difference of opinion among the respondents regarding the application of historical cost principle for preparing the financial statements by the sample banks.

#### 4.4.6 Opinions of the Respondents regarding the Application of Revenue Recognition Principle

The revenue recognition principle is an important concept of accrual accounting basis which guides how and when revenue is to be recognized. According to this principle, revenue should be recognized when the earning process is substantially complete, the asset received is measurable in monetary terms and there is existence of an external transaction. If revenue is recorded too fast the income statement shows revenue sooner than it should, and the business is deemed more

profitable than it is. If revenue is recorded too delayed the income statement reports lower revenue and net income than it should, and the business is deemed less profitable than it is. In both cases, the income statement does not provide useful information to the concerned parties (Larson, 16<sup>th</sup> edition). To know the level of application of revenue recognition principle for preparing the financial statements the study has conducted opinion survey in this regard and the analysis of the opinions are given below:

**Table 4.34: Information about the results of opinions survey statement regarding the application of revenue recognition principle for preparing the financial statements**

RG	Extremely Agreed		Moderately Agreed		Slightly Agreed		Neutral		Disagreed		Total		Mean
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Acad.	13	26	24	48	13	26	00	00	00	00	50	100	4.153
CA	20	40	22	44	08	16	00	00	00	00	50	100	
CMA	18	36	26	52	05	10	01	02	00	00	50	100	
Total	51	34	72	48	26	17.33	01	0.67	00	00	150	100	

(Source: Analysis of Opinion Survey Report)

Table 4.34 has reported the results of opinion survey regarding the extent of application of revenue recognition principle by the sample banks to prepare the financial statements and it has been obtained from the above evidence that 34.00% of the respondents have fully agreed, 48.00% of the respondents have moderately agreed, 17.33% of the respondents have slightly agree and 0.67% of the respondents were neutral in this regard. The above discussion also reports that the mean value of the responses is 4.153 that supports to say the opinions of the respondents are of paramount importance. Based on the aforesaid evidence it is visible that the majority of the respondents thought that the sample banks moderately apply the revenue recognition principle in preparing the financial statements.

#### 4.4.6.1 The Formulation of Null Hypothesis

In order to see whether there is any significant difference of opinion among the respondents regarding the application of revenue recognition principles researcher conducted ANOVA as well as chi-square test with a null hypothesis which is:  $H_{06.6}$ : There is no significant difference of opinion among the respondents



regarding the application of revenue recognition principle for preparing the financial statements by the sample banks.

#### 4.4.6.2 The Results of ANOVA Test

**Table 4.35: Information about the results of ANOVA test**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.773	2	0.887	1.722	0.182
Within Groups	75.700	147	0.515		
Total	77.473	149			

(Source: Analysis of Opinion Survey Report)

By considering the results of ANOVA test it is found that the value of F ratio is 1.722 and the null hypothesis is accepted and it concludes that there is no significant difference of opinion among the respondents regarding the application of revenue recognition principle in preparing the financial statements by the sample banks.

#### 4.4.6.3 The Results of Chi-Square Test

**Table 4.36: Information about the results of chi square test**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.632	6	0.266
Likelihood Ratio	7.875	6	0.247
Linear-by-Linear Association	2.327	1	0.127
N of Valid Cases	150		

(Source: Analysis of Opinion Survey Report)

By analyzing the results of chi-square test it is visible that the value of  $\chi^2$  is 7.632 and the P value is 0.266 which means that the null hypothesis is accepted and signifies that there is no significant difference of opinion among the respondents regarding the application of revenue recognition principle in preparing the financial statements by the sample banks.

#### 4.4.7 Opinions of the Respondents regarding the Application of Matching Principle

In recognizing expenses, the approach followed is “Let the expense follow the revenues”. Matching principle is an important concept of accrual basis. Expenses incurred are recorded in the same period when the related revenues are earned. Thus, expense recognition is tied to revenue recognition. This practice is referred

to as the matching principle because it dictates that efforts (expenses) be matched with accomplishment (revenues) whenever it is reasonable and practicable to do so (Kieso et al., Eleventh Edition). Expense is matched against revenue on the basis of cause and effect, allocating cost on time basis and immediate recognition. To know the level of application of matching principle for preparing the financial statements the study has conducted opinions survey in this regard and the analysis of the opinions are given below:

**Table 4.37: Information about the results of opinions survey regarding the application of matching principle for preparing the financial statements**

RG	Extremely Agreed		Moderately Agreed		Slightly Agreed		Neutral		Disagreed		Total		Mean
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Acad.	08	16	27	54	15	30	00	00	00	00	50	100	4.060
CA	22	44	19	38	08	16	01	02	00	00	50	100	
CMA	15	30	26	52	07	14	02	04	00	00	50	100	
Total	45	30	72	48	30	20	03	02	00	00	150	100	

(Source: Analysis of Opinion Survey Report)

The Table 3.37 has revealed the results of opinions survey statement regarding the application of matching principle in preparing the financial statements by the sample banks. It has been obtained from the above discussion that 30.00% of the respondents have fully agreed, 48.00% of the respondents have moderately agreed, 20.00% of the respondents have slightly agreed and 2.00% of the respondents were neutral in this regard. The aforesaid discussion also reports that the mean value of the respondent opinions is 4.060 that mean the responses are significant in this regard. From the previous evidence it is found that the majority of the respondents thought that the sample banks moderately apply the matching principle during the preparation of the financial statements.

#### 4.4.7.1 The Formulation of Null Hypothesis

In order to see whether there is any significant difference of opinions among the respondents regarding the application of matching principle the study has employed ANOVA as well as chi-square test through developing a null hypothesis which is:  $H_{06.7}$ : There is no significant difference of opinion among the respondents regarding the application of matching principle in preparing the financial statements by the sample banks.

#### 4.4.7.2 The Results of ANOVA Test

**Table 4.38: Information about the results of ANOVA test**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.640	2	1.820	3.230	0.042
Within Groups	82.820	147	0.563		
Total	86.460	149			

(Source: Analysis of Opinion Survey Report)

The results of ANOVA test assert that the value of F ratio is 3.230 and the p value is 0.042 and this value is lower than 0.05 level of significance. So, the null hypothesis is rejected and indicates that there is significant difference of opinion among the respondents regarding the application of matching principle in preparing the financial statements by the sample banks.

#### 4.4.7.3 The Results of Chi-Square Test

**Table 4.39: Information about the results of chi square test**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.917	6	0.031
Likelihood Ratio	14.812	6	0.022
Linear-by-Linear Association	2.085	1	0.149
N of Valid Cases	150		

(Source: Analysis of Opinion Survey Report)

Based on the results of chi-square test it is found that the value of  $\chi^2$  is 13.917 and its P value is 0.031 which means that the null hypothesis is rejected and it can be concluded that there is significant difference of opinion among the respondent regarding the application of matching principle by the sample banks during the preparation of financial statements.

#### 4.4.8 Opinions of the Respondents regarding the Application of Full Disclosure

Accountants are beholden to disseminate all important financial information preferably in the body of the financial statements but also in interpretive foot notes. The policy of disclosure applies where good judgment points to a change which improves the truthfulness of the representations or the usefulness of accounting reports. The accountant purposes to make adequate exposure of all significant information to grasp by the concern parties or material for decision

making which might be based on financial reports (Khan, 1995). To know the level of application of full disclosure principle for preparing the financial statements the study has conducted opinions survey in this regard and the analysis of the opinions are given below:

**Table 4.40: Information about the results of opinions survey regarding the application of full disclosure principle for preparing the financial statements**

RG	Extremely Agreed		Moderately Agreed		Slightly Agreed		Neutral		Disagreed		Total		Mean
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Acad.	03	06	30	60	11	22	03	06	03	06	50	100	3.913
CA	19	38	17	34	12	24	02	04	00	00	50	100	
CMA	17	34	24	48	08	16	01	02	00	00	50	100	
Total	39	26	71	47.33	31	20.67	06	04	03	02	150	100	

(Source: Analysis of Opinion Survey Report)

Table 4.40 reports the opinion of the respondents regarding the application of full disclosure principle by the sample banks for preparing the financial statements. The above discussion shows that 26.00% of the respondents have fully agreed but 2% of the respondents have disagreed in this regard. On the other hand, 47.33% of the respondents have moderately agreed, 20.67% of the respondents have slightly agreed and 4.00% of the respondents were neutral in this point. This discussion also shows that the mean value of the respondents' opinions is 3.193 which mean the respondents' responses in this regard are momentous. It has been found from the above discussion that the majority respondents thought that the sample banks moderately apply the full disclosure principle for preparing the financial statements.

#### 4.4.8.1 The Formulation of Null Hypothesis

In order to see whether there is any significant difference of opinion among the respondents regarding the application of full disclosure principle the study has employed ANOVA as well as chi-square test with the use of a null hypothesis which is:  $H_{06.8}$ : There is no significant difference of opinion among the respondents regarding the application of full disclosure principle by the sample banks in preparing the financial statements.

#### 4.4.8.2 The Results of ANOVA Test

**Table 4.41: Information about the results of ANOVA test**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10.613	2.000	5.307	7.140	0.001
Within Groups	109.260	147.000	0.743		
Total	119.873	149.000			

(Source: Analysis of Opinion Survey Report)

Based on the above results of ANOVA test it is evident that the value of F ratio is 7.140 and the P value is 0.001 at 5% level of significance that supports to reject the null hypothesis which means that there is significant difference of opinion among the respondent regarding the application of full disclosure principle in preparing the financial statements by the sample banks.

#### 4.4.8.3 The Results of Chi-Square Test:

**Table 4.42: Information about the results of chi square test**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	23.108	8	0.003
Likelihood Ratio	26.901	8	0.001
Linear-by-Linear Association	11.187	1	0.001
N of Valid Cases	150		

(Source: Analysis of Opinion Survey Report)

The results of chi-square test provide that the value of  $\chi^2$  is 23.108 and its P value is 0.003 which means that the null hypothesis is rejected and it signifies that there is significant difference of opinion among the respondent regarding the application of full disclosure principle in preparing the financial statements by the sample banks.

#### 4.4.9 Opinions of the Respondents regarding the Application of Costs and Benefits Constraint

One considerable obstruction of financial recording is the costs of providing information must be measured against of the benefit gleaned from the application of that same information. The cost of suppling information must not exceed the benefit of that information supplied. Companies spend to assemble, process, examine and communicate relevant information (Howlader et al., 2017). To know the level of application of costs and benefits constraint for preparing the financial statements the study has conducted opinions survey in this regard and the analysis of the opinions are given below:

**Table 4.43: Information about the results of opinions survey statement regarding the application of costs and benefits constraint for preparing the financial statements**

RG	Extremely Agreed		Moderately Agreed		Slightly Agreed		Neutral		Disagreed		Total		Mean
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Acad.	07	14	28	56	11	22	03	06	01	02	50	100	3.780
CA	09	18	24	48	14	28	03	06	00	00	50	100	
CMA	08	16	28	56	11	22	03	06	00	00	50	100	
Total	24	16	80	53.33	36	24	09	06	01	0.67	150	100	

(Source: Analysis of Opinion Survey Report)

Table 4.43 has been presented the opinion of the respondents regarding the application of cost and benefits constraint by the sample banks during the preparation of financial statements and it has been obtained from the above evidence that 16.00% of the respondents have extremely agreed but 0.67% of the respondents have disagreed in this regard. On the other hand, 53.33% of the respondents have moderately agreed, 24.00% of the respondents have slightly agreed and 6.00% of the respondents were neutral in this point. The discussion also reports that the mean value of the respondents' opinions in this regard is 3.780 that indicate the responses signify importance. Finally, it can be concluded that the majority respondents thought that the sample banks moderately applied the costs and benefits constraint in preparing the financial statements.

#### 4.4.9.1 The Formulation of Null Hypothesis

In order to see whether there is any significant difference of opinion among the respondents regarding the application of costs and benefits constraint the study has conducted ANOVA as well as chi-square test and designed a null hypothesis which is:  $H_{06.9}$ : There is no significant difference of opinion among the respondents regarding the application of costs and benefits constraint by the sample banks in preparing the financial statements.

#### 4.4.9.2 The Results Chi-Square Test

**Table 4.44: Information about the results of ANOVA test**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.160	2	0.080	0.121	0.887
Within Groups	97.580	147	0.664		
Total	97.740	149			

(Source: Analysis of Opinion Survey Report)

By analyzing the results of ANOVA test it is obtained that the value of F ratio is 0.121 and the P value is 0.887 which supports that the null hypothesis is accepted and it indicates that there is no significant difference of opinion among the respondent regarding the application of costs and benefits constraint for preparing the financial statements by the sample banks.

#### 4.4.9.3 The Results of ANOVA Test

**Table 4.45: Information about the results of chi square test**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.150	8	0.925
Likelihood Ratio	3.343	8	0.911
Linear-by-Linear Association	0.244	1	0.621
N of Valid Cases	150		

(Source: Analysis of Opinion Survey Report)

By using the results of chi-square test it is found that the value of  $\chi^2$  is 3.150 and its P value is 0.925. So, the null hypothesis is accepted and it can be concluded that there is no significant difference of opinion among the respondent regarding the application of costs and benefits constraint for preparing the financial statements by the sample banks.

#### 4.4.10 Opinions of the Respondents regarding the Application of Materiality Constraint

When a product or information has significant value and influence on the decision-making process then the item is considered material as well as when an event isn't deemed significant enough in decision-making then it isn't considered material. Companies must record that financial information which has material impact on overall financial performance and therefore appears in financial statements. (Howlader et al., 2017). To know the level of application of materiality constraint for preparing the financial statements the study has conducted opinions survey in this regard and the analysis of the opinions are given below:

**Table 4.46: Information about the results of opinions survey regarding the application of materiality constraint for preparing the financial statements**

RG	Extremely Agreed		Moderately Agreed		Slightly Agreed		Neutral		Disagreed		Total		Mean
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Acad.	06	12	24	48	16	32	02	04	02	04	50	100	3.973
CA	22	44	18	36	09	18	01	02	00	00	50	100	
CMA	19	38	18	36	12	24	01	02	00	00	50	100	
Total	47	31.33	60	40	37	24.67	04	2.67	2	1.33	150	100	

(Source: Analysis of Opinion Survey Report)

Table 4.46 shows the results of opinion survey statement regarding the application of materiality constraint by the sample banks for preparing the financial statements. The above evidence shows that 31.33% of the respondents have extremely agreed but 1.33% of the respondents have disagreed in this regard. Moreover, 40.00% of the respondents have moderately agreed, 24.67% of the respondents have slightly agreed and 2.67% of the respondents were neutral in this regard. In addition, the mean value of respondents' responses is 3.973 that confirm the opinions of the respondent are greatly important. From the above discussion it has been observed that the majority of the respondents thought that the sample banks moderately applied the materiality constraint for preparing the financial statements.

#### 4.4.10.1 The Formulation of Null Hypothesis

In order to see whether there is any significant difference of opinion among the respondents regarding the application of materiality constraint the study has employed ANOVA as well as chi-square test with a null hypothesis which is:  $H_{06.10}$ : There is no significant difference of opinion among the respondents regarding the application of materiality constraint for preparing the financial statements by the sample banks.

#### 4.4.10.2 The Results of ANOVA Test

**Table 4.47: Information about the results of ANOVA test**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10.813	2	5.407	7.422	0.001
Within Groups	107.080	147	0.728		
Total	117.893	149			

(Source: Analysis of Opinion Survey Report)



The results of ANOVA test reports that the value of F ratio is 7.422 and its P value is 0.001 that ensures that the null hypothesis is rejected which means that there is significant difference of opinion among the respondents regarding the application of materiality constraint for preparing the financial statements by the sample banks.

#### 4.4.10.3 The Results of Chi-Square Test

**Table 4.48: Information about the results of chi square test**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	16.934	8	0.031
Likelihood Ratio	18.782	8	0.016
Linear-by-Linear Association	7.899	1	0.005
N of Valid Cases	150		

(Source: Analysis of Opinion Survey Report)

It has been observed by analyzing the results of chi-square test that the value of  $\chi^2$  is 16.934 and the value of P is 0.031 which is lower than 0.05. So, the null hypothesis is rejected and it is found that there is significant difference of opinion among the respondents regarding the application of materiality constraint for preparing the financial statements by the sample banks.

#### 4.4.11 Opinions of the Respondents regarding the Application of Industry Practices

The industries which are unique and distinctive in nature have recommended Industry Practices rather than conventional accounting practices and reporting (Kieso et al., Eleventh Edition). For example, in the gaming, insurance, medical care, or utility industries sometimes require departure from basic theory. To know the level of application of industry practices constraint for preparing the financial statements the study has utilized the opinions survey statement in this regard and the analyses of the opinions are given below:

**Table 4.49: Information about the results of opinions survey statement regarding the application of industry practices for preparing the financial statements**

RG	greatly Agreed		Moderately Agreed		Slightly Agreed		Neutral		Disagreed		Total		Mean
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Acad.	05	10	21	42	18	36	05	10	01	02	50	100	3.693
CA	09	18	27	54	08	16	06	12	00	00	50	100	
CMA	08	16	25	50	17	34	00	00	00	00	50	100	
Total	22	14.67	73	48.66	43	28.67	11	7.33	01	0.67	150	100	

(Source: Analysis of Opinion Survey Report)

Table 4.49 presents the results of the opinion of the respondents regarding the application of industry practices constraint by the sample banks in preparing the financial statements. From the above evidence we observe that 14.67% of the respondents have greatly agreed but 0.67% of the respondents did not agree in this point. Furthermore 48.66% of the respondents have moderately agreed, 28.67% of the respondents have slightly agreed and 7.33% of the respondents did not share any opinion in this regard. Based on the previous discussion it is evident that the mean value of the responses is 3.693 which confirm that the opinions in this regard are suggestive. The aforesaid discussion also reports that the majority respondents thought that the sample banks moderately applied the industry practices constraint in preparing the financial statements.

#### 4.4.11.1 The Formulation of Null Hypothesis

In order to see whether there is any significant difference of opinion among the respondents regarding the application of industry practices constraint the study has performed the ANOVA as well as chi-square test with the use of a null hypothesis which is:  $H_{06.11}$ : There is no significant difference of opinion among the respondents regarding the application of industry practices constraint by the sample banks in preparing the financial statements.

#### 4.4.11.2 The Results of ANOVA Test

**Table 4.50: Information about the results of ANOVA test**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.453	2	1.727	2.527	0.083
Within Groups	100.440	147	0.683		
Total	103.893	149			

(Source: Analysis of Opinion Survey Report)

By analyzing the results of ANOVA test it is evident that the value of F ratio is 2.527 and the value of P is 0.083. So, the null hypothesis is accepted and it concludes that there is no significant difference of opinion among the respondents regarding the application of industry practices constraint for preparing the financial statements by the sample banks.

#### 4.4.11.3 The Results of Chi-Square Test:

**Table 4.51: Information about the results of chi square test**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.818	8	0.087
Likelihood Ratio	17.907	8	0.022
Linear-by-Linear Association	4.145	1	0.042
N of Valid Cases	150		

(Source: Analysis of Opinion Survey Report)

By referring to the results of chi-square test it is found that the value of  $\chi^2$  is 13.818 and the P value is 0.087 which means that the null hypothesis is accepted and indicates that there is no significant difference of opinion among the respondents regarding the application of industry practices constraint by the sample banks for preparing the financial statements.

#### 4.4.12 Opinions of the Respondents regarding the Application of Conservatism

Conservatism is applied in unfavorable situation when uncertainty exists as well as there is doubt between two rational alternatives as per conservatism principle the accountant should maintain more caution. According to this the less favorable outcome is always chosen first. The estimated/potential expenses or losses not estimated/potential gains or revenues are recorded to minimize profit. If the issue is suspicious, it is recommended to understate than overstate net income and net assets (Kieso et al., Eleventh Edition). To know the level of application of conservatism constraint for preparing the financial statements the study has conducted opinions survey in this regard and the analysis of the opinions are given below.

**Table 4.52: Information about the results of opinions survey regarding the application of conservatism constraint for preparing the financial statements**

RG	Extremely Agreed		Moderately Agreed		Slightly Agreed		Neutral		Disagreed		Total		Mean
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Acad.	10	20	18	36	19	38	02	4.00	01	2.00	50	100	3.767
CA	14	28	20	40	09	18	06	12	01	2.00	50	100	
CMA	11	22	22	44	14	28	03	6.00	00	00	50	100	
Total	35	23.34	60	40.00	42	28	11	7.33	2	1.33	150	100	

(Source: Analysis of Opinion Survey Report)

The Table 4.52 has shown the opinion of the respondents regarding the application of conservatism constraint in preparing the financial statements by the sample banks and this evidence reports that 23.34% of the respondents extremely agreed but 1.33% have disagreed in this regard. Again 40.00% of the respondents moderately agreed, 28.00% of the respondents slightly agreed and 7.33% of the respondents were neutral. This evidence also reports that the mean value of the responses is 3.767 which ensures that the opinions of the respondents in this regard are of greatly important. From the aforesaid evidence it is found that the majority respondents thought that the sample banks moderately applied the conservatism constraint for preparing the financial statements.

#### 4.4.12.1 The Formulation of Null Hypothesis

In order to see whether there is any significant difference of opinion among the respondents regarding the application of conservatism constraint the study has conducted ANOVA as well as chi-square test and developed a null hypothesis which is:  $H_{06.12}$ : There is no significant difference of opinion among the respondents regarding the application of conservatism constraint by the sample banks in preparing the financial statements.

#### 4.4.12.2 The Results of ANOVA Test

**Table 4.53: Information about the results of ANOVA test**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.573	2	0.287	0.324	0.724
Within Groups	130.260	147	0.886		
Total	130.833	149			

(Source: Analysis of Opinion Survey Report)

Referring to the results of ANOVA test it is apparent that the value of F ratio is 0.324 and its P value is 0.724 that confirms that the null hypothesis is accepted which means that there is significant difference of opinion among the respondents regarding the application of conservatism constraint for preparing the financial statements by the sample banks.

#### 4.4.12.3 The Results of Chi-Square Test

**Table 4.54: Information about the results of chi square test**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.078	8	0.426
Likelihood Ratio	8.683	8	0.370
Linear-by-Linear Association	0.558	1	0.455
N of Valid Cases	150		

(Source: Analysis of Opinion Survey Report)

Considering to the results of chi-square test it is found that the value of  $\chi^2$  is 8.078 and the value of P is 0.426 which means that the null hypothesis is accepted and it means that there is no significant difference of opinion among the respondents regarding the application of conservatism constraint by the sample banks for preparing the financial statements.

#### 4.5 Opinions of the Respondents regarding the Application of Accrual Basis Accounting

From the examination of annual reports of the sample banks it has been found that the sample banks follow the accrual basis accounting for preparing the financial statements and to know the degree of application the study has made an opinion survey of the respondents regarding the degree of application of accrual basis for preparing the financial statements of the sample banks.

**Table 4.55: Information about the opinions of the respondents regarding the application of accrual basis accounting for preparing the financial statements**

RG	Extremely Agreed		Moderately Agreed		Slightly Agreed		Neutral		Disagreed		Total		Mean
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Acad.	08	16	38	76	03	06	01	02	00	00	50	100	4.180
CA	23	46	18	36	04	08	01	02	04	08	50	100	
CMA	27	54	16	32	06	12	01	02	00	00	50	100	
Total	58	38.66	72	48	13	8.67	03	02	04	2.67	150	100	

(Source: Analysis of Opinion Survey Report)

Table No. 4.55 has reported the results of opinion survey statement regarding the degree of application of accrual basis accounting for preparing the financial statements by the sample banks. The above evidence shows that 38.66% of the respondents extremely agreed but 2.67% of the respondents have disagreed in this regard. Furthermore 48.00% of the respondents have moderately agreed, 8.67% of

the respondents have slightly agreed and 2.00% of the respondents were neutral in this point. It had been found from the above discussion that the mean value of the respondents' opinions is 4.180 which means that the perceptions in this regard are momentous. Based on previous evidence it is found that the majority respondents thought that the sample banks moderately apply the accrual basis accounting for preparing the financial statements.

#### 4.5.1 The Formulation of Null Hypothesis

In order to see whether there is any significant difference of opinion among the respondents regarding the application of accrual basis accounting researcher conducted ANOVA as well as chi-square test and designed a null hypothesis which is:  $H_{07}$ : There is no significant difference of opinion among the respondents regarding the application of accrual basis accounting for preparing the financial statements by the sample banks.

#### 4.5.2 The Results of ANOVA Test

**Table 4.56: Information about the results of ANOVA test**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.040	2	1.520	2.011	0.137
Within Groups	111.100	147	0.756		
Total	114.140	149			

(Source: Analysis of Opinion Survey Report)

The results of ANOVA test show that the value of F ratio is 2.011 and the P value is 0.137 which means that the null hypothesis is accepted and it indicates that there is no significant difference of opinion among the respondent regarding the application of accrual basis accounting by the sample banks for preparing the financial statements.

#### 4.5.3 The Results of Chi-Square Test

**Table 4.57: Information about the results of chi square test**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	31.790	8	0.0001
Likelihood Ratio	33.347	8	0.0001
Linear-by-Linear Association	3.342	1	0.0675
N of Valid Cases	150		

(Source: Analysis of Opinion Survey Report)

By using the results of chi-square test it is found that the value of 31.790 and its P value is 0.0001 which means that the null hypothesis is rejected and it can be concluded that there is significant difference of opinion among the respondents regarding the application of accrual basis accounting for preparing the financial statements by the sample banks.

#### 4.6 Test of Reliability

The study has employed Chronbach's Alpha technique to know the reliability of respondents' opinions regarding the different legal frameworks in financial reporting practices by the sample banks and the consequence in this regard are given below:

**Table 4.58: Information about the results of Cronbach Alpha test**

Items	Mean	Variance	SD	Alpha Value
19	79.7867	176.9609	13.3027	0.9853

(Source: Analysis of Opinion Survey Statement)

The Table No. 4.63 has reported the results of Cronbach Alpha test and referring to this it is evident that the value of Alpha is above 0.7 which means that the respondent opinions regarding the different legal frameworks in financial reporting practices by the sample banks are reliable.

#### 4.7 Conclusion

Financial reporting practices are regulated by the provisions of different laws and regulations and GAAP and disseminate information through preparing the financial statements like income statement, balance sheet, owner's equity statements as well as cash flow statements contained in the annual reports that is useful to make logical decisions as per requirements of the interested users. The main aim of this chapter is to examine the level of compliance status of the different legal frameworks for financial reporting practices by the sample banks in the light of respondents' opinions and the evidence reports that the sample banks greatly comply with the Banking Companies Act, 1991, the Companies Act, 1994 as well as the Bangladesh Bank Order, 1972 in financial reporting practices but moderately compliance are visible in case of the Securities and Exchanges Rules,

1987 as well as the Securities and Exchange Ordinance, 1969 in financial reporting practices. Again, the sample banks moderately apply the accounting standards in financial reporting practices. In addition, referring to the results about the opinions of the respondents on the application of the different units of Generally Accepted Accounting Principles (GAAP) in preparing the financial statements it is visible that the sample banks greatly apply the accounting entity assumption, going concern assumption, momentary measurement assumption, time period as well as historical cost principle for preparing the financial statements. On the other hand, moderate applications are found in case of revenue recognition principle, matching principle, full disclosure principle, costs and benefits constraint, materiality constraint, industry practices and conservatism for preparing the financial statements. Furthermore, the sample banks moderately apply the accrual basis accounting in preparing the financial statements. With a view to knowing whether there is any significant difference of opinions among the respondents regarding the compliance status of the different legal frameworks in financial reporting practices by the sample banks the study has employed the ANOVA as well as Chi-Square tests and the evidence reveals that there is significant and insignificant difference of opinions among the respondents regarding compliance status of the different legal frameworks for financial reporting practice of the sample banks.



## **Chapter Five**

# **Corporate Governance Practice and Its Influence on Financial Performance**

### **5.1 Introduction**

Corporate governance includes regulations, practices and processes that are managed by organizations and it ensures the fundamental benefit of a company's different stakeholders, such as investors, executives, consumers, management and the mass people. Corporate governance is connected with the technique that is used to safeguard the rights of stakeholders, if a shareholder is concerned to attain a return on his investment in the form of bonus on the other hand, the goal of managers may be relatively variant like securing his task, receiving an encouragement or like (Ashraf, Bashir and Asghar, 2017). Corporate governance means the code of conduct, companies are directed and controlled through this code of conduct. The corporate governance practice is increasingly becoming vital whether the company applies the stakeholder model or the shareholders model (Gupta and Sharma, 2013). Corporate governance signifies the values, ethics and moralities under which organizational decisions are taken (Mahmud and Ara, 2015). Corporate governance is important to achieve the target and to preserve the interests of different stakeholder groups and it envelops promoting the compliance of regulatory framework in letter and spirit and demonstrating ethical conduct. The structure of corporate governance encourages using of resources efficiently and also need accountability for the stewardship of those resources (Aggarwal, 2013). The transparent and healthy banking system is important for promoting the economic growth and development. For this consideration, more supervision is needed for this sector to face the global financial challenges. Experts are of the opinion that, banks need more supervision for ensuring the good governance. Good corporate governance minimizes the shareholders' investment risk and assists in lessening the cost of financing, which leads to a steady flow of foreign investment into the country (Farooque et al., 2007 cited in Ahmed, Zannat and Ahmed, 2017). This chapter provides the different mechanisms of corporate governance and its influence on financial performance.

## **5.2 Need for Corporate Governance in Banking Sector**

The importance of corporate governance in unfolding, rising and changing economy is to resolve problems of ownership and control and to ensure transparency with a view to achieve the expected goals of corporate governance. In many cases, the developing and emerging economy are felt disturbed in case of absence of property rights, the mistreat of minority shareholders, breach of contract, asset depletion and self-dealing. Form of ownership, regulatory atmosphere, societal influence and the broad composition would be the fundamental elements in the design of a governance framework of banking (Indiresan, 2010<sup>3</sup> cited in Kanungo and Nayak, 2017). Banks and financial institutions have become the important contributors over the years to the economic growth and development of the nation. Public banks play a vital role in economic evolution. Previously, these institutions are inchmeal getting corporatized and therefore corporate governance issues in banking industry undertakes greater significance in the coming years. For this consideration, the practice of corporate governance and the way it assists in ensuring more transparency and contributing to the overall growth of the sector it is a matter of concern in case of banking sector, (Kanungo and Nayak, 2017).

## **5.3 Compliance with the Conditions of Corporate Governance**

The Securities and Exchange Commission (SEC) notifies directions on some important issues of corporate governance and also prescribes a competent guideline for reporting in the annual reports under director's report section. All the listed companies with any stock exchange in Bangladesh are needed to comply these conditions. The maximum conditions are highly indispensable to govern the organization transparently and the duties and responsibilities are distributed properly among the board of directors. In addition, both board of director and audit committee are liable for reporting necessary areas of corporate governance, that are not included in the existing regulations. In this situation, it is urgent to consider the conditions imposed by SEC for the corporate governance reporting (Uddin and Begum, 2011). In 2003, Bangladesh Enterprise Institute (BEI) noted

that corporate governance norms and practices in Bangladesh have fallen behind the other neighboring countries and developing world. The qualities of corporate governance in Bangladesh are high ownership concentration, absence of investors' participation, the aversion of companies to upraise capital through the capital markets (Javed Siddiqui, 2009). In Bangladesh the banking industry is ruled by the Bangladesh Bank circulars relating to formulation of audit committees, corporate governance, and appointment of the board of directors. Banks' board composition and size depend on director's ability to monitor and counsel management and that larger and moderate independent board might prove more efficient in keeping an eye on and counseling activities, and raise more value (Andres and Vallelado 2008). Good corporate governance has implication for company behavior towards employees, shareholders, customers and banks. Improved corporate governance is able to deliver notable rewards to both individual entities and countries. The finding of the study has provided a clear-sightedness to the governors in this quest for harmonization of internal corporate governance practices

#### **5.4 Corporate Governance Scenario in Banking Sector of Bangladesh**

Corporate governance is momentous for ensuring the growth as well as firmness of different economic sectors and amidst them the banking sector has become the engine to perform the different economic activities of developing countries. For this reason, it is highly needed for prescient and fruitful regulation both at firm and macro level but the literature and evidence definitely confirm that the mode of the superintendency in banking system of Bangladesh is not at satisfactory level. The different factors like nationalization, political interference, concentrated ownership of the private banks, want of accountability, faulty, incomplete and ineffective audit and disclosure have led to extensive corruption in the banking sector (Mahmud and Ara, 2015). Good corporate governance practices are completely unavailable in case of most organizations and entities in Bangladesh. In fact, the corporate governance in Bangladesh has fallen behind its neighbors and the world economy. One notable reason for the poor corporate governance is that, most companies are family oriented. Some individual constituents of corporate

governance are poor bankruptcy laws, lack of foreign investment, weak regulatory system, general meeting scenario, limited or no disclosure regarding related party transactions, lack of shareholders' active participations etc. (Ahmad and Yusuf, 2005 cited in Mahmood, 2015). The banking industry in Bangladesh is turning to become stronger gradually and acting a significant important role in the fickle economy for becoming Bangladesh one of the rising economies in the forthcoming world. So, to be more effective and to put more contribution for the betterment of Bangladesh, the banking sector should follow the codes of corporate governance strictly to bring the transparency in its operations and to grow the faith in mind of the stakeholders as well as the people of Bangladesh (Kar and Sarker, 2014). Corporate governance means the combination of different procedures that bring the interest of investors into operations of the firm and ensure that firms run for the maximization of benefits in favor of investors. Corporate governance inspires framework, structures, systems, cultures into firm's operation that produce the efficient operation of firms. The commercial banks working in Bangladesh will not be able to perform a long time with success without ensuring the improvement of corporate governance practices continuously. The areas of corporate governance of banking sector in Bangladesh need to improve for building ownership and appoint independent directors of banks without personal interest and family members. Loan needs to be disbursed fully complying credit policy and guidelines, proper compliance of regulatory authority etc. (Miah and Alam, 2017).

### **5.5 Corporate Governance and Financial Performance Mechanisms**

At present the banking organization performs a significant role in the economic development of any country and the healthy banking systems is closely related with good corporate governance. For assessing the influences of corporate governance practices on financial performance the study has considered board size, bank size measured by total assets and interest income, bank age, capital adequacy ratio, loan to deposit ratio and debt equity ratio as corporate governance mechanisms as well as return on assets, return on equity, return on investment and net profit percentage as indicators of financial performance. The study conducted

ANOVA technique along with developing hypothesis to identify whether there is any significant variation in different surrogates of corporate governance and financial performance and the null hypothesis is  $H_{08}$ : There is no significant variation in different mechanisms of corporate governance and financial performance of the sample banks and the results in this regard are included in the following section.

### 5.5.1 Descriptive Statistics about the Board Size

**Table 5.1: Information about the results of descriptive statistics about the board size**

Sample Banks	N	Range	Minimum	Maximum	Mean of 5 Yr	SD	Variance
Sample_1	5	3	9	12	11	1.414214	2
Sample_2	5	2	11	13	12.2	0.836660	0.7
Sample_3	5	4	9	13	10.8	1.643168	2.7
Sample_4	5	8	10	18	12.8	3.114482	9.7

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 5.1 shows the sample wise descriptive statistics of board of size from 2012 to 2016 and the results report that the mean value of the sample banks ranges from 10.8 to 12.80. There is a little consistency in case of board size though the sample\_2 has shown very consistent in this regard among the sample banks over the study period.

#### 5.5.1.1 Variation of Board Size among the Sample Banks

In order to see whether there is any significant variation in board size among the sample banks, the researcher has developed the null hypothesis which is  $H_{08.1}$ : There is no significant variation in board size among the sample banks and conducted ANOVA technique.

**Table 5.2: Information about the results of ANOVA test regarding the board size**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	13.8	3	4.6	1.2185	0.3352
Within Groups	60.4	16	3.775		
Total	74.2	19			

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

In analyzing the variation in board size among the studied banks, ANOVA has been applied with the use of five years' panel data from 2012 to 2016 and it is evident that F statistics (3, 16) is 1.2185 and P value (Sig.) is 0.3352 which is higher than 5% level of significance and it confirms that the null hypothesis is accepted. Based on the above fact it is found that there is no significant variation in board size among the sample banks.

### 5.5.2 Descriptive Statistics about the Bank Age

**Table 5.3: Information about the results of descriptive statistics about the bank age**

Sample Banks	N	Range	Minimum	Maximum	Mean	SD	Variance
Sample_1	5	4	43	47	45	1.581139	2.5
Sample_2	5	4	43	47	45	1.581139	2.5
Sample_3	5	4	43	47	45	1.581139	2.5
Sample_4	5	4	29	33	31	1.581139	2.5

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 5.3 implies that the results of descriptive statistics about the bank age in the respective years from 2012 to 2016 and it is observed that the average values are same in first three sample banks but the standard deviation values of the entire sample banks are same which means that there is consistency regarding age among the sample banks.

#### 5.5.2.1 Variation of Bank Age among the Sample banks

Based on the ANOVA technique the study has tried to know whether there is any significant variation in bank age among the sample banks with the use of a null hypothesis which is  $H_{08.2}$ : There is no significant variation in bank age among the sample banks.

**Table 5.4: Information about the results of ANOVA test regarding the bank age**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	735	3	245.000	98.000	0.000
Within Groups	40	16	2.500		
Total	775	19			

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

By considering the aforesaid discussion it is apparent that the F statistics (3, 16) is 98.000 and its significance level is 0.000 which means that the null hypothesis is rejected and it signifies that there is significant variation among the sample banks regarding age.

### 5.5.3 Descriptive Statistics about Total Assets

**Table 5.5: Information about the results of descriptive statistics about the total assets**

(Figures in Tk Millions)

Sample Banks	N	Range	Minimum	Maximum	Mean	SD	Variance
Sample_1	5	446.64	753.95	1200.59	953.492	170.852	29190.28
Sample_2	5	244.85	378.72	623.57	501.334	96.675	9346.133
Sample_3	5	267.47	511.13	778.6	638.98	101.761	10355.29
Sample_4	5	161.12	172.99	334.11	258.384	64.573	4169.72

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 5.5 notices the results of descriptive statistics about the total assets and it has been observed that the mean value is highest in case of sample\_1 which is the lowest in case of sample\_4 and the lowest standard deviation is visible in sample\_4 as well as highest has been gained from the sample\_1 and it was inconsistent.

#### 5.5.3.1 Variation of Total Assets among the Sample Banks

A null hypothesis like  $H_{08.3}$ : "There is no significant variation in total assets among the sample banks" has been designed to identify whether there is any significant variation in total assets among the sample banks through improving the ANOVA technique.

**Table 5.6: Information about the results of ANOVA test regarding the total assets**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1261705.282	3	420568.427	31.704	0.000
Within Groups	212245.666	16	13265.354		
Total	1473950.948	19			

(Source: Researcher's Own Analysis using Financial Data of Annual Reports)

From the above evidence it is found that the F statistics (3, 16) is 31.704 and its significant level is 0.000 this indicates that the null hypothesis is rejected hence it can be concluded that there is significant variation in total assets among the sample banks.

### 5.5.4 Descriptive Statistics of Interest Income

**Table 5.7: Information about the results of descriptive statistics about the interest income**

(Figures in Tk Millions)

Sample Banks	N	Range	Minimum	Maximum	Mean	SD	Variance
Sample_1	5	4.51	27.8	32.31	30.334	1.66365	2.76773
Sample_2	5	2.37	21.46	23.83	23.224	1.004629	1.00928
Sample_3	5	5.53	30.66	36.19	33.344	2.141292	4.58513
Sample_4	5	3.6	11.72	15.32	13.578	1.404108	1.97152

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 5.7 depicts the sample wise descriptive statistics of interest income over the study period from 2012 to 2016 and the evidence displays that the higher mean value has been found in case of sample\_3 and lower is visible in sample\_4 but the sample\_2 ensures the lower standard deviation and it is consistent with others sample banks.

#### 5.5.4.1 Variation of Interest Income among the sample banks

To report whether there is any significant variation in interest income among the sample banks the study has examined a null hypothesis which is  $H_{08.4}$ : There is no significant variation in interest income among the sample banks. The study has employed ANOVA technique.

**Table 5.8: Information about the results of ANOVA test regarding the interest income**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1158.16276	3	386.0543	149.4356	0.0000
Within Groups	41.33464	16	2.5834		
Total	1199.49740	19			

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Based on the results the null hypothesis is accepted because the F statistics (3, 16) is 149.4356 and its significance level is 0.000 i.e., 1%. So, there is logical ground to conclude that there is significant variation in interest income among the sample banks.



### 5.5.5 Descriptive Statistics about the Capital Adequacy Ratio

**Table 5.9: Information about the results of descriptive statistics about the capital adequacy ratio**

Sample Banks	N	Range	Minimum	Maximum	Mean	SD	Variance
Sample_1	5	13.183	-0.94477	12.23853	7.85970	5.19125	26.9491
Sample_2	5	13.698	-3.25677	10.44124	7.58440	6.06277	36.7572
Sample_3	5	6.9951	3.693133	10.6882	9.02083	2.98504	8.91046
Sample_4	5	3.5361	6.688116	10.22423	9.13312	1.54860	2.39815

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 5.9 shows the summary of sample wise descriptive statistics of capital adequacy ratio over the study period. The evidence suggests that the sample\_4 presents the higher value of mean and lower value of standard deviation as well as the lowest values of mean and highest value of standard deviation are visible in sample\_2 among the sample banks in case of capital adequacy ratio.

#### 5.5.5.1 Variation of Capital Adequacy Ratio among the Sample Banks

In order to investigate whether there is any significant difference in capital adequacy ratio among the selected banks the study has conducted ANOVA technique with a null hypothesis which is  $H_{08.5}$ : There is no significant variation in capital adequacy ratio among the sample banks.

**Table 5.10: Information about the results of ANOVA test regarding the capital adequacy ratio**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	9.4001	3	3.13335	0.16708	0.91701
Within Groups	300.0595	16	18.75372		
Total	309.4595	19			

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Due to report the F statistics (3, 16) =0.16708 and its significant level=0.91701. So, the null hypothesis has been accepted. This has created opportunity to say that there is no significant variation in capital adequacy ratio among the sample banks over the study period.

### 5.5.6 Descriptive Statistics about the Loan Deposit Ratio

**Table 5.11: Information about the results of descriptive statistics about the loan deposit ratio**

Sample Banks	N	Range	Minimum	Maximum	Mean	SD	Variance
Sample_1	5	25.8231	37.2756	63.09879	46.76522	10.307	106.2668
Sample_2	5	18.9082	53.81461	72.7229	60.3241	7.472	55.83466
Sample_3	5	26.0680	60.14627	86.21429	66.78819	10.920	119.2355
Sample_4	5	10.6016	56.56321	67.1649	60.95486	4.495	20.20903

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 5.11 explains the sample wise descriptive statistics of loan deposit ratio and it has been observed from the view point of the results that the highest mean value as well as standard deviation are visible in case of sample\_3 but the lower standard deviation value is visible in sample\_4. Moreover, the sample\_1 shows the lowest mean value.

#### 5.5.6.1 Variation of Loan Deposit Ratio among the Sample Banks

By employing the ANOVA technique, the study has tried to identify whether there is any significant variation in loan deposit ratio through developing a null hypothesis which is  $H_{08.6}$ : There is no significant variation in loan deposit ratio among the sample banks.

**Table 5.12: Information about the results of ANOVA test regarding the loan deposit ratio**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1077.8986	3	359.2995	4.7661	0.0147
Within Groups	1206.1842	16	75.3865		
Total	2284.0828	19			

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

From the above discussion it is known that the F statistics (3, 16) is 4.7661 and its significance level is 0.0147 which is lower than 5% level of significance. So, the null hypothesis is rejected and provides the scope to say that there is significant variation in loan deposit ratio among the sample banks over the study period.

### 5.5.7 Descriptive Statistics about the Debt Equity Ratio

**Table 5.13: Information about the results of descriptive statistics about the debt equity ratio**

Sample Banks	N	Range	Minimum	Maximum	Mean	SD	Variance
Sample_1	5	17.9869	14.68659	32.6735	19.3593	7.48849	56.0775
Sample_2	5	51.7157	0.151945	51.86769	12.9992	22.2408	494.655
Sample_3	5	14.3145	0.936671	15.25121	9.33746	7.6589	58.6594
Sample_4	5	13.8211	13.84198	27.66313	19.7539	5.42913	29.4754

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 5.13 shows the sample wise descriptive statistics of debt equity ratio and the results report that the highest and lowest mean values are visible in case of sample\_4 and sample\_3 but the lowest and highest standard deviation values are found from the sample\_4 and sample\_2 in debt equity ratio among the sample banks over the study period.

#### 5.5.7.1 Variation of Debt Equity Ratio among the Sample Banks

In order to identify whether there is any variation in debt equity ratio among the sample banks the ANOVA technique has been conducted based upon a null hypothesis which is  $H_{08.7}$ : There is no significant variation in debt equity ratio among the sample banks.

**Table 5.14: Information about the results of ANOVA test regarding the debt equity ratio**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	385.7265	3	128.5755	0.8050	0.5093
Within Groups	2555.4686	16	159.7168		
Total	2941.1951	19			

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Based on the fact that the F statistics (3, 16) is 0.8050 and its significant level is 0.5093 which means that the null hypothesis is accepted and it confirms that there is no significant variation in debt equity ratio among the sample banks.

### 5.5.8 Descriptive Statistics about the Return on Assets Ratio

**Table 5.15: Information about the results of descriptive statistics about the return on assets ratio**

Sample Banks	N	Range	Minimum	Maximum	Mean	SD	Variance
Sample_1	5	3.54	-2.86	0.68	-0.306	1.44910	2.09988
Sample_2	5	6.96	-4.92	2.04	-0.696	2.61604	6.84368
Sample_3	4	4.61	-3.19	1.42	-0.185	2.05382	4.218167
Sample_4	5	0.8	-0.1	0.7	0.208	0.29794	0.08877

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 5.15 presents the sample wise descriptive statistics of return on assets ratio and considering this it is evident that the mean values of first three sample banks are negative and the sample\_4 is positive. The results report that the lower and higher standard deviation values are visible in case of sample\_4 and sample\_2 among the sample banks over the study period.

#### 5.5.8.1 Variation of Return on Assets Ratio among the Sample Banks

The ANOVA technique has been utilized to see whether there is any variation in return on assets ratio with the use of a null hypothesis which is  $H_{09.1}$ : There is no significant variation in return on assets ratio among the sample banks.

**Table 5.16: Information about the results of ANOVA test regarding the return on assets ratio**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.2695	3	0.7565	0.2456	0.8633
Within Groups	49.2894	16	3.0806		
Total	51.5589	19			

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

By referring the above evidence, it is apparent that the F statistics (3, 16) is 0.2456 and its significance level is 0.8633 which is higher than 5% level of significant. Based on this fact the null hypothesis is accepted and there is no significant variation in return on assets ratio among the sample banks over the study period.

### 5.5.9 Descriptive Statistics about the Return on Equity Ratio

**Table 5.17: Information about the results of descriptive statistics about the return on equity ratio**

Sample Banks	N	Range	Minimum	Maximum	Mean	SD	Variance
Sample_1	5	4.94	-4.16	0.78	-0.528	2.0505	4.2045
Sample_2	5	8.97	-6.37	2.6	-0.906	3.37244	11.3733
Sample_3	5	5.96	-3.97	1.99	0.004	2.29995	5.2898
Sample_4	5	1.33	-0.45	0.88	0.188	0.47362	0.2243

(Source: Researcher's Own Analysis using Financial Data of Annual Reports)

Table 5.17 expresses the sample wise descriptive statistics of return on equity ratio and this evidence talks that the mean values of first two sample banks are negative whereas the last two sample banks show positive value and the sample\_4 reports the lowest standard deviation value which means that this sample bank is very consistent than the other sample banks over the study period.

#### 5.5.9.1 Variation of Return on Equity Ratio among the Sample Banks

The null hypothesis which is  $H_{09.2}$ : There is no significant variation in return on equity ratio among the sample banks has been tested employing the ANOVA technique in order to identify whether there is any significant variation in return on equity ratio among the sample banks.

**Table 5.18: Information about the results of ANOVA test regarding the return on equity ratio**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.7467	3	1.2489	0.2368	0.8694
Within Groups	84.3676	16	5.2730		
Total	88.1143	19			

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Based on the aforesaid discussion it is found that the F statistics (3, 16) is 0.2368 and its significance level is 0.8694 which is higher than 0.05 level of significance and it indicates that the null hypothesis is accepted which leads to conclude that there is no significant variation in return on equity ratio among the sample banks over the study period.

### 5.5.10 Descriptive Statistics about the Return on Investment Ratio

**Table 5.19: Information about the results of descriptive statistics about the return on investment ratio**

Sample Banks	N	Range	Minimum	Maximum	Mean	SD	Variance
Sample_1	5	2.78	5.02	7.8	6.952	1.1121	1.2367
Sample_2	5	1.84	6.86	8.7	7.76	0.8141	0.6628
Sample_3	5	2.2	7.19	9.39	8.334	0.8099	0.6559
Sample_4	5	2.97	6.85	9.82	8.002	1.3847	1.9174

(Source: Researcher's Own Analysis using Financial Data of Annual Reports)

Table 5.19 shows the sample-wise descriptive statistics of return-on-investment ratio and the results display that the highest mean value as well as the lowest standard deviation value are visible in case of sample\_3 and the lowest value of mean is visible in Sample\_1 again the highest standard deviation value has been obtained from the sample\_4 among the sample banks.

#### 5.5.10.1 Variation of Return on Investment Ratio among the Sample Banks

To investigate whether there is any significant variation in return on investment ratio the study has taken cooperation from the ANOVA technique for testing a null hypothesis which is  $H_{09.3}$ : There is no significant variation in return on investment ratio among the sample banks.

**Table 5.20: Information about the results of ANOVA test regarding return on investment ratio**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.2044	3	1.7348	1.5514	0.2400
Within Groups	17.8911	16	1.1182		
Total	23.0955	19			

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

By scrutinizing the results of ANOVA test it is evident that the F statistics (3, 16) is 1.5514 and its significance level is 0.2400 that is higher than 5% level of significance which means that the null hypothesis accepted. Hence it can be concluded that there is no variation in return on investment among the sample banks.

### 5.5.11 Descriptive Statistics about the Net Profit Percentage

**Table 5.21: Information about the results of descriptive statistics about the net profit percentage**

Sample Banks	N	Range	Minimum	Maximum	Mean	SD	Variance
Sample_1	5	101.67	-81.4278	20.24702	-8.31981	41.495	1721.84
Sample_2	5	75.16	2.763067	77.92732	31.89353	29.793	887.63
Sample_3	5	36.46	8.168173	44.62831	21.23525	14.782	218.51
Sample_4	5	18.41	-8.11493	10.29176	1.951151	6.5839	43.35

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 5.21 states the sample-wise descriptive statistics of net profit percentage and the evidence say that the mean value of sample\_1 is negative but the mean values of the remaining three sample banks are positive during the study period. The evidence also says that the value of standard deviation was a little consistent in case of sample\_4 compared to those of others sample banks.

#### 5.5.11.1 Variation of Net Profit Percentage among the Sample Banks

The ANOVA technique has employed to scrutinize whether there is any significant variation in net profit percentage with the use of a null hypothesis which is  $H_{09.4}$ : There is no significant variation in net profit percentage among the sample banks.

**Table 5.22: Information about the results of ANOVA test regarding the net profit percentage**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4972.6601	3	1657.5534	2.3091	0.1153
Within Groups	11485.3282	16	717.8330		
Total	16457.9883	19			

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

From the early mention evidence, it is apparent that the F statistics (3, 16) is 2.3091 and its significance level is 0.1153 which is higher than 5% level of significance and it confirms that the null hypothesis is accepted. Based on above it can be concluded that there is no significant variation in net profit percentage among the sample banks.

## 5.6 Evaluation of the Influence of Corporate Governance Surrogates on the Financial Performance Indicators of the Sample Banks

Corporate governance is the most important factor that have earned substantial concentration owing to several contemporary issues regarding governance of the financial sector of the country and therefore it has become imperative to assess the influence of it on banks' performances. Banks have a significant role to ensue sustainable financial development of any country and considering this it is important to know which factors have great influence on banks, financial performance (Ahmed, Zannat and Ahmed, 2017). With a view to examining the influence of different surrogates of corporate governance on financial performance indicators the study has conducted simple and multiple regression analysis with respective regression models namely Ordinary Least Square (OLS) through developing a null hypothesis which is  $H_{010}$ : There is no significant impact of corporate governance selected surrogates on the financial performance variables of the sample banks over the study period. The results in this regard are given in the following section:

### 5.6.1 Regression Analysis between Return on Assets and Board Size

**Table 5.23: Information about the results of regression analysis between the ROA and board size**

Sample Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.3745	0.1403	-0.1463	1.5515	0.1403	0.4894	1	3	0.5346
Sample_2	0.5145	0.2647	0.0195	2.5903	0.2647	1.0797	1	3	0.3751
Sample_3	0.7360	0.5416	0.3889	1.4180	0.5416	3.5451	1	3	0.1563
Sample_4	0.0302	0.0009	-0.3321	0.3439	0.0009	0.0027	1	3	0.9616

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

From the regression results it is observed that the values of significance level are higher than 5% in case of all sample banks which means that the null hypothesis is accepted in case of the entire sample banks and it confirms that there is no significant influence of board size on the return on assets.



### 5.6.2 Regression Analysis between Return on Assets and Bank Age

**Table 5.24: Information about the results of regression analysis between the ROA and bank age**

Sample Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.6121	0.3747	0.1663	1.3232	0.3747	1.7976	1	3	0.2725
Sample_2	0.3433	0.1179	-0.1762	2.8372	0.1179	0.4008	1	3	0.5716
Sample_3	0.5509	0.3035	0.0713	1.7479	0.3035	1.3073	1	3	0.3359
Sample_4	0.9075	0.8235	0.7647	0.1445	0.8235	13.998	1	3	0.0333

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

By evaluating the results of regression analysis, it is evident that the significant levels of the first three sample banks are higher than 5% level of significance but the significance level of last one is lower than 0.05 level of significance which means that the null hypothesis is accepted in first three sample banks but rejected in case of sample bank four. Hence it can be concluded that there is insignificant and significant influence of bank age on ROA.

### 5.6.3 Regression Analysis between Return on Assets and Bank Size Represented by Total Assets

**Table 5.25: Information about the results of regression analysis between the return on assets and bank size represented by total assets**

Sample Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.5566	0.3098	0.0797	1.3901	0.3098	1.3466	1	3	0.3298
Sample_2	0.3507	0.1230	-0.1693	2.8288	0.1230	0.4208	1	3	0.5628
Sample_3	0.5533	0.3062	0.0749	1.7446	0.3062	1.3239	1	3	0.3333
Sample_4	0.9141	0.8355	0.7807	0.1395	0.8355	15.239	1	3	0.0298

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Based on the above evidence it is visible that the first three sample banks show the higher significance level than 5% level of significance and the significance level of the remaining sample\_4 is lower than 0.05 level of significance that leads to conclude that there is insignificant influence in case of the first three sample banks and significant influence in case of sample\_4 of bank size represented by total assets on return on assets since the null hypothesis has been accepted in 75% of the cases and rejected in 25% of the cases.

#### 5.6.4 Regression Analysis between Return on Assets and Bank Size Represented by Interest Income

**Table 5.26: Information about the results of regression analysis between the return on assets and bank size represent by interest income**

Sample Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.2205	0.0486	-0.2685	1.6321	0.0486	0.1533	1	3	0.7216
Sample_2	0.0279	0.0008	-0.3323	3.0196	0.0008	0.0023	1	3	0.9645
Sample_3	0.0603	0.0036	-0.3285	2.0906	0.0036	0.0109	1	3	0.9233
Sample_4	0.6800	0.4624	0.2832	0.2522	0.4624	2.5806	1	3	0.2065

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Referring to the aforesaid discussion it is apparent that the significance levels of F ratio of all sample banks are higher than 0.05 level of significance that confirms that the null hypothesis is accept which means that the bank size represented by interest income of sample banks has shown insignificant influence on the return on assets.

#### 5.6.5 Regression Analysis between Return on Assets and Capital Adequacy Ratio

**Table 5.27: Information about the results of regression analysis between the return on assets and capital adequacy ratio**

Sample Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.9477	0.8982	0.8643	0.5338	0.8982	26.478	1	3	0.0142
Sample_2	0.9074	0.8233	0.7644	1.2698	0.8233	13.978	1	3	0.0334
Sample_3	0.9647	0.9307	0.9076	0.5513	0.9307	40.307	1	3	0.0079
Sample_4	0.6807	0.4634	0.2845	0.2520	0.4634	2.5906	1	3	0.2059

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

From the consideration of the results, it has been observed that the capital adequacy ratio of the first three sample banks had reported significant influence on return on assets for rejecting the null hypothesis but for showing the higher significance level than 5% the null hypothesis is accepted and there is no significant influence of capital adequacy ratio on return on assets in case of sample-4 over the study period.

### 5.6.6 Regression Analysis between Return on Assets and Loan Deposit Ratio

**Table 5.28: Information about the results of regression analysis between the ROA and loan deposit ratio**

Sample Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.8244	0.6796	0.5728	0.9471	0.6796	6.3633	1	3	0.0860
Sample_2	0.7446	0.5544	0.4059	2.0163	0.5544	3.7332	1	3	0.1489
Sample_3	0.9928	0.9856	0.9808	0.2512	0.9856	205.55	1	3	0.0007
Sample_4	0.5697	0.3245	0.0993	0.2828	0.3245	1.4412	1	3	0.3161

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

The output of regression analysis reveals that the sample\_3 shows the lower significant level at 5% level of significance, which suggests that the null hypothesis is rejected and confirms the significant influence of loan deposit ratio on return on assets against the significance levels of the remaining three sample banks are higher than 0.05 level of significance which means that the null hypothesis is accepted and it indicates that there is no significant influence of loan deposit ratio on return on assets.

### 5.6.7 Regression Analysis between Return on Assets and Debt Equity Ratio

**Table 5.29: Information about the results of regression analysis between the ROA and debt equity ratio**

Sample Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.9969	0.9938	0.9917	0.1317	0.9938	481.62	1	3	0.0002
Sample_2	0.8078	0.6526	0.5368	1.7805	0.6526	5.6353	1	3	0.0982
Sample_3	0.4331	0.1875	-0.0833	1.8879	0.1875	0.6925	1	3	0.4664
Sample_4	0.8623	0.7435	0.6580	0.1742	0.7435	8.6951	1	3	0.0601

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Based on the results of regression analysis it is evident that the significance levels of the last three sample banks are higher than 0.05 level of significance which indicates that the null hypothesis is accepted and confirms that there is no significant influence of debt equity ratio on return on assets but the sample\_1 shows the lower significant level at 5% level of significance which means that the

null hypothesis is rejected and suggests that there is significant influence of debt equity ratio of return on assets.

### 5.6.8 Regression Analysis between Return on Equity and Board Size

**Table 5.30: Information about the results of regression analysis between the ROE and board size**

Sample Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.3802	0.1445	-0.1406	2.1899	0.1445	0.5069	1	3	0.5278
Sample_2	0.5151	0.2654	0.0205	3.3377	0.2654	1.0837	1	3	0.3744
Sample_3	0.7544	0.5691	0.4255	1.7433	0.5691	3.9623	1	3	0.1406
Sample_4	0.1251	0.0156	-0.3125	0.5426	0.0156	0.0477	1	3	0.8412

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

From the above evidence it is observed that the null hypothesis is accepted in all cases for showing the higher significance level at 5% which means that there is no significant influence of board size on return on equity of the sample banks.

### 5.6.9 Regression Analysis between Return on Equity and Bank Age

**Table 5.31: Information about the results of regression analysis between the ROE and bank age**

Sample Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.6300	0.3969	0.1959	1.8387	0.3969	1.9742	1	3	0.2546
Sample_2	0.3502	0.1227	-0.1698	3.6475	0.1227	0.4194	1	3	0.5634
Sample_3	0.5238	0.2744	0.0326	2.2622	0.2744	1.1346	1	3	0.3649
Sample_4	0.9347	0.8738	0.8317	0.1943	0.8738	20.763	1	3	0.0198

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

By using the early mentioned evidence, it is found that the significance levels of the first three sample banks are higher than 0.05 which means that the null hypothesis is accepted and there is no significant influence of bank age on return on equity. But the sample\_4 shows the lower significant level at 5% that confirms the null hypothesis is rejected and it can be concluded that there is significant influence of bank age on return on equity.

### 5.6.10 Regression Analysis between Return on Equity and Bank Size represented by Total Assets

**Table 5.32: Information about the results of regression analysis between the ROE and bank size represented by total assets**

Sample Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.5743	0.3299	0.1065	1.9382	0.3299	1.4768	1	3	0.3112
Sample_2	0.3576	0.1279	-0.1628	3.6366	0.1279	0.4400	1	3	0.5545
Sample_3	0.5294	0.2803	0.0404	2.2530	0.2803	1.1685	1	3	0.3589
Sample_4	0.9261	0.8576	0.8102	0.2064	0.8576	18.070	1	3	0.0239

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Considering the above discussion, it is apparent that the sample\_4 shows the lower significance level at 5% which means that the null hypothesis is rejected. It signifies that the bank size represented by total assets of the sample bank has shown significant influence on return on equity. But the significance levels of remaining three sample banks show the higher significant levels than 0.05% which means that the null hypothesis is accepted in this regard and it signifies that the bank size represented by total assets of the sample banks has shown insignificant influence on return on equity.

### 5.6.11 Regression Analysis between Return on Equity and Bank Size represented by Interest Income

**Table 5.33: Information about the results of regression analysis between the ROE and bank size represented by interest income**

Sample Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.2001	0.0401	-0.2799	2.3198	0.0401	0.1252	1	3	0.7469
Sample_2	0.0207	0.0004	-0.3328	3.8933	0.0004	0.0013	1	3	0.9736
Sample_3	0.0244	0.0006	-0.3325	2.6550	0.0006	0.0018	1	3	0.9689
Sample_4	0.5422	0.2940	0.0586	0.4595	0.2940	1.2490	1	3	0.3452

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

The results of the regression analysis show that the significant levels of the all-sample banks are higher than 5% that confirms the null hypothesis is accepted which means that there is no significant influence the bank size represented by interest income on the return on equity over the study period.

### 5.6.12 Regression Analysis between Return on Equity and Capital Adequacy Ratio

**Table 5.34: Information about the results of regression analysis between ROE and capital adequacy ratio**

Sample Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.9496	0.9017	0.8689	0.7425	0.9017	27.504	1	3	0.0135
Sample_2	0.9103	0.8287	0.7716	1.6118	0.8287	14.511	1	3	0.0318
Sample_3	0.9552	0.9124	0.8833	0.7858	0.9124	31.265	1	3	0.0113
Sample_4	0.7990	0.6384	0.5179	0.3289	0.6384	5.2969	1	3	0.1048

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

With the use of above discussion, it is found that the significant level of first three sample banks is lower than 0.05% that confirms the null hypothesis is rejected but the significance level of sample\_4 is higher than 5% which means that the null hypothesis is accepted and for this consideration it can be concluded that there is significant influence of capital adequacy ratio on return on equity in case of the first three sample banks and insignificant influence in case of the remaining sample\_4.

### 5.6.13 Regression Analysis between Return on Equity and Loan Deposit Ratio

**Table 5.35: Information about the results of regression analysis between ROE and loan deposit ratio**

Sample Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.8369	0.7004	0.6006	1.2959	0.7004	7.0143	1	3	0.0771
Sample_2	0.7495	0.5617	0.4156	2.5781	0.5617	3.8447	1	3	0.1447
Sample_3	0.9872	0.9746	0.9662	0.4229	0.9746	115.29	1	3	0.0017
Sample_4	0.3781	0.1429	-0.1428	0.5063	0.1429	0.5003	1	3	0.5304

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Based on the results of regression analysis the evidence documents that the significance level the significance level of sample\_3 is lower than 0.05% that confirms the null hypothesis is rejected whereas the significance level of the rest three samples is higher than 5% that confirms the null hypothesis is accepted. In fine it can be concluded that the loan deposit ratio of the sample\_3 has shown significant influence and the remaining three sample banks have shown insignificant influence on return on equity.

### 5.6.14 Regression Analysis between Return on Equity and Debt Equity Ratio

**Table 5.36: Information about the results of regression analysis between ROE and debt equity ratio**

Sample Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.999	0.997	0.996	0.1261	0.997	1054.2	1	3	0.000
Sample_2	0.8117	0.6588	0.5451	2.2746	0.6588	5.7928	1	3	0.0953
Sample_3	0.3951	0.1561	-0.1252	2.4396	0.1561	0.5550	1	3	0.5103
Sample_4	0.9265	0.8584	0.8112	0.2058	0.8584	18.190	1	3	0.0236

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

This discussion provides that the significance levels of sample\_1 and sample\_4 are lower than 0.05% and the null hypothesis is rejected. Hence there is significant influence of debt equity ratio on return on equity. The sample\_2 and sample\_3 show the higher significance levels than 5% which means that the null hypothesis is accepted in this regard. Hence there is insignificant influence of debt equity ratio on return on equity.

### 5.6.15 Regression Analysis between Return on Investment and Board Size

**Table 5.37: Information about the results of regression analysis between ROI and board size**

Sample Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.5309	0.2819	0.0425	1.0882	0.2819	1.1776	1	3	0.3573
Sample_2	0.1211	0.0147	-0.3138	0.9331	0.0147	0.0447	1	3	0.8462
Sample_3	0.7071	0.5000	0.3334	0.6612	0.5000	3.0003	1	3	0.1817
Sample_4	0.1918	0.0368	-0.2843	1.5693	0.0368	0.1145	1	3	0.7573

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

From the above results of regression analysis, it is observed that the null hypothesis is accepted in all cases for showing the higher significance levels than 5% which means that there is no significant influence of board size on return on investment.

### 5.6.16 Regression Analysis between Return on Investment and Bank Age

**Table 5.38: Information about the results of regression analysis between ROI and bank age**

Sample Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.5972	0.3566	0.14212	1.03003	0.35659	1.6627	1	3	0.2877
Sample_2	0.7458	0.5562	0.4083	0.6262	0.5562	3.7602	1	3	0.1478
Sample_3	0.4725	0.2232	-0.0357	0.8242	0.2232	0.8621	1	3	0.4216
Sample_4	0.3711	0.1377	-0.1497	1.4847	0.1377	0.4791	1	3	0.5386

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

By using the discussion, it is visible that the significant levels of the entire sample banks are higher than 5% level of significance that indicates the null hypothesis is accepted which means that there is no significant influence of banks' age on return on investment.

### 5.6.17 Regression Analysis between Return on Investment and Bank Size Represented by Total Assets

**Table 5.39: Information about the results of regression analysis between ROI and bank size represented by total assets**

Sample Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.5166	0.2669	0.02251	1.09949	0.26688	1.0921	1	3	0.3728
Sample_2	0.7713	0.5949	0.4599	0.5983	0.5949	4.4054	1	3	0.1267
Sample_3	0.4894	0.2395	-0.0140	0.8155	0.2395	0.9449	1	3	0.4027
Sample_4	0.4518	0.2042	-0.0611	1.4264	0.2042	0.7696	1	3	0.4449

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

For showing the higher significance levels of the all-sample banks than 5% the null hypothesis is accepted in all cases which mean that there is no significant influence of bank size represented by total assets on the return on investment.



### 5.6.18 Regression Analysis between Return on Investment and Bank Size Represented by Interest Income

**Table 5.40: Information about the results of regression analysis between ROI and bank size represented by interest income**

Sample Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.1226	0.0150	-0.3133	1.2744	0.0150	0.0458	1	3	0.8443
Sample_2	0.5635	0.3176	0.0901	0.7766	0.3176	1.3961	1	3	0.3225
Sample_3	0.5303	0.2813	0.0417	0.7928	0.2813	1.1739	1	3	0.3579
Sample_4	0.8584	0.7368	0.6491	0.8203	0.7368	8.3978	1	3	0.0626

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Examining the above evidence, it is observed that the null hypothesis is accepted in all cases for presenting the higher significance level than 5% which means that there is no significant influence of bank size represented by interest income on the return on investment over the selected study period.

### 5.6.19 Regression Analysis between Return on Investment and Capital Adequacy Ratio

**Table 5.41: Information about the results of regression analysis between ROI and capital adequacy ratio**

Sample Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.9567	0.9153	0.8871	0.3736	0.9153	32.439	1	3	0.0107
Sample_2	0.6304	0.3975	0.1966	0.7297	0.3975	1.9790	1	3	0.2542
Sample_3	0.1682	0.0283	-0.2956	0.9218	0.0283	0.0873	1	3	0.7869
Sample_4	0.0663	0.0044	-0.3275	1.5954	0.0044	0.0133	1	3	0.9156

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

From the above discussion it is found that the significant level of the sample\_1 is lower than 0.05% and the null hypothesis is rejected. So, there is significant influence of capital adequacy ratio on return on investment over the study period. But the null hypothesis is accepted in case of sample\_2, sample\_3 and sample\_4 for showing the higher significant level than 5% which means that insignificant influence of capital adequacy ratio on return on investment over the study period.

### 5.6.20 Regression Analysis between Return on Investment and Loan Deposit Ratio

**Table 5.42: Information about the results of regression analysis between ROI and loan deposit ratio**

Sample Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.8231	0.6775	0.5699	0.7293	0.6775	6.3010	1	3	0.0869
Sample_2	0.8719	0.7602	0.6802	0.4604	0.7602	9.5086	1	3	0.0540
Sample_3	0.3170	0.1005	-0.1993	0.8869	0.1005	0.3352	1	3	0.6032
Sample_4	0.8535	0.7285	0.6380	0.8332	0.7285	8.0488	1	3	0.0658

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Based on the aforesaid results of regression analysis it is evident that the significance level of all samples is greater than 5% which means that the loan deposit ratio of the sample banks had shown insignificant influence on return on investment over the study period.

### 5.6.21 Regression Analysis between Return on Investment and Debt Equity Ratio

**Table 5.43: Information about the results of regression analysis between ROI and debt equity ratio**

Sample Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.9878	0.9758	0.9677	0.1998	0.9758	120.88	1	3	0.0016
Sample_2	0.6047	0.3656	0.1542	0.7487	0.3656	1.7292	1	3	0.2800
Sample_3	0.3948	0.1558	-0.1256	0.8592	0.1558	0.5538	1	3	0.5108
Sample_4	0.1074	0.0115	-0.3180	1.5897	0.0115	0.0350	1	3	0.8635

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

The results of regression analysis show that the significance level of sample\_1 is lower than 5% but the remaining three sample banks show higher significance level than 5% which means that the null hypothesis is rejected in sample\_1 and accepted in all other cases that suggests there is insignificant influence of debt equity ratio on the return on investment in case of all sample banks except sample\_1.

### 5.6.22 Regression Analysis between NPP and Board Size

**Table 5.44: Information about the results of regression analysis between NPP and board size**

Sample Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.3729	0.1391	-0.1479	44.4578	0.1391	0.4846	1	3	0.5364
Sample_2	0.4043	0.1634	-0.1154	31.4658	0.1634	0.5860	1	3	0.4997
Sample_3	0.2860	0.0818	-0.2243	16.3561	0.0818	0.2672	1	3	0.6409
Sample_4	0.2260	0.0511	-0.2652	7.4058	0.0511	0.1614	1	3	0.7148

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

The results of regression analysis reveal that the null hypothesis is accepted in all cases for showing the higher significance level than 5% which means that there is no significant influence of board size on net profit percentage of the sample banks.

### 5.6.23 Regression Analysis between NPP and Board Age

**Table 5.45: Information about the results of regression analysis between NPP and bank age**

Sample Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.6157	0.3790	0.1720	37.7571	0.3790	1.8312	1	3	0.2689
Sample_2	0.6680	0.4463	0.2617	25.5996	0.4463	2.4179	1	3	0.2178
Sample_3	0.8945	0.8002	0.7336	7.6302	0.8002	12.013	1	3	0.0405
Sample_4	0.9228	0.8515	0.8020	2.9297	0.8515	17.202	1	3	0.0255

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

The evidence says that the significant levels of last two samples are lower than 0.05% that suggests that the null hypothesis is rejected which means that there is significant influence of bank age on net profit percentage. But the significance levels of first two samples are higher than 5% that confirms that the null hypothesis is accepted and it indicates that there is no significant influence of bank age on NPP of the sample banks.

### 5.6.24 Regression Analysis between NPP and Bank Size Represented by Total Assets

**Table 5.46: Information about the results of regression analysis between NPP and bank size represented by total assets**

Sample Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.5607	0.3144	0.0859	39.6727	0.3144	1.3759	1	3	0.3255
Sample_2	0.6615	0.4375	0.2500	25.8011	0.4375	2.3336	1	3	0.2241
Sample_3	0.8759	0.7672	0.6896	8.2363	0.7672	9.8846	1	3	0.0515
Sample_4	0.9016	0.8129	0.7505	3.2885	0.8129	13.034	1	3	0.0365

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

From the above discussion it is found that the significance levels of the sample \_1 to sample\_3 are higher than 0.05% and the sample\_4 shows the lower level of significance at 5% level of significant. Which means that the null hypothesis is accepted in case of the sample \_1 to sample\_3 and it can be concluded that there is insignificant influence of bank size represented by TA on NPP of the sample banks. The null hypothesis is rejected in case of sample\_4 and it can be concluded that there is significant influence of bank size represented by TA on NPP of the sample banks.

### 5.6.25 Regression Analysis between NPP and Bank Size Represented by Interest Income

**Table 5.47: Information about the results of regression analysis between NPP and bank size represent by interest income**

Sample Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.2182	0.0476	-0.2698	46.7596	0.0476	0.1500	1	3	0.7244
Sample_2	0.1198	0.0143	-0.3142	34.1546	0.0143	0.0437	1	3	0.8479
Sample_3	0.5179	0.2682	0.0243	14.6013	0.2682	1.0997	1	3	0.3714
Sample_4	0.4204	0.1767	-0.0977	6.8981	0.1767	0.6440	1	3	0.4810

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Based upon the Table 4.47 it is observed that the null hypothesis is accepted in all cases which means that there is no significant influence of bank size represented by interest income on the net profit percentage ratio of the sample banks over the selected study period.

### 5.6.26 Regression Analysis between NPP and Capital Adequacy Ratio

**Table 5.48: Information about the results of regression analysis between NPP and capital adequacy ratio**

Sample Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.9497	0.9019	0.8692	15.0082	0.9019	27.577	1	3	0.0134
Sample_2	0.8745	0.7647	0.6863	16.6863	0.7647	9.7519	1	3	0.0524
Sample_3	0.9004	0.8108	0.7477	7.4254	0.8108	12.852	1	3	0.0372
Sample_4	0.8651	0.7485	0.6646	3.8127	0.7485	8.9276	1	3	0.0582

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

By observing the aforesaid evidence, it is found that the significance levels of sample\_1 and sample\_3 are lower than 0.05% and those of sample\_2 and sample\_4 show the significance level greater than 5% which means that the null hypothesis is rejected in case of sample\_1 and sample\_3 and confirms that there is significant influence of capital adequacy ratio on net profit percentage over the selected study period in 50% of the cases.

### 5.6.27 Regression Analysis between NPP and Loan Deposit Ratio

**Table 5.49: Information about the results of regression analysis between NPP and loan deposit ratio**

Sample Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.8267	0.6835	0.5780	26.9573	0.6835	6.4777	1	3	0.0843
Sample_2	0.7519	0.5653	0.4204	22.6812	0.5653	3.9018	1	3	0.1427
Sample_3	0.8312	0.6909	0.5878	9.4903	0.6909	6.7045	1	3	0.0811
Sample_4	0.2197	0.0483	-0.2690	7.4168	0.0483	0.1521	1	3	0.7226

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

From the above results of regression analysis, it is found that the null hypothesis is accepted in all issues which means that there is no significant influence of loan deposit ratio on the net profit percentage of the sample banks over the selected study period.

### 5.6.28 Regression Analysis between NPP and Debt Equity Ratio

**Table 5.50: Information about the results of regression analysis between NPP and debt equity ratio**

Sample Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.9968	0.9936	0.9914	3.8376	0.9936	464.66	1	3	0.0002
Sample_2	0.9235	0.8529	0.8039	13.1931	0.8529	17.398	1	3	0.0251
Sample_3	0.8752	0.7660	0.6881	8.2561	0.7660	9.8228	1	3	0.0519
Sample_4	0.9469	0.8966	0.8621	2.4448	0.8966	26.009	1	3	0.0146

(Source: Researcher's Own Analysis using Financial Data of Annual Reports)

By considering the regression analysis outputs it is evident that the significance levels of sample\_1, sample\_2 and sample\_4 are lower than 0.05% but the significance level of sample\_3 is greater than 5% which means that the null hypothesis is rejected in 75% of the cases that suggests there is significant influence of debt equity ratio on the net profit percentage of the sample banks over the selected study period.

### 5.6.29 Multiple Regression Analysis among the Corporate Governance Surrogates and the different Indicators of Financial Performance

In order to investigate whether there is any significant influence of different surrogates of corporate governance such as board size (BS), bank age (BA), bank size represented by total assets (TA) and interest income (II), capital adequacy ratio (CAR), loan deposit ratio (LDR) and debt equity ratio (DER) on the different indicators of financial performance such as return on assets (ROA), return on equity (ROE), return on investment (ROI) and net profit percentage (NPP) of the sample banks the study has employed the multiple regressions with respective Ordinary Least Square (OLS) model and the different models with results are given in the following section.

#### 5.6.29.1 Regression Models

$$\text{Model}_1: \text{ROA} = \alpha + \beta_1 \text{BD} + \beta_2 \text{BA} + \beta_3 \text{TA} + \beta_4 \text{II} + \beta_5 \text{CAR} + \beta_6 \text{LDR} + \beta_7 \text{DER} + \varepsilon$$

$$\text{Model}_2: \text{ROE} = \alpha + \beta_1 \text{BD} + \beta_2 \text{BA} + \beta_3 \text{TA} + \beta_4 \text{II} + \beta_5 \text{CAR} + \beta_6 \text{LDR} + \beta_7 \text{DER} + \varepsilon$$

$$\text{Model}_3: \text{ROI} = \alpha + \beta_1 \text{BD} + \beta_2 \text{BA} + \beta_3 \text{TA} + \beta_4 \text{II} + \beta_5 \text{CAR} + \beta_6 \text{LDR} + \beta_7 \text{DER} + \varepsilon$$

$$\text{Model}_4: \text{NPP} = \alpha + \beta_1 \text{BD} + \beta_2 \text{BA} + \beta_3 \text{TA} + \beta_4 \text{II} + \beta_5 \text{CAR} + \beta_6 \text{LDR} + \beta_7 \text{DER} + \varepsilon$$

### 5.6.29.2 Evaluation of the Results of Multicollinearity Statistics about the Different Independent Variables

**Table 5.51: Information about the results of multicollinearity statistics of the different surrogates of corporate governance**

	Collinearity Statistics	
	Tolerance	VIF
Bank Age (BA)	0.2345	4.2650
Board Size (BS)	0.6489	1.5411
Capital Adequacy Ratio (CAR)	0.2124	4.7072
Debt Equity Ratio (DER)	0.3104	3.2219
Interest Income (II)	0.1443	6.9296
Loan Deposit Ratio (LDR)	0.1271	7.8709
Total Assets (TA)	0.0777	12.8618

(Source: Researcher's Own Analysis using Financial Data of Annual Reports)

From Table No. 5.51 it is evident that the values of VIF factors are less than 10 except that of total assets (TA) which is 12.8618. So, we have ignored it.

**Table 5.52: Information about the Results of Coefficient Correlations**

Model	DER	LDR	BS	II	BA	CAR	TA
DER	1.000	0.351	0.084	-0.025	0.303	0.789	0.048
LDR	0.351	1.000	0.449	-0.633	0.049	0.635	0.841
BS	0.084	0.449	1.000	-0.212	0.010	0.244	0.451
II	-0.025	-0.633	-0.212	1.000	-0.390	-0.201	-0.700
BA	0.303	0.049	0.010	-0.390	1.000	0.212	-0.204
CAR	0.789	0.635	0.244	-0.201	0.212	1.000	0.316
TA	0.048	0.841	0.451	-0.700	-0.204	0.316	1.000

a. Dependent Variable: ROA, ROE, ROI & NPP

(Source: Researcher's Own Analysis using Financial Data of Annual Reports)

Table no. 5.52 shows the result of Coefficient Correlations about the different selected surrogates (Independent Variables) of corporate governance and the evidence supports that there is no multicollinearity problem in maximum cases.

### 5.6.29.3 Multiple Regression Analysis among the Corporate Governance surrogates and Return on Assets

$H_{010.1}$ : There is no significant influence of different mechanisms of corporate governance namely board size, bank age, capital adequacy ratio, debt equity ratio, interest income, loan deposit ratio and total assets on financial performance measured by ROA

**Table 5.53: Information about the results of multiple regression analysis among different surrogates of corporate governance and return on assets of the sample banks**

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.0115	5.2163		0.1939	0.8495
BA	-0.0298	0.0608	-0.1157	-0.4906	0.6326
BS	-0.0381	0.1182	-0.0457	-0.3222	0.7529
CAR	0.3638	0.1011	0.8912	3.5975	0.0037
DER	0.0174	0.0271	0.1317	0.6428	0.5325
II	0.0970	0.0623	0.4679	1.5569	0.1455
LDR	-0.0572	0.0481	-0.3808	-1.1887	0.2576
TA	-0.0033	0.0024	-0.5562	-1.3583	0.1993
Dependent Variable: ROA					
Model Summary: R=0.9185, R square=0.8436, F-value=9.2438, P-value (Sig.) = 0.0005					

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table No. 5.53 shows the result of regression analysis among the dependent and independent variables of the sample banks in the respective years from 2012 to 2016. The result indicates that the capital adequacy ratio has positive significant influence on return on assets. However, board size, bank age, debt equity ratio, interest income, loan deposit ratio and total assets have insignificant influence on return on assets of the sample banks. Moreover, the model summary results indicate that the p-value (sig.) level is lower than 0.05 level of significance and 84.36% of the variability in the dependent variable (ROA) is explained by the independent variables which mean the model has shown significant influence.

#### **5.6.29.4 Multiple Regression Analysis among the Corporate Governance Surrogates and Return on Equity**

H<sub>010.2</sub>: There is no significant influence of different mechanisms of corporate governance namely board size, bank age, capital adequacy ratio, debt equity ratio, interest income, loan deposit ratio and total assets on financial performance measured by ROE



**Table 5.54: Information about the results of multiple regression analysis among different surrogates of corporate governance and return on equity of the sample banks**

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.9406	6.3274		0.1487	0.8843
BA	-0.0355	0.0738	-0.1054	-0.4817	0.6387
BS	-0.0394	0.1433	-0.0361	-0.2747	0.7882
CAR	0.4794	0.1226	0.8985	3.9090	0.0021
DER	0.0195	0.0329	0.1124	0.5910	0.5655
II	0.1335	0.0756	0.4927	1.7667	0.1027
LDR	-0.0739	0.0584	-0.3763	-1.2661	0.2295
TA	-0.0045	0.0029	-0.5842	-1.5377	0.1501
Dependent Variable: ROE					
Model Summary: R=0.9302, R square=0.8653, F-value=11.0136, P-value (Sig.) = 0.0002					

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 5.54 presents the result of regression analysis among the dependent and independent variables of the sample banks over the study period from 2012 to 2016. Based on the model summary results it is evident that the F-value is 11.0136 and significance level is 0.0002 that indicates the independent variables taken together influence the ROE. By considering the individual results of each independent variables it is found that the significance level of capital adequacy ratio is lower than 5% level of significant but the remaining variables' significance levels are higher than 5% suggests that capital adequacy ratio has positive significant influence but board size, bank age, debt equity ratio, interest income; loan deposit ratio and total assets have no significant influence on return on equity of the sample banks.

#### **5.6.29.5 Multiple Regression Analysis among the Corporate Governance Representatives and Return on Investment**

H<sub>010.3</sub>: There is no significant influence of different representatives of corporate governance namely board size, bank age, capital adequacy ratio, debt equity ratio, interest income, loan deposit ratio and total assets on financial performance measured by ROI

**Table 5.55: Information about the results of multiple regression analysis between different surrogates of corporate governance and return on investment of the sample banks**

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	14.0982	6.3959		2.2043	0.0478
BA	0.0048	0.0746	0.0275	0.0637	0.9502
BS	-0.1805	0.1449	-0.3235	-1.2459	0.2366
CAR	0.0735	0.1240	0.2690	0.5928	0.5643
DER	0.0252	0.0333	0.2843	0.7572	0.4636
II	0.1844	0.0764	1.3293	2.4140	0.0327
LDR	-0.0922	0.0590	-0.9173	-1.5631	0.1440
TA	-0.0079	0.0030	-1.9949	-2.6593	0.0208
Dependent Variable: ROI					
Model Summary: R=0.6892, R square=0.4750, F-value=1.5507, P-value (Sig.) = 0.2405					

(Source: Researcher's Own Analysis using Financial Data of Annual Reports)

Table 5.55 explains the result of regression analysis between the dependent and independent variables of the sample banks for the years from 2012 to 2016. Referring to the above evidence the interest income and total assets have positive significant influence on return on investment but the board size, bank age, debt equity ratio and loan deposit ratio have insignificant impact on return on investment. From the view point of model summary results it is visible that the value of  $R^2$  is 0.4750, F-value is 1.5507 and P-value (Sig.) is 0.2405 that confirms insignificant influence on of all the independent variables except II and TA on return on investment.

#### **5.6.29.6 Multiple Regression Analysis between the Corporate Governance Surrogates and Net Profit Percentage**

$H_{010.4}$ : There is no significant influence of different surrogates of corporate governance namely board size, bank age, capital adequacy ratio, debt equity ratio, interest income, loan deposit ratio and total assets on financial performance measured by NPP

**Table 5.56: Information about the results of multiple regression analysis among different indicators of corporate governance and net profit percentage of the sample banks**

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-162.21	199.299		-0.814	0.432
BA	3.886	2.324	0.843	1.672	0.120
BS	-0.609	4.514	-0.041	-0.135	0.895
CAR	3.232	3.863	0.443	0.837	0.419
DER	0.869	1.037	0.367	0.838	0.419
II	0.048	2.381	0.013	0.020	0.984
LDR	0.428	1.839	0.159	0.233	0.820
TA	-0.080	0.093	-0.758	-0.865	0.404
Dependent Variable: NPP					
Model Summary: R=0.5335, R square=0.2846, F-value=0.6821, P-value (Sig.) = 0.6856					

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 5.56 depicts the result of regression analysis among the dependent and independent variables of the sample banks covering the period from 2012 to 2016. The evidence focuses that the board size, bank age, capital adequacy ratio, debt equity ratio, interest income, total assets and loan deposit ratio have insignificant influence on net profit percentage. In the same way, the model summary results state that the entire independent variables have shown insignificant influence for showing higher p-value (Sig.) than 5% level of significance on net profit percentage of the sample banks over the study period.

## 5.7 Correlation Matrix among the Variables

To identify the correlation between the different variables the study has conducted correlation matrix and the results in this regard are given below:

### 5.7.1 Correlation Analysis among the all-Independent Variables

**Table 5.57: Information about the results of correlation analysis among the independent variables**

	BA	BS	CAR	DER	II	LDR	TA
BA	1.000						
BS	-0.371 0.107	1.000					
CAR	0.012 0.961	-0.027 0.910	1.000				
DER	-0.249 0.289	0.129 0.586	-0.687** 0.001	1.000			
II	0.834** 0.000	-0.402 0.079	-0.062 0.796	-0.196 0.407	1.000		
LDR	-0.237 0.314	-0.018 0.939	-0.519* 0.019	0.086 0.718	-0.083 0.727	1.000	
TA	0.763** 0.000	-0.392 0.087	0.140 0.556	-0.099 0.677	0.745** 0.000	-0.628** 0.003	1.000
**	Correlation is significant at the 0.01 level (2-tailed).						
*	Correlation is significant at the 0.05 level (2-tailed).						

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 5.57 expresses the results of correlation matrix among the different independent variables and it has been obtained from the five years data of four sample banks and based on the above results it is found that some variables show significant relationship at 1% level among interest income and bank age, total assets and bank age, debt equity ratio and capital adequacy ratio, total assets and interest income as well as total assets and loan deposit ratio. The results also report that there is significant relationship at 5% level between loan deposit ratio and capital adequacy ratio over the study period.

### 5.7.2 Correlation Analysis among the all-Dependent Variables

**Table 5.58: Information about the results of correlation analysis among the dependent variables**

	NPR	ROA	ROE	ROI
NPR	1.000			
ROA	-0.123 0.607	1.000		
ROE	-0.075 0.754	0.998** 0.000	1.000	
ROI	0.522* 0.018	0.162 0.494	0.196 0.408	1.000
*	Correlation is significant at the 0.05 level (2-tailed).			
**	Correlation is significant at the 0.01 level (2-tailed).			

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 5.58 presents the results of correlation analysis among the different dependent variable of the sample banks in the respective years 2012 to 2016. From the above discussion it is visible that there is significant relationship at 1% level between return on equity and return on assets again there is significant relationship at 5% level of significant between return on investment and net profit percentage.

### 5.7.3 Correlation Analysis among the Dependent and Independent Variables

**Table 5.59: Information about the results of correlation analysis among the entire variables**

	BA	BS	CAR	DER	II	LDR	NPR	ROA	ROE	ROI	TA
BA	1.000										
BS	-0.371 0.107	1.000									
CAR	0.012 0.961	-0.027 0.910	1.000								
DER	-0.249 0.289	0.129 0.586	-0.687** 0.001	1.000							
II	0.834** 0.000	-0.402 0.079	-0.062 0.796	-0.196 0.407	1.000						
LDR	-0.237 0.314	-0.018 0.939	-0.519* 0.019	0.086 0.718	-0.083 0.727	1.000					
NPR	0.167 0.482	-0.029 0.902	0.012 0.959	-0.066 0.781	0.055 0.817	0.237 0.315	1.000				
ROA	-0.065 0.785	0.027 0.909	0.891** 0.000	-0.527* 0.017	-0.074 0.757	-0.493* 0.027	-0.123 0.607	1.000			
ROE	-0.055 0.817	0.031 0.896	0.904** 0.000	-0.555* 0.011	-0.062 0.794	-0.481* 0.032	-0.075 0.754	0.998** 0.000	1.000		
ROI	-0.117 0.624	-0.040 0.868	0.197 0.405	-0.091 0.702	-0.001 0.997	0.110 0.646	0.522* 0.018	0.162 0.494	0.196 0.408	1.000	
TA	0.763** 0.000	-0.392 0.087	0.140 0.556	-0.099 0.677	0.745** 0.000	-0.628** 0.003	-0.163 0.493	0.073 0.759	0.068 0.776	-0.271 0.248	1.000
**	Correlation is significant at the 0.01 level (2-tailed).										
*	Correlation is significant at the 0.05 level (2-tailed).										

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 5.59 exposes the results of correlation analysis among the entire dependent and independent variables of the sample banks over the study period. The results reveal that there is significant relationship at 1% level of significant between interest income and bank age, total assets and banks age, debt equity ratio and capital adequacy ratio, return on assets and capital adequacy ratio, return on equity and capital adequacy ratio, total assets and interest income, total assets and loan deposit ratio as well as return on equity and return on assets. In addition, there is

significant relationship at 5% level of significant between loan deposit ratio and capital adequacy ratio, return on assets and debt equity ratio, return on equity and debt equity ratio, return on assets and loan deposit ratio, return on equity and loan deposit ratio as well as return on investment and net profit percentage of the sample banks over the study period.

### 5.8 Summary of Previous Studies

SN.	Author	Year	Remarks
01.	Ene and Bello	2016	There is significant relationship among the different corporate governance indicators and bank performance.
02.	Bashir et al.	2018	There are significant relationship the internal governance indicators among ROA, ROE as well as EPS.
03.	Haque and Arun	2016	The corporate governance quality has positively significant associated with firm valuation.
04.	Bahadur	2016	Corporate governance has a bi-directional relationship with financial performance.
05.	Aggarwal	2013	The governance ratings have positive significant influence on corporate financial performance.
06.	Ashraf et al.	2017	There is positive significant relationship between corporate governance and financial performance.
07.	Balaputhiran and Nimalathashan	2013	There is positive and negative relationship between corporate governance and banking performance.
08.	Hassan and Ahmed	2012	There is significant impact of corporate governance on both the adjusted and unadjusted firm performance in different magnitudes and directions.
09.	Barako and Tower	2006-2007	The bank performance is influenced by ownership structure. Level of board ownership, proportion of foreign ownership and government ownership has positive impact on the performance of financial institutions in Kenya.
10.	Oluwafemi et ai.	2013	It is needed to increase the board size and decrease the board composition regarding the ratio of outside directors to the total number of directors to increase the bank performance.
11.	Miah and Alam	2017	The different tools of corporate governance have positive influence on performance and sustainability of Bangladeshi banks.
12.	Shungu et al.	2014	Board composition and board diversity are positively related with commercial banks performance but board size and board committees have no positive impact on bank performance.

SN.	Author	Year	Remarks
13.	Alam and Akhter	2017	The mechanisms of corporate governance namely board size and capital adequacy ratio do not influence the bank performance.
14.	Ndiwalana et al.	2014	The corporate governance and the financial performance are not significantly related.
15.	Akingunola et al.	2013	Banks' total credit and their performance were positively related but not significantly determinant factors of bank's performance, as well as bank deposit and its performance were found to be positively related but was insignificant in Nigerian economy.
16.	Mudashiru et al.	2014	Large board size, board skill, management skill, longer serving CEOs, size of audit committee, audit committee independence, foreign ownership, institutional ownership, dividend policy and annual general meeting have a positive impact on the performance of organizations.

### 5.9 Summary of Hypotheses Testing of the Study

VN	Description	Hypothesis	SL	Remark
V1	Board Size	There is no significant variation in board size among the sample banks	0.3352	Insignificant
V2	Bank Age	There is no significant variation in bank age among the sample banks.	0.000	Significant
V3	Total Assets	There is no significant variation in total assets among the sample banks	0.000	Significant
V4	Interest Income	There is no significant variation in interest income among the sample banks	0.000	Significant
V5	Capital Adequacy Ratio	There is no significant variation in capital adequacy ratio among the sample banks.	0.91701	Insignificant
V6	Loan Deposit Ratio	There is no significant variation in loan deposit ratio among the sample banks.	0.0147	Insignificant
V7	Debt Equity Ratio	There is no significant variation in debt equity ratio among the sample banks.	0.5093	Insignificant
V8	Return on Assets	There is no significant variation in return on assets ratio among the sample banks.	0.8633	Insignificant
V9	Return on Equity	There is no significant variation in return on equity ratio among the sample banks	0.8694	Insignificant
V10	Return on Investment	There is no significant variation in return on investment ratio among the sample banks	0.2400	Insignificant
V11	Net Profit Percentage	There is no significant variation in net profit percentage among the sample banks	0.1153	Insignificant

VN	Description	Hypothesis	SL	Remark
V12	Corporate governance mechanism and ROA	is no significant influence of different mechanisms of corporate governance namely board size, bank age, capital adequacy ratio, debt equity ratio, interest income, loan deposit ratio and total assets on financial performance measured by ROA.	0.0005	Significant
V13	Corporate governance mechanism and ROE	There is no significant influence of different mechanisms of corporate governance namely board size, bank age, capital adequacy ratio, debt equity ratio, interest income, loan deposit ratio and total assets on financial performance measured by ROE.	0.0002	Significant
V14	Corporate governance mechanism and ROI	There is no significant influence of different mechanisms of corporate governance namely board size, bank age, capital adequacy ratio, debt equity ratio, interest income, loan deposit ratio and total assets on financial performance measured by ROI.	0.2405	Insignificant
V15	Corporate governance mechanism and NPP	There is no significant influence of different mechanisms of corporate governance namely board size, bank age, capital adequacy ratio, debt equity ratio, interest income, loan deposit ratio and total assets on financial performance measured by NPP.	0.6856	Insignificant

### 5.10 Conclusion

Corporate governance is important to achieve and maintain public trust and it is indispensable to ensure the proper functioning and well protecting of all interest stakeholders as well as the effective internal control that unites accuracy, accountability and responsibility to accomplish the efficiency and effectiveness in all areas of business and economy as a whole. The attempt of this chapter is to examine the influence of different mechanisms of corporate governance on financial performance and for these twenty annual reports of four sample banks have been analyzed to identify the different mechanisms of corporate governance as well as different tools of financial performance in respective years from 2012 to 2016. In order to investigate whether there is any significant influence the



different mechanism of corporate governance on the financial performance the study has employed the multiple regressions analysis with the use of Ordinary Least Square (OLS) model and the results in this regard reveals that the capital adequacy ratio has positive significant influence on return on assets and return on equity but there is no positive significant influence on return on investment and net profit percentage. Again, the bank size measured by interest income and total assets have positive significant influence on return on investment but there is insignificant influence on return on assets, return on equity and net profit percentage. In addition, the remaining surrogates of the corporate governance have no positive significant influence on financial performance of the sample banks over the study period.

## **Chapter Six**

# **Credit Risk Practice and Its Effects on Financial Performance**

### **6.1 Introduction**

The need for bank to embody the concepts of credit risk management for the recession of extending over the whole earth and its impact on the global economy. Banks are exposed to tough market competition and they have to assume different types of financial as well as non-financial risks. There is necessity that the banks have to discriminate avoidable and unavoidable risks and conclude on what level such risks can be taken by the bank. Risk is an important factor in banks and other financial institutions, for making profit. The high the risk, the high the returns for this consideration it is indispensable to maintain parity between risks and return (Jain, Sharma and Somani, 2017). Credit risk management is the central part of any commercial bank and it plays an unavoidable role in the performance of a financial institution through analyzing the creditworthiness of the borrowers and the recovery of the supplied loans and advances is challenged greatly if there is any loophole in case of credit risk assessment. As a whole, profitability falls in a great uncertainty. Poor credit risk management is one of the most influencing components of unsatisfactory performance of the banks and for facing bankruptcy (Ghosh, Islam and Hasan, 2014). Risk management is the procedure by which the managers satisfy these needs with the use of identifying key risks obtaining consistent, understandable, operational risk measures, choosing which risk is to reduce and which one to increase and by what means and establishing the process to monitor and to determine the result of risk situation (Islam, Islam and Zaman, 2013). Risk management has become the cornerstone of foreseeing in case of banking practices. At present the banking sector has been facing several of probable risks and they are liquidity risk, credit risk, interest rate risk, investment risk, operational risk and strategic risk which may be a threat to bank's sustainability. The banking sector has been suffering by a number of crises worldwide in last few decades from the place the commercial banks have

recognized the importance to review the overall risk management systems (Rahman, Rahman and Azad, 2015). This chapter supplies the outcomes of the descriptive statistics about the different indicators of credit risk management practice as well as the results of the simple and multiple regression analysis.

## **6.2 Credit Assessment Area of Commercial Bank**

Normally, the banks assume fundamental credit risks through “borrower analysis” during assessing a credit proposal. The complete information of the proprietor, partners, directors etc. are investigated as well as their management competence is made sure in this analysis. Comprehensive credit scenarios and performance of the concerned group is also measured. Industry analysis is included before the prolongation of credit in a field, the entire circumstances of the business of that field is critically reviewed; prospects and problems are found out by the bank officials. Demand and supply of the concerned goods and services, the gap of demand and supply, contribution of the borrower in meeting the gap, strength and weakness of the borrowers and their competitors is evaluated accurately (Mosharrafa, 2013). Credit assessment process of a commercial bank in Bangladesh considers prospective viability as well as historical financial analysis of the borrowers. The financial analysis addresses the quality and sustainability of proceeds, cash flow and the strength of the borrower's balance sheet. In case of insufficient cash flow of the borrowers to pay back debt, loan should not be granted. Credit proposals should be made in accordance with lending guidelines prescribed by bank. Mitigating factors consider credit assessment, possible risks, such as margin sustainability or volatility, over stocking or debtor issues, rapid growth, acquisition or expansion, new business line expansion, management changes or succession issues, customer or supplier concentrations and lack of transparency or industry issues. Securities which are received are admissible, precious and smoothly saleable and faultless regarding title. Pricing of security is legitimately assessed. Securities are comprised of primary and collateral and are adequately insured. All associated risks, lending fundamentals and a thorough financial analysis must be made.

### **6.3 Risk Management Practices and Process in the Banking Sector**

Undoubtedly, the banking sector is a regulated sector for the riskiness of its operation. As a result, risk management in case of banking sector is becoming such a discipline that each of the participants and players in this sector need to be placed in a straight line. As noted, earlier, it is a process which involves:

- (i) **Risk Identification:** With a view to managing risks properly, an institution needs to know as well as understand risks that may appear from both existing and potential business imitative.
- (ii) **Risk Management:** Every risk should be measured with accuracy and timeliness to assess their effect on the profitability and capital of banking institutions because this process is important for effective system of risk management.
- (iii) **Risk Monitoring:** Risk monitoring is significant to assess the degree of risk as well as to facilitate timely review of risk situations and exceptions. Monitoring reports should have frequent, timely, accurate, and informative character to ensure the demand as per the need of proper individuals.
- (iv) **Risk Control:** A body is needed to set up and communicate risk limits in line with policies, standards, and procedures that define responsibility and authority after analyzing the risk and these limits should serve as a means to control exposure to the different risks connected with the activities of banking institutions (Soyemi, et al, 2014).

### **6.4 Basel Accords**

The Basel Accords refer to a set of three sequential banking provisions guided by the Basel Committee on Banking supervision (BCBS). Basel Committee gives suggestions on banking and financial regulations, specifically, concerning capital risk, market risk, and operational risk. Their prime objective is to confirm that banks keep sufficient cash reserves to cover their financial commitment and

survive in financial and economic distress. The Basel committee issues several guidelines to motivate the banking industry internationally to develop sound practices to manage credit risk. The Basel guidelines specially covers the following areas:

- (i) Set up a proper credit risk environment;
- (ii) Establish a sound credit granting procedure;
- (iii) Continue an applicable credit administration, measurement and monitoring system; and
- (iv) Ensuring adequate controls over credit risk: Although specific credit risk management practices may differ among banks depending upon the nature and complexity of their credit activities, a comprehensive credit risk management program will address these four areas. These practices should also be applied in conjunction with sound practices related to the assessment of asset quality, the adequacy of provisions and reserves, and the disclosure of credit risk (Rahman, 2011).

### **Basel-I**

Basel-I is known as Basel Accord which was formed in 1988. It was created to supervise integrated and interdependent international banks and financial market. Regulator of some countries were concerned about the insufficient cash reserve of international banks which led to the failure of one large bank that deeply integrated financial market and brought about a great crisis in multiple countries. Basel-I aimed at improving the financial stability by setting minimum reserve requirements for international banks. Every bank is needed to keep a capital adequacy ratio of 8 %.

The capital adequacy ratio is the minimum capital requirement of a bank and is defined as the ratio of capital to risk-weighted assets.

As per Basel-1 the banks' capital = Tier 1(core capital) + Tier 2(supplementary capital) (Basel Committee, 2000).

In 1996, Bangladesh Bank adopted the Basel-I propositions to formulate the capital adequacy regulations against risk weighted assets vide BRPD Circular No. 01/1996.

### **Basel-II**

This framework is based on three guidelines.

Minimum capital requirements: The capital adequacy ratio is to be maintained at 12.9%. As per Basel-II the banks' capital = Tier 1(core capital) + Tier 2(supplementary capital) + Tier-3 (short-term subordinated loans).

Regulatory supervision: According to this, banks were required to develop and use improved risk management strategies regarding three types of risks that a bank faces, such as credit risk, market risk, and operational risks. According to this provision banks have to maintain additional capital.

Market discipline: The third pillar is intended to strengthen incentives for prudent risk management. Greater transparency in banks' financial reporting should allow marketplace participants to better reward well-managed banks and penalize poorly-managed ones (Basel Committee, 2008,2009).

In Bangladesh BASEL-II is in operation with effect from January 01, 2010. (Source: BRPD Circular no. 20/2009 dated December 29, 2009)

### **Basel-III**

Basel-III was first issued in 2009. The recommendation intends to develop a more resilient banking system.

- Capital: The capital adequacy ratio is to be maintained at 12.9%. Tire 1 and Tire 2 capital have to be maintained at 10.5% and 2% of risk-weighted assets respectively.
- Banks have to conceive a capital conservation buffer of 2.5%.
- 0-2.5% Counter-cyclical buffer is also to be maintained.
- At least 3 % leverage rate has to be maintained.

- Liquidity: Two liquidity ratios LCR and NSFR which are recommended by Basel-III. The liquidity coverage ratio (LCR) will need banks to bear a buffer of high-quality liquid assets enough to cover cash outflows in an acute short term distress scenario as designated by supervisors. The minimum LCR requirement has reached at 100% on 1 January 2019. On the other hand, the Net Stable Funds Rate (NSFR) requires banks to maintain a stable funding profile in relation to their off-balance-sheet assets and activities. The minimum NSFR requirement is 100 %. Therefore, LCR measures short-term (30 days) resilience, and NSFR measures medium-term (1 year) resilience (Basel Committee, 2013).

In Bangladesh BASEL-III is effective from January 01, 2015. (Source: BRPD Circular No.07 dated March 31, 2014)

As is evident from the discussion of Basel I, II, III, 12.9% of the risk weighted assets are to be kept as reserve to maintain capital adequacy. Accordingly, an attempt has been made by the researcher to ascertain whether there is significant variation among the sample banks regarding statutory reserves, we have developed a null hypothesis which is  $H_{011}$ : There is no bank-to-bank variation between required capital and regulatory capital maintained by the sample banks. Accordingly, we conducted paired sample t test and the result is shown in Table no. 6.1.

**Table 6.1: Information about the variation of Statutory Reserves among samples banks**

Sample	t value	Df	Two tailed Sig. Level
Sample_1 vs. Sample_2	15.579	4	0.000
Sample_1 vs. Sample_3	9.373	4	0.001
Sample_1 vs. Sample_4	15.429	4	0.000
Sample_2 vs. Sample_3	-15.20	4	0.000
Sample_2 vs. Sample_4	5.612	4	0.005
Sample_3 vs. Sample_4	12.719	4	0.000

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

From Table 6.1 we observe that our null hypothesis is rejected in all the cases. So, we can conclude that there is significant variation among the sample banks regarding the maintenance of required capital and regulatory capital.

We have also investigated whether there is significant variation between required capital and regulatory capital by the sample banks and our null hypothesis is  $H_{012}$ : There is no significant variation between statutory and regulatory capital of each sample bank.

**Table 6.2: Information about the variation between capital required (Sc) and regulatory capital maintained (Ac) by the sample banks**

	T value	Df	Two Tailed Sig. Level
Sample_1 Sc vs. Ac	0.874	4	0.431
Sample_2 Sc vs. Ac	0.997	4	0.375
Sample_3 Sc vs. Ac	0.688	4	0.529
Sample_4 Sc vs. Ac	0.074	4	0.945

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

From Table 6.2 we observe that the null hypothesis accepted in all the cases. So, it can be concluded that there is no significant variation between statutory and regulatory capital of each sample bank individually.

We have also made an attempt to examine whether there is year- to- year variation among the sample banks regarding the maintenance of required capital and regulatory capital. Accordingly, we formulated a null hypothesis which is  $H_{013}$ : There is no year-to-year variation among the sample banks regarding the maintenance of required capital and regulatory capital.

**Table 6.3: Information about the year-to-year variation between capital required and regulatory capital maintained among the sample banks**

Pairs	T value	Df	Sig. level
2012 vs. 2013	-1.331	3	0.275
2012 vs. 2014	-2.825	3	0.066
2012 vs. 2015	-2.872	3	0.064
2012 vs. 2016	-4.038	3	0.027
2013 vs. 2014	-4.404	3	0.022
2013 vs. 2015	-4.865	3	0.017
2013 vs. 2016	-9.379	3	0.003
2014 vs. 2015	-0.809	3	0.439
2014 vs. 2016	-4.572	3	0.020
2015 vs. 2016	-2.722	3	0.072

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)



From Table 6.3 it is apparent that the null hypothesis is rejected in 50% of the cases. So, there is year-to-year significant and insignificant variation among the sample banks regarding the maintenance of required capital and regulatory capital.

## 6.5 Indicators of Credit Risk management Practices

Credit risk management practice in financial institutions has become more important not only in case of performing the financial transactions but also protecting from the crisis of that industry. Furthermore, the credit risk management is also a means of or a crucial concept that is essential to bring to a conclusion about the commercial performance at the view point of the success, sustainable growth and consistent profitability. Risk management includes trade transactions as well as returns which are indispensable for ensuring the sustainable profitability of the financial sectors. Such as in banking operation credit risk which is relating to the substantial amount of income producing assets has been found to be an important determinant of the bank performance (Getahun, Anwen and Bari, 2015). With a view to knowing the trend of credit risk management practice of the sample banks the study has considered some indicators which are loan & advance, classified loan, unclassified loan, leverage ratio, bad debts, default ratio, cost per loan assets and cost to income ratio and conducted descriptive statistics and the results of the descriptive statistics in this regard are given in the following section.

H<sub>014</sub>: There is no significant variation in different indicators of credit risk management among the sample banks.

### 6.5.1 Descriptive Statistics about the Loan and Advance.

**Table 6.4: Information about the results of descriptive statistics of loan and advance**

Banks	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Sample_1	5	46.98369	337.5544	384.5381	356.2489	23.14397	535.6434
Sample_2	5	121.0693	144.8018	265.8711	212.2774	44.81161	2008.08
Sample_3	5	137.1663	265.8711	403.0374	324.8581	54.24967	2943.027
Sample_4	5	84.50884	90.64156	175.1504	128.1491	32.64044	1065.398

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 6.4 shows the sample-wise descriptive statistics of loan and advance of the sample banks and the results demonstrate that the sample\_1 presents the highest mean values and lower standard deviation value. The lower mean value is visible in sample\_4 and the highest standard deviation value has been obtained from the sample\_3.

### 6.5.1.1 Variation in Loan and Advance among the Sample Banks

With a view to identifying whether there is any significant variation in loan and advance among the sample banks the study has conducted ANOVA test with a null hypothesis which is  $H_{014.1}$ : There is no significant variation in loan and advance among the sample banks over the study period.

**Table 6.5: Information about the results of ANOVA test regarding the loan and advance**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	165236.489	3	55078.830	33.625	0.000
Within Groups	26208.597	16	1638.037		
Total	191445.086	19			

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

By considering the above documents it is apparent that the null hypothesis is rejected at 5% level of significance since F (3, 16) ratio is 33.625 and significance level is 0.000 which suggests that there is variation in loan and advance among the sample banks over the study period.

### 6.5.2 Descriptive Statistics about the Total Classified Loan

**Table 6.6: Information about the results of sample-wise descriptive statistics of total classified loan**

Banks	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Sample_1	5	39.52665	86.72871	126.2554	100.947	16.14012	260.503
Sample_2	5	36.43	35.79	72.22	57.222	14.3061	204.6646
Sample_3	5	143.3835	31.76686	175.1504	69.36689	60.02741	3603.289
Sample_4	5	19.66	15.19	34.85	22.816	7.527661	56.66568

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table No. 6.6 states the sample-wise descriptive statistics of classified loan of the sample banks over the study period. The highest and lowest mean values have

been obtained from the sample-1 and sample\_4 as well as the lower and higher values of standard deviation is visible in sample\_4 and sample\_3. Based on the above discussion it is evident that the total classified loan was very consistent than others in sample\_4.

### 6.5.2.1 Variation in Total Classified Loan among the Sample Banks

By using ANOVA technique, the study has exhibited a null hypothesis which is  $H_{014.2}$ : There is no significant variation in total classified loan among the sample banks for reporting whether there is any significant variation in total classified loan.

**Table 6.7: Information about the results of ANOVA test regarding the total classified loan**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	15640.32	3	5213.44	5.0554	0.0119
Within Groups	16500.236	16	1031.265		
Total	32140.555	19			

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

The results of ANOVA test displays that the F (3, 16) ratio is 5.0554 and its significant level is 0.0119 and it suggest that the null hypothesis is rejected which means that there is significant difference in total classified loan among the sample banks during the study period.

### 6.5.3 Descriptive Statistics about the Total Unclassified Loan

**Table 6.8: Information about the results of sample-wise descriptive statistics of total unclassified loan**

Banks	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Sample_1	5	42.40472	239.4353	281.84	256.6336	15.76248	248.4559
Sample_2	5	40.2249	158.8618	199.0867	183.7877	19.23894	370.1366
Sample_3	5	92.6815	250.9961	343.6776	287.5463	38.74879	1501.469
Sample_4	5	72.28823	68.01367	140.3019	105.2292	27.81462	773.653

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table No. 6.8 provides the sample-wise descriptive statistics of unclassified loan. It is visible that the higher and lower mean values are found in sample\_3 and sample\_4, again the sample\_1 and sample\_3 has shown the lowest and highest standard deviation values. It is also visible that the value of standard deviation of sample\_1 is very consistent than that of sample\_3 among the sample banks.

### 6.5.3.1 Variation in Total Unclassified Loan among the Sample Banks

The ANOVA technique has been utilized to identify whether there is any significant variation in total unclassified loan through developing a null hypothesis which is  $H_{014.3}$ : There is no significant variation in total unclassified loan among the sample banks.

**Table 6.9: Information about the results of ANOVA test regarding the total unclassified loan**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	99202.824	3	33067.608	45.710	0.000
Within Groups	11574.857	16	723.429		
Total	110777.68	19			

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

The results of ANOVA test regarding the unclassified loan indicate that the F (3, 16) ratio is 45.710 and its significance level is 0.000 which suggests that the null hypothesis is rejected which leads to conclude that there is significant variation in unclassified loan among the sample banks.

### 6.5.4 Descriptive Statistics about the Leverage Ratio

**Table 6.10: Information about the results of sample-wise descriptive statistics of leverage ratio**

Banks	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Sample_1	5	3.805251	-0.44368	3.361571	1.97033	1.483612	2.201106
Sample_2	5	90.04581	-3.23609	86.80972	18.41199	38.32591	1468.875
Sample_3	5	3.440478	1.152386	4.592864	3.821476	1.495147	2.235464
Sample_4	5	2.101742	2.666241	4.767983	3.96083	1.004994	1.010013

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 6.10 provides the results of sample-wise descriptive statistics about leverage ratio. The Table shows that the maximum and minimum values of means have been visible in case of sample\_2 and sample\_1. The evidence also highlights that the lower value of standard deviation is found in sample\_4 and the highest is visible in sample\_2 conveying that the value was very inconsistent with others among the sample banks.

#### 6.5.4.1 Variation in Leverage Ratio among the Sample Banks

With the help of a null hypothesis which is  $H_{014.4}$ : There is no significant variation in leverage ratio among the sample banks the study has conducted ANOVA technique to know whether there is any significant variation in leverage ratio.

**Table 6.11: Information about the results of ANOVA test regarding the leverage ratio**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	874.31929	3	291.4398	0.7907	0.5166
Within Groups	5897.2874	16	368.5805		
Total	6771.6067	19			

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

From the aforesaid discussion it is evident that F (3, 16) ratio is 0.7907 and its significance level is 0.5166 that confirms that the null hypothesis is accepted. Hence it can be concluded that there is no significant variation in leverage ratio among the sample bank.

#### 6.5.5 Descriptive Statistics about the Bad Debts

**Table 6.12: Information about the results of sample-wise descriptive statistics of bad debts**

Banks	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Sample_1	5	30.72752	69.04988	99.7774	84.71866	13.17062	173.4653
Sample_2	5	26.21659	27.28836	53.50495	38.39912	9.872773	97.47165
Sample_3	5	19.44477	20.39423	39.839	29.82025	7.058585	49.82362
Sample_4	5	17.80514	13.66872	31.47386	20.11361	7.126838	50.79182

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 6.12 exhibits the sample wise descriptive statistics of bad debts and it has been identified that the sample\_1 has shown the higher mean value and the lower value is seen in case of sample\_4 as well as the lower and higher values of standard deviation are visible in sample\_3 and sample\_1. The discussion also reports that the standard deviation values of last two are lower than those of first two and the mean value of sample\_1 projects the much variability than those of others among the sample banks.

### 6.5.5.1 Variation in Bad Debt among the Sample Banks

The null hypothesis which has been developed is  $H_{014.5}$ : There is no significant variation in bad debt among the sample banks. It has been tested with the use of ANOVA technique for investigating whether there is any significant variation in bad debts.

**Table 6.13: Information about the results of ANOVA test regarding the bad debt**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	12294.154	3	4098.051	44.1182	0.0000
Within Groups	1486.2096	16	92.8881		
Total	13780.364	19			

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Based on the above fact it is visible that the F (3, 16) ratio is 44.1182 and its significant level is 0.000 which means that the null hypothesis is rejected. This confirms that there is significant variation in bad debts among the sample banks.

### 6.5.6 Descriptive Statistics about the Default Ratio

**Table 6.14: Information about the results of sample wise descriptive statistics of default ratio**

Banks	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Sample_1	5	8.23768	25.07608	33.31376	28.51714	3.399129	11.55408
Sample_2	5	8.72132	16.87013	25.59145	20.8705	4.243201	18.00475
Sample_3	5	6.30668	11.1171	17.42378	13.45994	2.607534	6.799236
Sample_4	5	13.92	12.15	26.07	18.554	5.184538	26.87943

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 6.14 exposes the sample wise descriptive statistics of default ratio. The results shows that higher and lower mean values have been found from sample\_1 and sample\_3, again, the sample\_3 and sample\_4 have displayed the lower and higher standard deviation values.

#### 6.5.6.1 Variation in Default Ratio among the Sample Banks

The study has used ANOVA technique to identify whether there is any significant variation in default ratio through developing a null hypothesis which is  $H_{014.6}$ : There is no significant variation in default ratio among the sample banks.

**Table 6.15: Information about the results of ANOVA test regarding the default ratio**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	588.35817	3	196.1194	12.40526	0.0002
Within Groups	252.94999	16	15.80937		
Total	841.30816	19			

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

By using the above fact, it is found that the null hypothesis is rejected at 5% level of significance because the F ratio (3, 16) is 12.40526 and its significance level is 0.002 which means that there is significant variation in default ratio among the sample banks.

### 6.5.7 Descriptive Statistics about the Cost per Loan Assets

**Table 6.16: Information about the results of sample wise descriptive statistics of cost per loan assets**

Banks	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Sample_1	5	2.034736	3.003795	5.038531	3.880707	0.759048	0.576154
Sample_2	5	9.827674	3.302426	13.1301	7.528191	4.548839	20.69194
Sample_3	5	0.814229	2.450606	3.264835	2.989946	0.314283	0.098774
Sample_4	5	0.966887	3.158779	4.125666	3.434425	0.396829	0.157473

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 6.16 explains the results of the sample wise descriptive statistics of cost per loan assets. The sample\_2 shows the higher mean value with the higher standard deviation value as well as the sample\_3 reports the lower mean value with the lower standard deviation value. The results also report that the standard deviation values of sample\_1, sample\_3 and sample\_4 are consistent than that of sample\_2 over the study period.

#### 6.5.7.1 Variation in Cost per Loan Assets among the Sample Banks

In order to see whether there is any significant variation in cost per loan assets the study has tested a null hypothesis which is  $H_{014.7}$ : There is no significant variation in cost per loan assets among the sample banks through the ANOVA technique.

**Table 6.17: Information about the results of ANOVA test regarding the cost per loan assets**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	64.8111	3	21.6037	4.0148	0.0263
Within Groups	86.0974	16	5.3811		
Total	150.9085	19			

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

The above evidence reports that the F (3, 16) ratio is 4.0148 and its significance level is 0.0263 which confirms that the null hypothesis is rejected at 5% level of significance which confirms that there is significant difference in cost per loan assets among the sample banks.

### 6.5.8 Descriptive Statistics about the Cost to Income Ratio

**Table 6.18: Information about the results of sample wise descriptive statistics of cost income ratio**

Banks	Ns	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Sample_1	5	31.28607	50.71989	82.00597	66.97479	13.54912	183.5786
Sample_2	5	34.6255	38.68331	73.30881	48.21316	14.25124	203.098
Sample_3	5	22.73885	33.9867	56.72554	45.576	8.382263	70.26233
Sample_4	5	68.61147	45.39537	114.0068	69.99978	25.84463	667.945

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 6.18 displays the sample wise descriptive statistics of cost to income ratio. Based on the early mentioned evidence it is apparent that the higher mean value and higher standard deviation value is visible in case of sample\_4, on the other hand the sample\_3 reports the lower mean value and the lower standard deviation value. The results of descriptive statistics also reveal that the sample\_4 shows the highest variability in C Ratio among the sample banks over the study period.

#### 6.5.8.1 Variation in Cost to Income Ratio among the Sample Banks

The ANOVA technique has used to determine whether there is any significant variation in cost to income ratio with a null hypothesis which is  $H_{014.8}$ : There is no significant variation in cost to income ratio among the sample banks.



**Table 6.19: Information about the results of ANOVA test regarding the cost to income ratio**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2371.4882	3	790.4961	2.8109	0.0728
Within Groups	4499.5358	16	281.221		
Total	6871.024	19			

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Based on the aforesaid evidence that the results of ANOVA test displays that the F (3, 16) ratio is 2.8109 and its significant level is 0.0728 which is higher than 0.05 levels and its means that the null hypothesis is accepted which indicates that there is no significant difference in cost to income ratio among the sample banks during the study period.

## 6.6 The Effect of the Different Indicators of Credit Risk management Practice on the Different Components of the Financial Performance

Credit risk management is very important in the banking sector for ensuring the profitability through the proper adjustment of different risks. In order to examine the effects of different indicators of credit risk management namely loan & advance, classified loan, unclassified loan, bad debt, default ratio, leverage ratio, cost to income ratio and cost per asset ratio on financial performance measured by return on assets (ROA), return on equity (ROE), return on investment (ROI) and net profit percentage (NPP), the researcher has developed null hypothesis which is  $H_{015}$ : There is no significant effect of credit risk management indicators on the financial performance surrogates of the sample banks. The null hypothesis has been tested using regression analysis and results are given in the following section.

### 6.6.1 Regression Analysis between Return on Assets and Loan & Advance

**Table 6.20: Information about the results of regression analysis between the ROA and loan & advances**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.5834	0.3403	0.1204	1.3590	0.3403	1.5478	1	3	0.3018
Sample_2	0.1704	0.0290	-0.2946	2.9766	0.0290	0.0897	1	3	0.7841
Sample_3	0.4391	0.1928	-0.0763	1.8817	0.1928	0.7166	1	3	0.4594
Sample_4	0.881	0.776	0.702	0.163	0.776	10.418	1	3	0.048

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

From the above discussion it is observed that the null hypothesis is accepted except sample\_4 which means that there is significant and insignificant effect of loan & advance on return on assets of the sample banks during the study period.

### 6.6.2 Regression Analysis between Return on Assets and Classified Loan

**Table 6.21: Information about the results of regression analysis between the ROA and classified loan**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.8717	0.7598	0.6798	0.8200	0.7598	9.4912	1	3	0.0541
Sample_2	0.3582	0.1283	-0.1623	2.8203	0.1283	0.4416	1	3	0.5539
Sample_3	0.9919	0.9838	0.9785	0.2662	0.9838	182.6442	1	3	0.0009
Sample_4	0.390	0.152	-0.131	0.3170	0.1520	0.5380	1	3	0.516

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

By considering the results of regression analysis it is visible that F ratio is significant at 5% level for sample\_3 and the null hypothesis is rejected which means that the classified loan of sample bank has significant effect on return on assets. But the significant levels of sample\_1, sample\_2 and sample\_4 are higher than 0.05 that leads to conclude that the null hypothesis is accepted which means that the classified loan of sample banks have insignificant effect on return on assets.

### 6.6.3 Regression Analysis between Return on Assets and Unclassified Loan

**Table 6.22: Information about the results of regression analysis between the ROA and unclassified loan**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.0608	0.0037	-0.3284	1.6702	0.0037	0.0111	1	3	0.9226
Sample_2	0.3874	0.1501	-0.1332	2.7848	0.1501	0.5299	1	3	0.5193
Sample_3	0.3475	0.1208	-0.1723	1.9639	0.1208	0.4121	1	3	0.5666
Sample_4	0.928	0.862	0.815	0.128	0.862	18.666	1	3	0.023

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

The results of regression analysis projects that the significance levels of first three sample banks are higher than 0.05 level of significance that leads to conclude that the null hypothesis is accepted which means that the unclassified loan has shown insignificant effect on return on assets of the three sample banks. But the sample\_4 shows lower significance at 5% level of significance and signifies that the null

hypothesis rejected which ensures that the unclassified loan has shown significant effect on return on assets of the sample bank.

#### 6.6.4 Regression Analysis between Return on Assets and Leverage Ratio

**Table 6.23: Information about the results of regression analysis between the ROA and leverage ratio**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.9136	0.8347	0.7796	0.6803	0.8347	15.1502	1	3	0.0301
Sample_2	0.2931	0.0859	-0.2188	2.8881	0.0859	0.2818	1	3	0.6323
Sample_3	0.9681	0.9373	0.9164	0.5244	0.9373	44.8540	1	3	0.0068
Sample_4	0.6140	0.3780	0.1700	0.2710	0.3780	1.8200	1	3	0.2700

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

The above evidence has been obtained from the results of regression analysis shows that the sample\_1 and sample\_3 show the lower significance level at 5% significant that supports the null hypothesis is rejected. Hence it can be concluded that there is significant effect of return on assets in case of leverage ratio of the sample banks. Again, the significance levels of sample\_2 and sample\_4 are higher than 0.05 level of significance and it indicates that the null hypothesis is accepted and there is insignificant effect of return on assets in case of leverage ratio of the sample banks.

#### 6.6.5 Regression Analysis between Return on Assets and Bad Debt

**Table 6.24: Information about the results of regression analysis between the ROA and bad debt**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.6537	0.4273	0.2364	1.2663	0.4273	2.2385	1	3	0.2315
Sample_2	0.3588	0.1287	-0.1617	2.8197	0.1287	0.4432	1	3	0.5532
Sample_3	0.3796	0.1441	-0.1412	1.9377	0.1441	0.5050	1	3	0.5286
Sample_4	0.487	0.237	-0.017	0.300	0.237	0.934	1	3	0.405

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

After evaluating the results of regression analysis, it is observed that the null hypothesis is accepted in all cases for showing the higher significance level than 5% level that leads to conclude that the bad debt ensures insignificant effect on return on assets of the sample banks during the study period.

### 6.6.6 Regression Analysis between Return on Assets and Default Ratio

**Table 6.25: Information about the results of regression analysis between the ROA and default ratio**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.7695	0.5921	0.4561	1.0687	0.5921	4.3539	1	3	0.1282
Sample_2	0.7995	0.6392	0.5189	1.8146	0.6392	5.3140	1	3	0.1045
Sample_3	0.9206	0.8475	0.7966	0.8180	0.8475	16.6658	1	3	0.0265
Sample_4	0.581	0.338	0.117	0.280	0.338	1.529	1	3	0.304

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Based on the early mentioned evidence that the significance of level of sample-3 is lower than 0.05 and the remaining sample banks shows higher significant level than 5% level of significance that suggests the null hypothesis is accepted in case of sample\_1, sample\_2 and sample\_4 and rejected in case of sample\_3. So, it can be concluded that there is significant effect of default ratio on return on assets in case of sample\_3 and insignificant effect in case of sample\_1, sample\_2 and sample\_4 during the study period.

### 6.6.7 Regression Analysis between Return on Assets and Cost per Loan Asset

**Table 6.26: Information about the results of regression analysis between the ROA and cost per loan asset**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.5596	0.3131	0.0842	1.3868	0.3131	1.3675	1	3	0.3267
Sample_2	0.3787	0.1434	-0.1421	2.7957	0.1434	0.5024	1	3	0.5296
Sample_3	0.8943	0.7997	0.7329	0.9374	0.7997	11.9773	1	3	0.0406
Sample_4	0.458	0.210	-0.053	0.306	0.210	0.798	1	3	0.438

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Referring to the results of regression analysis it is apparent that the null hypothesis is rejected in case of sample\_3 at 5% level of significance and indicates that the significant effect is visible in this regard. Again, the significance levels of the remaining sample banks are higher than 0.05 that confirms the null hypothesis is accepted which means that there is no significant effect of cost per loan asset on return on assets.

### 6.6.8 Regression Analysis between Return on Assets and Cost to Income Ratio

**Table 6.27: Information about the results of regression analysis between the ROA and cost income ratio**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.6310	0.3982	0.1976	1.2980	0.3982	1.9851	1	3	0.2536
Sample_2	0.0615	0.0038	-0.3283	3.0150	0.0038	0.0114	1	3	0.9217
Sample_3	0.6264	0.3924	0.1898	1.6326	0.3924	1.9373	1	3	0.2582
Sample_4	0.800	0.640	0.520	0.206	0.640	5.333	1	3	0.104

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table No. 6.27 shows the results of regression analysis between the return on assets and cost to income ratio of the sample banks over the study period from 2012 to 2016. From the above Table it is observed that the null hypothesis is accepted in all cases which mean that there is no significant influence of cost to income ratio on return on assets of the sample banks over the study period.

### 6.6.9 Regression Analysis between Return on Equity and Cost to Income Ratio

**Table 6.28: Information about the results of regression analysis between the ROE and loan & advance**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.5763	0.3321	0.1095	1.9349	0.3321	1.4919	1	3	0.3091
Sample_2	0.1670	0.0279	-0.2961	3.8395	0.0279	0.0861	1	3	0.7884
Sample_3	0.4125	0.1702	-0.1064	2.4192	0.1702	0.6153	1	3	0.4900
Sample_4	0.942	0.887	0.849	0.184	0.887	23.462	1	3	0.017

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Referring to the results of regression analysis it is apparent that the null hypothesis is rejected in case of sample\_4 at 5% level of significance and indicates that the significant effect is visible in this regard. Again, the significance levels of the remaining sample banks are higher than 0.05 that confirms the null hypothesis is accepted which means that there is no significant effect of loan and advance on return on equity.

### 6.6.10 Regression Analysis between Return on Equity and Classified Loan

**Table 6.29: Information about the results of regression analysis between the ROE and classified loan**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.8747	0.7652	0.6869	1.1473	0.7652	9.7761	1	3	0.0522
Sample_2	0.3530	0.1246	-0.1672	3.6435	0.1246	0.4269	1	3	0.5601
Sample_3	0.9866	0.9733	0.9644	0.4340	0.9733	109.3605	1	3	0.0019
Sample_4	0.5670	0.3210	0.0950	0.4510	0.3210	1.4200	1	3	0.3190

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Based upon the view point of the results of regression analysis it is evident that the sample\_3 shows lower significance level at 5% level of significance which means that the null hypothesis is rejected and indicates that the significant effect is visible in this regard. On the other hand, the significance levels of sample\_1, sample\_2 and sample\_4 are higher than 0.05 and accepted in this regard. This confirms that classified loan has reported insignificant effect on return on equity of these three sample banks.

### 6.6.11 Regression Analysis between Return on Equity and Classified Loan

**Table 6.30: Information about the results of regression analysis between the ROE and unclassified loan**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.0608	0.0037	-0.3284	1.6702	0.0037	0.0111	1	3	0.9226
Sample_2	0.3930	0.1545	-0.1274	3.5808	0.1545	0.5481	1	3	0.5128
Sample_3	0.3192	0.1019	-0.1975	2.5169	0.1019	0.3403	1	3	0.6006
Sample_4	0.952	0.906	0.875	0.167	0.906	29.009	1	3	0.013

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Referring to the results of regression analysis it is apparent that the null hypothesis is rejected in case of sample\_4 at 5% level of significance and indicates that the significant effect is visible in this regard. Again, the significance levels of the remaining sample banks are higher than 0.05 that confirms the null hypothesis is accepted which means that there is no significant effect of unclassified loan on return on equity.

### 6.6.12 Regression Analysis between Return on Equity and Leverage Ratio

**Table 6.31: Information about the results of regression analysis between the ROE and leverage ratio**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.9143	0.8360	0.7813	0.9590	0.8360	15.2878	1	3	0.0297
Sample_2	0.2921	0.0854	-0.2195	3.7243	0.0854	0.2799	1	3	0.6334
Sample_3	0.9589	0.9196	0.8928	0.7531	0.9196	34.3064	1	3	0.0099
Sample_4	0.697	0.486	0.315	0.392	0.486	2.841	1	3	0.190

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

By considering the above fact it is visible that the sample\_1 and sample\_3 show the null hypothesis is rejected at 5% level of significance and indicates that the significant effect in this regard. 5% level of significance. Again, the sample\_2 and sample\_4 show higher significance level than 5%. This supports the null hypothesis is accepted and rejected in 50% of the sample firms.

### 6.6.13 Regression Analysis between Return on Equity and Bad Debt

**Table 6.32: Information about the results of regression analysis between the ROE and bad debt**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.6526	0.4259	0.2345	1.7940	0.4259	2.2253	1	3	0.2326
Sample_2	0.3517	0.1237	-0.1684	3.6454	0.1237	0.4234	1	3	0.5616
Sample_3	0.4041	0.1633	-0.1156	2.4293	0.1633	0.5854	1	3	0.4999
Sample_4	0.645	0.416	0.221	0.418	0.416	2.136	1	3	0.240

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

The results of regression analysis provide that the significance levels of the entire sample banks are higher than 0.05 which means that the null hypothesis is accepted in case of all sample banks and it indicates that there is no significant effect of bad debt on return on equity.

### 6.6.14 Regression Analysis between Return on Equity and Default Ratio

**Table 6.33: Information about the results of regression analysis between the ROE and default ratio**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.7749	0.6005	0.4673	1.4966	0.6005	4.5090	1	3	0.1238
Sample_2	0.7959	0.6334	0.5112	2.3578	0.6334	5.1836	1	3	0.1073
Sample_3	0.9229	0.8518	0.8024	1.0225	0.8518	17.2393	1	3	0.0254
Sample_4	0.409	0.168	-0.110	0.499	0.168	0.604	1	3	0.494

(Source: Researcher's Own Analysis using Financial Data of Annual Reports)

Referring to the above results it is observed that the null hypothesis is rejected in case of sample\_3 which means that the default ratio confirms significant effect on return on equity. On the other hand, the null hypothesis is accepted in case of sample\_1, sample\_2 and sample\_4 which means that the default ratio confirms insignificant effect on return on equity.

#### 6.6.15 Regression Analysis between Return on Equity and Cost per Loan Asset

**Table 6.34: Information about the results of Regression between the ROE and cost per loan asset**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.5753	0.3310	0.1079	1.9366	0.3310	1.4841	1	3	0.3102
Sample_2	0.3797	0.1442	-0.1411	3.6025	0.1442	0.5054	1	3	0.5284
Sample_3	0.8813	0.7767	0.7022	1.2551	0.7767	10.4329	1	3	0.0482
Sample_4	0.648	0.420	0.227	0.416	0.420	2.173	1	3	0.237

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

The results of regression analysis demonstrate that the null hypothesis is rejected in case of sample\_3 which means there is significant effect of cost per loan asset on return on equity. But the remaining sample banks ensure the higher significance level than 5% which means the null hypothesis is accepted in this regard and confirms that there is insignificant effect of cost per loan asset on return on equity.

#### 6.6.16 Regression Analysis between Return on Equity and Cost Income Ratio

**Table 6.35: Information about the results of regression analysis between the ROE and cost income ratio**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.6391	0.4085	0.2113	1.8210	0.4085	2.0719	1	3	0.2456
Sample_2	0.0543	0.0030	-0.3294	3.8884	0.0030	0.0089	1	3	0.9309
Sample_3	0.6029	0.3635	0.1513	2.1188	0.3635	1.7131	1	3	0.2818
Sample_4	0.918	0.843	0.791	0.216	0.843	16.153	1	3	0.028

(Source: Researcher's Own Analysis using Financial Data of Annual Reports)

By using the above discussion, it is found that the first three sample banks show the higher significance level than 0.05 but the sample\_4 show the lower significant



level at 5% that suggests that the null hypothesis is accepted for the first three sample banks which concludes the insignificant effect of cost to income ratio on return on equity. But the null hypothesis is rejected in case of sample\_4 and it indicates that there is significant effect of cost to income ratio on return on equity.

### 6.6.17 Regression Analysis between Return on Investment and Loan & Advance

**Table 6.36: Information about the results of regression analysis between the ROI and loan & advance**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.6880	0.4733	0.2977	0.9319	0.4733	2.6958	1	3	0.1992
Sample_2	0.0415	0.0017	-0.3310	0.9392	0.0017	0.0052	1	3	0.9472
Sample_3	0.5998	0.3598	0.1464	0.7482	0.3598	1.6861	1	3	0.2849
Sample_4	0.256	0.065	-0.246	1.546	0.065	0.210	1	3	0.678

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

From the above evidence it is observed that the null hypothesis is accepted in case of the entire sample banks for showing the higher level of significance than 5% which means that there is no significant influence of loan and advance on return on investment.

### 6.6.18 Regression Analysis between Return on Investment and Classified Loan

**Table 6.37: Information about the results of regression analysis between the ROI and classified loan**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.9364	0.8768	0.8358	0.4506	0.8768	21.3603	1	3	0.0191
Sample_2	0.2916	0.0850	-0.2200	0.8992	0.0850	0.2788	1	3	0.6341
Sample_3	0.381	0.145	-0.140	0.865	0.145	0.510	1	3	0.527
Sample_4	0.369	0.136	-0.152	1.486	0.136	0.472	1	3	0.541

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Considering to the results of regression analysis it is visible that the significance level of sample\_1 is lower than 0.05 which means that the null hypothesis is rejected in case of sample\_1. So, in this case the classified loan shows the significant effect on return on investment. And the significance levels of the remaining three sample banks are higher than 5% and null hypothesis is accepted. It indicates that the classified loan shows insignificant effect on return on investment.

### 6.6.19 Regression Analysis between Return on Investment and Unclassified Loan

**Table 6.38: Information about the results of regression analysis between the ROI and unclassified loan**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.0141	0.0002	-0.3331	1.2840	0.0002	0.0006	1	3	0.9820
Sample_2	0.4756	0.2262	-0.0318	0.8269	0.2262	0.8769	1	3	0.4181
Sample_3	0.663	0.440	0.253	0.700	0.440	2.354	1	3	0.222
Sample_4	0.404	0.163	-0.116	1.463	0.163	0.584	1	3	0.500

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

The results of regression analysis show that the entire sample banks ensure higher significance levels of F ratios than 5% that confirms the null hypothesis is accepted and it leads to conclude that there is insignificant effect of unclassified loan on return on investment.

### 6.6.20 Regression Analysis between Return on Investment and Leverage Ratio

**Table 6.39: Information about the results of regression analysis between the ROI and leverage ratio**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.9205	0.8473	0.7964	0.5017	0.8473	16.6500	1	3	0.0266
Sample_2	0.4794	0.2298	-0.0269	0.8250	0.2298	0.8951	1	3	0.4139
Sample_3	0.189	0.036	-0.286	0.918	0.036	0.111	1	3	0.761
Sample_4	0.040	0.002	-0.331	1.598	0.002	0.005	1	3	0.949

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Based on the results of regression analysis it is observed that the null hypothesis is rejected in case of sample\_1 and accepted in case of sample\_2, sample\_3 and sample\_4 for showing the lower and higher significance levels than 5% level which means that there is significant effect of leverage ratio on return on investment in case of sample\_1 and insignificant effect of leverage ratio on return on investment in case of remaining three sample banks.

### 6.6.21 Regression Analysis between Return on Investment and Bad Debt

**Table 6.40: Information about the results of regression analysis between the ROI and bad debt**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.7583	0.5750	0.4333	0.8372	0.5750	4.0586	1	3	0.1374
Sample_2	0.5089	0.2590	0.0119	0.8092	0.2590	1.0483	1	3	0.3812
Sample_3	0.994	0.988	0.984	0.103	0.988	243.768	1	3	0.001
Sample_4	0.240	0.057	-0.257	1.552	0.057	0.183	1	3	0.698

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Referring to the results of regression analysis it is apparent that the null hypothesis is rejected in case of sample\_3 at 5% level of significance and indicates that the significant effect is visible in this regard. Again, the significance levels of the remaining sample banks are higher than 0.05 that confirms the null hypothesis is accepted which means that there is no significant effect of bad debt on return on investment.

### 6.6.22 Regression Analysis between Return on Investment and Default Ratio

**Table 6.41: Information about the results of regression analysis between the ROI and default ratio**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.8538	0.7290	0.6386	0.6685	0.7290	8.0695	1	3	0.0656
Sample_2	0.0869	0.0076	-0.3233	0.9365	0.0076	0.0228	1	3	0.8895
Sample_3	0.682	0.465	0.286	0.684	0.465	2.605	1	3	0.205
Sample_4	0.794	0.630	0.506	0.973	0.630	5.100	1	3	0.109

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

The results of regression analysis explain that the significant levels of all sample banks are higher than 0.05 level of significance which means the null hypothesis is accepted and confirms that there is no significant effect of default ratio on return on investment.

### 6.6.23 Regression Analysis between Return on Investment and Cost per Loan Asset

**Table 6.42: Information about the results of regression analysis between the ROI and cost per loan asset**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.5025	0.2525	0.0033	1.1102	0.2525	1.0132	1	3	0.3883
Sample_2	0.0823	0.0068	-0.3243	0.9368	0.0068	0.0204	1	3	0.8954
Sample_3	0.022	0.000	-0.333	0.935	0.000	0.001	1	3	0.972
Sample_4	0.289	0.083	-0.222	1.531	0.083	0.273	1	3	0.637

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Considering to the results of regression analysis it is apparent that the null hypothesis is accepted in case of all sample banks based on the higher levels of significance than 5% level of significance which means that there is insignificant effect of cost per loan asset on return on investment.

### 6.6.24 Regression Analysis between Return on Investment and Cost per Loan Asset

**Table 6.43: Information about the results of regression analysis between the ROI and cost income ratio**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.4991	0.2491	-0.0012	1.1127	0.2491	0.9953	1	3	0.3920
Sample_2	0.7221	0.5215	0.3620	0.6503	0.5215	3.2693	1	3	0.1683
Sample_3	0.444	0.197	-0.070	0.838	0.197	0.738	1	3	0.453
Sample_4	0.071	0.005	-0.327	1.595	0.005	0.015	1	3	0.910

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

The results of regression analysis expose the entire sample banks confirm the higher significance levels than 5% that helps to accept the null hypothesis and confirm that there is no significant effect of cost to income ratio on return on investment.

### 6.6.25 Regression Analysis between Net Profit Percentage and loan & Advance

**Table 6.44: Information about the results of regression analysis between the NPP and loan & advance**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.5784	0.3346	0.1128	39.0849	0.3346	1.5085	1	3	0.3069
Sample_2	0.2672	0.0714	-0.2381	33.1509	0.0714	0.2307	1	3	0.6638
Sample_3	0.839	0.704	0.605	9.286	0.704	7.136	1	3	0.076
Sample_4	0.954	0.909	0.879	2.291	0.909	30.047	1	3	0.012

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Based on the aforesaid discussion it is found that the null hypothesis is accepted except sample\_4 which for reporting the higher significant levels than 5% and lower significant level than 5% level of significant which means the loan & advance had revealed the significant effect on net profit percentage in case of sample\_4 and insignificant effect in case of remaining three sample banks.

### 6.6.26 Regression Analysis between Net Profit Percentage and Classified Loan

**Table 6.45: Information about the results of regression analysis between the NPP and classified loan**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.8720	0.7604	0.6805	23.4541	0.7604	9.5204	1	3	0.0539
Sample_2	0.2828	0.0800	-0.2267	32.9979	0.0800	0.2608	1	3	0.6448
Sample_3	0.810	0.656	0.541	10.012	0.656	5.719	1	3	0.097
Sample_4	0.686	0.470	0.294	5.534	0.470	2.662	1	3	0.201

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

From the above Table it is obtained that the null hypothesis is accepted in case of all sample. So, because of significance level of F ratios is greater than 5% which means that there is no significant effect of classified loan on net profit percentage of the sample banks.

### 6.6.27 Regression Analysis between Net Profit Percentage and Unclassified Loan

**Table 6.46: Information about the results of regression analysis between the NPP and unclassified loan**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.0669	0.0045	-0.3274	47.8071	0.0045	0.0135	1	3	0.9149
Sample_2	0.8436	0.7116	0.6155	18.4748	0.7116	7.4024	1	3	0.0725
Sample_3	0.793	0.629	0.505	10.401	0.629	5.080	1	3	0.110
Sample_4	0.934	0.873	0.830	2.711	0.873	20.586	1	3	0.020

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

By considering the results of regression analysis sample\_4 exhibits the lower significance level of F ratios at 5% level but the significance levels of the remaining sample banks are higher than 0.05 level that assist to take decision about the rejecting and accepting of null hypothesis. So, there is no significant effect of unclassified loan on net profit percentage of the sample banks except sample\_4 over the study period.

### 6.6.28 Regression Analysis between Net Profit Percentage and Leverage Ratio

**Table 6.47: Information about the results of regression analysis between the NPP and leverage ratio**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.9166	0.8402	0.7869	19.1567	0.8402	15.7677	1	3	0.0285
Sample_2	0.4933	0.2434	-0.0089	29.9248	0.2434	0.9649	1	3	0.3984
Sample_3	0.896	0.803	0.738	7.569	0.803	12.258	1	3	0.039
Sample_4	0.745	0.555	0.407	5.071	0.555	3.742	1	3	0.149

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

The results of regression analysis expound that the significant levels of F ratios of sample\_1 and sample\_3 are lower than 0.05 level and in case of the sample\_2 and sample\_4 we observe that the significance levels of F ratios are greater than 5%. So, the null hypothesis is accepted and rejected in this regard in 50% of the cases and confirms the leverage ratio had stated the significant effect in case of the sample\_1 and sample\_3 and insignificant effect in case of the sample\_2 and sample\_4 on net profit percentage.

### 6.6.29 Regression Analysis between Net Profit Percentage and Bad Debt

**Table 6.48: Information about the results of regression analysis between the NPP and bad debt**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.6554	0.4295	0.2394	36.1896	0.4295	2.2588	1	3	0.2299
Sample_2	0.0340	0.0012	-0.3318	34.3823	0.0012	0.0035	1	3	0.9567
Sample_3	0.241	0.058	-0.256	16.568	0.058	0.184	1	3	0.697
Sample_4	0.746	0.557	0.410	5.059	0.557	3.775	1	3	0.147

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

From the previous discussion it is found that the null hypothesis is accepted in case of all sample banks because of showing higher significance levels of F ratios than 5% which means that there is no significance effect of bad debt on net profit percentage of the sample banks.

### 6.6.30 Regression Analysis between Net Profit Percentage and Default Ratio

**Table 6.49: Information about the results of regression analysis between the NPP and default ratio**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.7703	0.5934	0.4578	30.5540	0.5934	4.3776	1	3	0.1275
Sample_2	0.6666	0.4444	0.2592	25.6427	0.4444	2.3996	1	3	0.2191
Sample_3	0.570	0.325	0.100	14.025	0.325	1.443	1	3	0.316
Sample_4	0.258	0.067	-0.245	7.345	0.067	0.214	1	3	0.675

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Based on the above evidence it is observed that the entire sample banks exhibit the higher significance level of F ratios than 5% which means that the null hypothesis is accepted in all cases and indicates that there is no significant effect of default ratio on net profit percentage.

### 6.6.31 Regression Analysis between Net Profit Percentage and Cost per Loan Asset

**Table 6.50: Information about the results of regression analysis between the NPP and cost per loan asset**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.5642	0.3183	0.0911	39.5595	0.3183	1.4010	1	3	0.3218
Sample_2	0.8628	0.7444	0.6593	17.3910	0.7444	8.7393	1	3	0.0597
Sample_3	0.925	0.856	0.808	6.469	0.856	17.884	1	3	0.024
Sample_4	0.767	0.588	0.451	4.880	0.588	4.281	1	3	0.130

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

By considering the results of regression analysis sample\_3 exhibits the lower significance level of F ratios at 5% level but the significance levels of the remaining sample banks are higher than 0.05 level that assist to take decision about the rejecting and accepting of null hypothesis. So, there is no significant effect of cost per loan asset on net profit percentage of the sample banks except sample\_3 over the study period.

### 6.6.32 Regression Analysis between Net Profit Percentage and Cost Income Ratio

**Table 6.51: Information about the results of regression analysis between the NPP and cost income ratio**

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.6309	0.3981	0.1974	37.1742	0.3981	1.9839	1	3	0.2537
Sample_2	0.0289	0.0008	-0.3322	34.3879	0.0008	0.0025	1	3	0.9633
Sample_3	0.944	0.892	0.856	5.608	0.892	24.794	1	3	0.016
Sample_4	0.972	0.946	0.928	1.773	0.946	52.173	1	3	0.005

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

By considering the above fact it is evident that the null hypothesis is accepted in sample\_1 and sample\_2 due to show higher significance levels of F ratios and rejected in sample\_3 and sample\_4 because of significance level of F ratios at 5% which means that the cost to income ratio has demonstrated the significant effect on net profit percentage in sample\_3 and sample\_4 and insignificant effect in sample\_1 and sample\_2 on net profit percentage over the study period.



### 6.6.33 Multiple Regression Analysis between the Credit Risk Indicators and the different Tools of Financial Performance

To identify whether there is any significant effect of different indicators of credit risk such as loan & advance, classified loan, unclassified loan, leverage ratio, bad debt, default ratio, cost per loan asset and cost to income ratio on the different tools of financial performance such as return on assets, return on equity, return on investment and net profit percentage of the sample banks the researcher has conducted multiple regressions with four regression models and the results in this regard are given in the following section.

#### 6.6.33.1 The Formulation of different Regression Models

$$\text{Model}_1: \text{ROA} = \alpha + \beta_1\text{TLA} + \beta_2\text{TCL} + \beta_3\text{TUL} + \beta_4\text{LR} + \beta_5\text{BD} + \beta_6\text{DR} + \beta_7\text{CPLA} + \beta_8\text{CIR} + \varepsilon$$

$$\text{Model}_2: \text{ROE} = \alpha + \beta_1\text{TLA} + \beta_2\text{TCL} + \beta_3\text{TUL} + \beta_4\text{LR} + \beta_5\text{BD} + \beta_6\text{DR} + \beta_7\text{CPLA} + \beta_8\text{CIR} + \varepsilon$$

$$\text{Model}_3: \text{ROI} = \alpha + \beta_1\text{TLA} + \beta_2\text{TCL} + \beta_3\text{TUL} + \beta_4\text{LR} + \beta_5\text{BD} + \beta_6\text{DR} + \beta_7\text{CPLA} + \beta_8\text{CIR} + \varepsilon$$

$$\text{Model}_4: \text{NPP} = \alpha + \beta_1\text{TLA} + \beta_2\text{TCL} + \beta_3\text{TUL} + \beta_4\text{LR} + \beta_5\text{BD} + \beta_6\text{DR} + \beta_7\text{CPLA} + \beta_8\text{CIR} + \varepsilon$$

#### 6.6.33.2 Evaluation of the Results of Multicollinearity Statistics about the Different Indicators of Credit Risk Management

**Table 6.52: Information about the results of Multicollinearity Statistics about the different indicators of credit risk management**

	Collinearity Statistics	
	Tolerance	VIF
Bad Debts (BD)	0.042	24.031
Cost Income Ratio (CIR)	0.636	1.573
Cost per Loan Assets (CPLA)	0.051	19.700
Default Ratio (DR)	0.069	14.496
Leverage Ratio (LR)	0.072	13.812
Total Classified Loan (TCL)	0.195	5.118
Total Loan and Advance (TLA)	0.005	190.084
Total Unclassified Loan (TUCL)	0.007	151.735

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

**Table 6.53: Information about the Results of Coefficient Correlations**

Model	CIR	TLA	CPLA	DR	TCL	LR	BD	TUCL
CIR	1.000	-0.190	-0.166	0.273	0.075	0.233	-0.165	0.238
TLA	-0.190	1.000	0.943	-0.595	0.727	-0.914	-0.677	-0.984
CPLA	-0.166	0.943	1.000	-0.543	0.680	-0.958	-0.669	-0.920
DR	0.273	-0.595	-0.543	1.000	-0.530	0.576	-0.124	0.704
TCL	0.075	0.727	0.680	-0.530	1.000	-0.647	-0.556	-0.746
LR	0.233	-0.914	-0.958	0.576	-0.647	1.000	0.603	0.902
BD	-0.165	-0.677	-0.669	-0.124	-0.556	0.603	1.000	0.560
TUCL	0.238	-0.984	-0.920	0.704	-0.746	0.902	0.560	1.000

a. Dependent Variable: ROA, ROE, ROI & NPP

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

From the Table 6.52 we see that VIF factors of the independent variables are greater than 10 and from Table no. 6.53 it appears that there is high degree of multi-collinearity among the independent variables. To obtain precise estimates of parameters ridge regression is required. The precise estimates have, however, been obtained by using an ordinary list square method and augmenting the standardized data by the following method used by Montgomery and Peck (1982, 316-18) Rawlings, (1988) the method is

$$X_A = \begin{bmatrix} X \\ \sqrt{K^1 P} \end{bmatrix} \quad Y_A = \begin{bmatrix} Y \\ O_p \end{bmatrix}$$

Where,

$X_A$ = Augmented Matrix of independent Variables

$Y_A$ = Augmented Matrix of dependent Variable

$\sqrt{K^1 P}$ =  $\sqrt{K^1 P}$  is a  $P \times P$  Diagonal matrix with diagonal elements that is equal to the square root of the biasing parameter and

$O_p$ =  $O_p$  is a  $P \times I$  vector of Zero

But the correlation matrix and VIF shows that there is high degree of correlation among the independent variables which results in biased estimate of parameters. To eradicate the effect of multicollinearity among the independent variables and to obtain precise estimate of parameters the researcher has conducted Ridge Regression to find out the actual impact of the independent variables on the

dependent variable. Accordingly, 4 (Four) models have been developed which are as follows:

Ridge Regression is based on altering the data matrix by a data dependent amount called the Ridge “K” (Rahman,1998, 540). Using this model of regression, we get precise estimates of parameters. If we assume that the data matrix of P number of predictors is in correlation form, the ridge estimator may be defined as

$$\hat{\beta}_R = (X'X + K_I)^{-1}X'Y \text{ and}$$

$$K \text{ is defined as } K = \frac{P_i\sigma^2}{\hat{\beta}'\hat{\beta}}$$

Where,

$\hat{\beta}_R$  = Ridge Regression Coefficient

Y = Matrix form of dependent variable

$P_i$  = No of Parameters

$\hat{\beta}$  = Multiple Regression Coefficient

X = Matrix form of independent variable

I = Identity Matrix

$\sigma^2$  = Mean Sum Square error

K = Biasing Parameter of ridge regression coefficient

This model is generally used when the degree of correlation present among the independent variables is great enough to cause the coefficient estimates to be unreliable.

#### **6.6.33.3 Multiple Regression Analysis between the Credit Risk Indicators and Return on Assets**

In order to see whether there is significant influence of credit risk indicators on the return on assets, a null hypothesis has been developed which is  $H_{015.1}$ : There is no significant effect of different indicators of credit risk management such as loan & advance, classified loan, unclassified loan, leverage ratio, bad debt, default ratio, cost per loan asset and cost income ratio on financial performance measured by return on assets of the sample banks.

**Table 6.54: Information about the results of multiple regressions analysis between different indicators of**

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.087	3.856		0.282	0.783
BD	0.107	0.061	1.757	1.763	0.106
CIR	0.013	0.022	0.146	0.574	0.578
CPLA	-0.631	0.528	-1.079	-1.196	0.257
DR	-0.026	0.192	-0.103	-0.133	0.896
LR	0.086	0.066	0.981	1.299	0.221
TCL	-0.045	0.018	-1.119	-2.433	0.033
TLA	-0.063	0.046	-3.844	-1.371	0.198
TUCL	0.072	0.054	3.332	1.330	0.210
Dependent Variable: ROA					
Model Summary: R=0.738, R square=0.545, F-value=1.649, P-value (Sig.) = 0.217					

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Based on the result of multiple regressions analysis it is evident that the significance level of t value of TCL is 0.033 but the significance levels of the remaining variables are higher than 0.05 which means that the null hypothesis is rejected and accepted in this regard that confirms the different indicators of credit risk management had shown significant and insignificant effect on return on assets. In addition, the model summary reports that 54.50% of the variation in the dependent variable is expounded by the independent variables and indicates that the entire variables had reported the insignificant effect on the return on assets of the sample banks.

#### **6.6.33.4 Explanation of the result of Ridge Regression**

In order to obtain the precise estimate of parameters we conducted ridge regression on ROA taking the same independent variables and the results are shown in Table 6.55.

**Table 6.55: Information about the Results of Ridge Regression Coefficients at various values of K**

Table showing the ridge regression Coefficient of Beta and Regression result

Particulars	K <sub>0</sub>	K <sub>1</sub>	K <sub>2</sub>	K <sub>3</sub>	K <sub>4</sub>	K <sub>5</sub>
	K=0.000 √K=0.000	K=437.049096938 √K=20.90571924	K=62502.4550214 √K=250.00491	K=4628924.587 √K=2151.493571	K=7.84E+09 √K=88570.33447	K=9.64E+12 √K=3104275.353
TLA	-0.063	-0.011	0.000	2.51E-005	2.30E-006	6.60E-008
TCL	-0.045	-0.031	-0.008	-5.3E-005	2.24E-006	6.60E-008
TUCL	0.072	0.017	0.001	7.71E-005	2.33E-006	6.61E-008
IR	0.086	0.012	0.000	0.000	2.34E-006	6.61E-008
BD	0.107	0.028	-0.002	5.12E-005	2.30E-006	6.60E-008
DR	-0.026	-0.036	-0.002	7.61E-005	2.32E-006	6.60E-008
CPLA	-0.631	-0.010	-0.001	9.79E-005	2.33E-006	6.60E-008
CIR	0.013	0.008	-0.001	0.000	2.34E-006	6.61E-008
Results of Model Summary						
R <sup>2</sup>	0.545	0.432	0.116	0.003	0.005	0.005
F ratio	1.649	1.805	0.312	0.007	0.011	0.011
Sig. Level	0.217	0.139	0.952	1.000	1.000	1.000

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

After conducting the ridge regression, it is evident that the values of R<sup>2</sup> is 0.005, F ratio is 0.011 and its Significance level is 1.000. So, our null hypothesis is accepted which means that the independent variables taken together do not influence the ROA.

#### **6.6.33.5 Multiple Regression Analysis between the Credit Risk Indicators and Return on Equity**

In order to investigate whether there is significant influence of credit risk indicators on the return on equity, a null hypothesis has been developed which is H<sub>015.2</sub>: There is no significant effect of different indicators of credit risk such as loan and advance, classified loan, unclassified loan, leverage ratio, bad debt, default ratio, cost per loan asset and cost income ratio on financial performance measured by return on equity of the sample banks

**Table 6.56: Information about the results of multiple regressions analysis between different indicators of credit risk and return on equity**

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.500	5.112		0.293	0.775
BD	0.135	0.081	1.691	1.673	0.122
CIR	0.015	0.029	0.131	0.508	0.622
CPLA	-0.796	0.699	-1.041	-1.138	0.279
DR	-0.038	0.254	-0.118	-0.150	0.884
LR	0.108	0.087	0.948	1.238	0.242
TCL	-0.057	0.024	-1.084	-2.325	0.040
TLA	-0.080	0.061	-3.751	-1.320	0.214
TUCL	0.092	0.072	3.259	1.283	0.226
Dependent Variable: ROE					
Model Summary: R=0.730, R square=0.532, F-value=1.566, P-value (Sig.) = 0.240					

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Referring to the above discussion it is found that the classified loan shows that the t value of TCL is 0.04 but the remaining variables show the significant levels of t values greater than 5% that suggests the null hypothesis is rejected and accepted which means that the different indicators of credit risk management had reported significant and insignificant effect on return on equity. Moreover, based on the model summary it is visible that 53.20% change in the dependent variable can be explained by the independent variables, which in fact proves that there is no significant effect of credit risk management indicators on the return on equity of the sample banks except TCL.

#### **6.6.33.6 Explanation of the result of Ridge Regression**

In order to obtain the precise estimate of parameters we conducted ridge regression on ROE taking the same independent variables and the results are shown in Table 6.57.

**Table 6.57: Information about the Results of Ridge Regression Coefficients at various values of K**

Particulars	K <sub>0</sub>	K <sub>1</sub>	K <sub>2</sub>	K <sub>3</sub>	K <sub>4</sub>	K <sub>5</sub>
	K=0.000	K=482.2890	K=71732.423	K=5166070.273	K=6E+09	K=5.88E+12
	√K=0.000	√K=21.961	√K=267.829	√K=2272.89	√K=80284.556	√K=2.43E+06
TLA	-0.080	-0.015	-0.0007769	5.13E-005	3.85E-006	1.28E-007
TCL	-0.057	-0.039	-0.009588	-3.2E-005	3.76E-006	1.28E-007
TUCL	0.092	0.023	0.001221223	0.000	3.90E-006	1.28E-007
IR	0.108	0.015	-0.000550482	0.000	3.91E-006	1.28E-007
BD	0.135	0.033	-0.003403481	8.51E-005	3.85E-006	1.28E-007.
DR	-0.038	-0.044	-0.003296027	0.000	3.88E-006	1.28E-007
CPLA	-0.796	-0.012	-0.001946783	0.000	3.89E-006	1.28E-007
CIR	0.015	0.008	-0.001243735	0.000	3.91E-006	1.28E-007
<b>Results of Model Summary</b>						
R <sup>2</sup>	0.532	0.423	0.111	0.004	0.006	0.006
F ratio	1.566	1.742	0.295	0.009	0.015	0.015
Sig. Level	0.240	0.153	0.959	1.000	1.000	1.000

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 6.57 shows the regression coefficients of various independent variables at various values of K and the precise estimates of R<sup>2</sup> is 0.006, F ratio is 0.015 and its significance level is 1.000. Thus, we can conclude that the independent variables taken together do not influence the ROE.

#### **6.6.33.7 Multiple Regression Analysis between the Credit Risk Indicators and Return on Investment**

In order to see whether there is significant influence of credit risk indicators on the return on investment, a null hypothesis has been developed which is H<sub>015.3</sub>: There is no significant effect of different indicators of credit risk management such as loan & advance, classified loan, unclassified loan, leverage ratio, bad debt, default ratio, cost per loan asset and cost to income ratio on financial performance measured by return on investment of the sample banks.

**Table 6.58: Information about the results of multiple regressions analysis between different indicators of credit risk and return on investment**

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	12.394	2.584		4.797	0.001
BD	0.011	0.041	0.266	0.267	0.794
CIR	-0.005	0.015	-0.088	-0.344	0.737
CPLA	0.059	0.354	0.152	0.168	0.870
DR	-0.210	0.128	-1.266	-1.633	0.131
LR	-0.006	0.044	-0.110	-0.145	0.887
TCL	0.003	0.012	0.116	0.253	0.805
TLA	0.012	0.031	1.104	0.393	0.702
TUCL	-0.019	0.036	-1.348	-0.537	0.602

Dependent Variable: ROI  
 Model Summary: R=0.738, R square=0.544, F-value=1.642, P-value (Sig.) = 0.219

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

By considering the above evidence it is apparent that the significance levels of t of all the independent variables are higher than 0.05 which means that the null hypothesis is accepted and confirms that there is no significant effect of the different indicators of credit risk management on return on investment. The model summary shows that 54.40 departure of the dependent variable is provided by the independent variables that lead to conclude that the different indicators of credit risk management has shown insignificant effect on return on investment of the sample banks.

### 6.6.33.8 Explanation of the result of Ridge Regression

In order to obtain the precise estimate of parameters we conducted ridge regression on ROI taking the same independent variables and the results are shown in Table 6.59.

**Table 6.59: Information about the Results of Ridge Regression Coefficients at various values of K**

Particulars	K <sub>0</sub>	K <sub>1</sub>	K <sub>2</sub>	K <sub>3</sub>	K <sub>4</sub>	K <sub>5</sub>
		K=0.000	K=1746.116488	K=60189.56697022	K=.00049641	K=1033064.3893889
	√K=0.000	√K=41.7865587	√K=245.3356211	√K=1634.55169	√K=1016.397752	√K=109.944313
TLA	0.012	-0.009	0.010	-0.006	-0.006	-0.006
TCL	0.003	0.002	-0.005	-0.007	-0.010	-0.010
TUCL	-0.019	0.030	0.012	-0.006	-0.007	-0.007
IR	-0.006	0.022	-0.005	-0.007	-0.012	-0.011
BD	.011	-0.040	-0.009	-0.007	-0.011	-0.010
DR	-0.210	0.053	-.005	-0.007	-0.012	-0.011
CPLA	.059	0.006	-.008	-0.007	-0.012	-0.011
CIR	-0.005	0.061	0.006	-0.007	-0.011	-0.011
<b>Results of Model Summary</b>						
R <sup>2</sup>	0.544	0.803	0.549	0.868	.653	0.700
F ratio	1.642	9.655	2.888	15.623	4.479	5.331
Sig. Level	0.219	0.000	0.028	0.000	0.003	.001

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)



**Table 6.59 (Continued): Information about the Results of Ridge Regression Coefficients at various values of K**

Particulars	K <sub>6</sub>	K <sub>7</sub>	K <sub>8</sub>	K <sub>9</sub>	K <sub>10</sub>
	K=1113563.0931299 √K=1055.25499	K=1153724.5243699 √K=1074.1156941	K=1134017.9704905 √K=1064.902799	K=1143397.3817309 √K=106920761139	K=1138866.6217499 √K=1067.176940
TLA	-0.006	-0.006	-0.006	-0.006	-0.006
TCL	-0.010	-0.010	-0.010	-0.010	-0.010
TUCL	-0.007	-0.007	-0.007	-0.007	-0.007
IR	-0.011	-0.011	-0.011	-0.011	-0.011
BD	-0.011	-0.011	-0.011	-0.011	-0.011
DR	-0.011	-0.011	-0.011	-0.011	-0.011
CPLA	-0.012	-0.01	-0.011	-0.011	-0.011
CIR	-0.011	-0.011	-0.011	-0.011	-0.011
<b>Results of Model Summary</b>					
R <sup>2</sup>	0.677	0.688	0.549	0.685	0.684
F ratio	4.972	5.226	5.101	5.16	5.132
Sig. Level	0.002	0.001	0.002	0.002	0.002

(Source: Researcher's Own Analysis using Financial Data of Annual Reports)

**Table 6.59 (Continued): Information about the Results of Ridge Regression Coefficients at various values of K**

Particulars	K <sub>11</sub>	K <sub>12</sub>
	K=1141039.5956378	K=1139992.1637698
	√K=1068.194549	√K=1067.704155546
TLA	-0.006	-0.006
TCL	-0.010	-0.010
TUCL	-0.007	-0.007
IR	-0.011	-0.011
BD	-0.011	-0.011
DR	-0.011	-0.011
CPLA	-0.012	-0.01
CIR	-0.011	-0.011
<b>Results of Model Summary</b>		
R <sup>2</sup>	0.684	0.684
F ratio	5.145	5.145
Sig. Level	0.002	0.002

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 6.59 shows the regression coefficients of various independent variables at various values of K and the precise estimates of R<sup>2</sup> is 0.684, F ratio is 5.145 and its significance level is 0.002. So, we observe that the null hypothesis is rejected and we can conclude that the independent variables which are surrogates of credit risk management practices influence return on investment.

#### 6.6.33.9 Multiple Regression Analysis between the Credit Risk Indicators and Net Profit Percentage

In order to examine whether there is significant influence of credit risk indicators on the Net Profit Percentage, a null hypothesis has been developed which is H<sub>015.4</sub>: There is no significant effect of different indicators of credit risk such as loan

&advance, classified loan, unclassified loan, leverage ratio, bad debt, default ratio, cost per loan asset and cost income ratio on financial performance measured by net profit percentage of the sample banks.

**Table 6.60: Information about the results of multiple regressions analysis between different the indicators of credit risk and net profit percentage**

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-26.897	81.117		-0.332	0.746
BD	-2.537	1.282	-2.322	-1.979	0.073
CIR	-0.129	0.465	-0.083	-0.277	0.787
CPLA	12.227	11.099	1.171	1.102	0.294
DR	1.189	4.031	0.269	0.295	0.774
LR	-1.548	1.387	-0.993	-1.116	0.288
TCL	0.413	0.388	0.577	1.066	0.309
TLA	1.033	0.968	3.522	1.067	0.309
TUCL	-0.968	1.137	-2.511	-0.851	0.413
Dependent Variable: NPP					
Model Summary: R=608, R square=0.370, F-value=0.806, P-value (Sig.) = 0.611					

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

From the aforesaid discussion it is evident that the significance level of t value of the entire independent variables presents higher significance levels than 5% that guides to accept the null hypothesis. It means that the credit risk management indicators have reported the insignificant effect in case of net profit percentage. Furthermore, it has been obtained from the model summary that 37.00% change in the dependent variable is explained by the independent variables and this situation confirms that there is no significant effect of the credit risk management indicators on the return on investment of the sample banks.

#### **6.6.33.10 Explanation of the result of Ridge Regression**

In order to obtain the precise estimate of parameters we conducted ridge regression on NPP taking the same independent variables and the results are shown in Table 6.61.

**Table 6.61: Information about the results of ridge regression coefficients at various values of K**

Particulars	K <sub>0</sub>	K <sub>1</sub>	K <sub>2</sub>	K <sub>3</sub>
	K=0.000	K=512.53684762	K=73216.218435705	K=5116553.510401
	√K=0.000	√K=22.63927666	√K=270.584956	√K=2261.979998
TLA	1.033	0.043	-0.007	-0.010
TCL	0.413	0.164	-0.032	-0.008
TUCL	-0.968	0.050	0.027	-0.008
IR	-1.548	-0.123	-0.062	-0.008
BD	-2.537	-0.869	-0.094	-0.009
DR	1.189	0.774	-0.059	-0.008
CPLA	12.227	0.187	-0.061	-0.008
CIR	-0.129	0.002	-0.059	-0.009
<b>Results of Model Summary</b>				
R <sup>2</sup>	0.370	0.238	0.067	0.065
F ratio	0.806	0.741	0.169	0.165
Sig. Level	0.611	0.656	0.993	0.993

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

**Table 6.61 (Continued): Information about the results of ridge regression coefficients various values of K**

Particulars	K <sub>4</sub>	K <sub>5</sub>	K <sub>6</sub>	K <sub>7</sub>
	K=220100587.24245	K=2.30E+10	K=2.73E+12	K=3.28E+14
	√K=14835.78738195	√K=151507.0406	√K=1651297.229	√K=18110751.02
TLA	-0.001	-7.8E-005	-7.1E-006	-6.5E-007
TCL	-0.001	-7.8E-005	-7.1E-006	-6.5E-007
TUCL	-0.001	-7.8E-005	-7.1E-006	-6.5E-007
IR	-0.001	-7.8E-005	-7.1E-006	-6.5E-007
BD	-0.001	-7.8E-005	-7.1E-006	-6.5E-007
DR	-0.001	-7.8E-005	-7.1E-006	-6.5E-007
CPLA	-0.001	-7.8E-005	-7.1E-006	-6.5E-007
CIR	-0.001	-7.8E-005	-7.1E-006	-6.5E-007
<b>Results of Model Summary</b>				
R <sup>2</sup>	0.048	0.046	0.045	0.045
F ratio	0.119	0.113	0.113	0.113
Sig. Level	0.998	0.998	0.998	0.998

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

After conducting the ridge regression, we observe that the values of R<sup>2</sup> is 0.045, F ratio is 0.113 and its significance level is 0.998. So, our null hypothesis is accepted which means that the independent variables taken together do not influence the NPP.

## 6.7 Correlation Matrix among the Different Variables

To report the correlation between the different variables the study has conducted correlation matrix and the results in this regard are given below:

### 6.7.1 Correlation Analysis among the all-Independent Variables

**Table 6.62: Information about the results of correlation analysis among the independent variables**

	BD	CIR	CPLA	DR	LR	TCL	TLA	TUCL
BD	1.000							
CIR	0.293 0.201	1.000						
CPLA	0.011 0.964	-0.129 0.587	1.000					
DR	0.807** 0.000	0.304 0.193	-0.017 0.942	1.000				
LR	-0.136 0.567	-0.224 0.341	0.723** 0.000	-0.183 0.441	1.000			
TCL	0.679** 0.001	-0.089 0.708	-0.010 0.967	0.510* 0.021	-0.106 0.655	1.000		
TLA	0.685** 0.001	0.028 0.908	-0.170 0.473	0.240 0.308	-0.062 0.794	0.555* 0.011	1.000	
TUCL	0.483* 0.031	-0.119 0.617	-0.049 0.836	-0.026 0.912	-0.040 0.866	0.514* 0.020	0.933** 0.000	1.000
**	Correlation is significant at the 0.01 level (2-tailed).							
*	Correlation is significant at the 0.05 level (2-tailed).							

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 6.62 depicts the results of correlation matrix among the different independent variables and it has been found from the five years data of the sample banks. The results show that there is significant correlation between default ratio and bad debt, classified loan and bad debt, loan & advance and bad debt, leverage ratio and cost per loan asset as well as unclassified loan and loan & advance at 1% level of significant. In addition, there is significant correlation between unclassified loan and bad debt, classified loan and default ratio, loan & advance and classified loan as well as unclassified loan and classified loan of the sample banks at 5% level of significant.

## 6.7.2 Correlation Analysis among the all Variables

**Table 6.63: Information about the results of correlation analysis among the all variables**

	BD	CIR	CPLA	DR	LR	NPR	ROA	ROE	ROI	TCL	TLA	TUCL
BD	1.000											
CIR	0.293 0.210	1.000										
CPLA	0.011 0.964	-0.129 0.587	1.000									
DR	0.807** 0.000	0.304 0.193	-0.017 0.942	1.000								
LR	-0.136 0.567	-0.224 0.341	0.723** 0.000	-0.183 0.441	1.000							
NPR	-0.390 0.090	-0.266 0.258	-0.047 0.844	-0.263 0.262	-0.041 0.863	1.000						
ROA	-0.213 0.368	0.146 0.539	0.132 0.578	-0.383 0.096	0.173 0.467	-0.123 0.607	1.000					
ROE	-0.237 0.313	0.118 0.620	0.135 0.569	-0.408 0.074	0.176 0.459	-0.075 0.754	0.998** 0.000	1.000				
ROI	-0.580** 0.007	-0.209 0.378	-0.014 0.953	-0.700** 0.001	0.187 0.429	0.522* 0.018	0.162 0.494	0.196 0.408	1.000			
TCL	0.679** 0.001	-0.089 0.708	-0.010 0.967	0.510* 0.021	-0.106 0.655	-0.096 0.688	-0.507* 0.022	-0.506* 0.023	-0.411 0.072	1.000		
TLA	0.685** 0.001	0.028 0.908	-0.170 0.473	0.240 0.308	-0.062 0.794	-0.165 0.488	-0.053 0.826	-0.061 0.797	-0.231 0.327	0.555* 0.011	1.000	
TUCL	0.483* 0.031	-0.119 0.617	-0.049 0.836	-0.026 0.912	-0.040 0.866	-0.065 0.786	0.019 0.938	0.020 0.932	-0.089 0.709	0.514* 0.020	0.933** 0.000	1.000
**	Correlation is significant at the 0.01 level (2-tailed).											
*	Correlation is significant at the 0.05 level (2-tailed).											

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 6.54 displays the results of correlation analysis among the dependent and independent variables and the results assert that there is high degree of significant correlation at 1% level of significance between default ratio and bad debt, return on investment and bad debt, classified loan and bad debt, loan & advance and bad debt, leverage ratio and cost per loan asset, return on investment and default ratio, return on equity and return on assets as well as unclassified loan and loan & advance. Moreover, there is significant correlation at 5% level of significant between unclassified loan and bad debt, classified loan and default ratio, return on investment and net profit percentage, classified loan and return on assets, classified loan and return on equity, loan & advance and classified loan as well as unclassified loan and classified loan of the sample banks.

### 6.8 Summary of Previous Study

SN.	Author	Year	Remarks
01.	Olabamiji and Michael	2018	There is positive significant influence of the credit management practices on the financial performance of First bank
02.	Kariuki	2017	There is positive significant impact of the credit analysis; credit mitigation measures as well as credit risk identification on the financial performance.
03.	Taiwo et al.	2017	The credit risk management had been reported insignificant effect on the growth of total loans and advances by Nigerian Deposit Money Banks.
04.	Soyemi et al.	2014	There is significant impact of risk management practices of the banking sector on their financial performance.
05.	Uwuigbe et al.	2015	The non-performing loans ratio as well as bad debt had significant negative impact on the performance of banks in Nigeria, but the relationship between secured and unsecured loan ratio and bank's performance was not significant.
06.	Poudel	2012	The entire parameters such as default rate, cost per loans as well as capital adequacy ratio have an inverse impact on bank's performance; however, the default rate is the most predictor of bank financial performance.
07.	Mercylynne and Omagwa	2017	There is no significant influence of the debt recovery process on the bank performance whereas loan appraisal process, lending requirements as well as credit policies have been significant influence on the bank performance.
08.	Muriithi et al.	2016	Credit risk had negative and significant relationship with the bank profitability. Poor asset quality or high non-performing loans to total asset is related to poor bank performance in case of both short run and long run.
09.	Lalon	2015	There is positive relationship between CRM as well as the banks' profitability on the other hand the effective CRM can contribute on the banks' financial performance.
10.	Noman et al.	2015	The credit risk has the negatively effects on the profitability of the commercial banks.
11.	Bayyound and Sayyad	2015	There is no consequence of credit risk on the profitability of commercial and investment banks of Palestine and there is no difference between the Palestinian commercial and investment banks concerning relationship.
12.	Banik and Das	2013	The capital adequacy ratio and percentage of classified loan had been revealed the significant influence on ROA while the non-performing loan and loan to asset ratio did not show any considerable impact on the ROA.
13.	Getahun et al.	2015	There is strong relationship between credit risk management and commercial bank performance in Ethiopia.
14.	Shieler et al.	2017	Credit risk identification and credit risk appraisal have been shown the strong positive relationship on financial performance of MDIs, while credit risk monitoring and credit risk mitigation had moderate significant positive relationship on the financial performance of MDIs.
15.	Ekinci	2016	The credit risk and FX rate have been shown positive significant effect, but the interest rate has been reported the insignificant effect on banking sector profitability as well as the credit and market risk have been revealed positive and significant effect on conditional bank stock return volatility.

16.	Alshatti	2015	There is significant impact of the different indicators of credit risk management on the financial performance of the Jordanian commercial banks.
17.	Haneef et al.	2012	Proper mechanism is not available for risk management in banking sector of Pakistan and due to lack of risk management the non-performing loans are increasing which threatens the profitability of banks.
18.	Iftikhar	2016	There is significant impact of the different factors of credit risk management on the financial performance of the commercial banks of Pakistan.

### 6.9 Summary of Hypotheses Testing

VN	Description	Hypothesis	SL	Remark
V1	Loan & Advance	There is no significant variation in loan and advance among the sample banks.	0.000	Significant
V2	Classified Loan	There is no significant variation in total classified loan among the sample banks	0.0119	Significant
V3	Unclassified Loan	There is no significant variation in total unclassified loan among the sample banks	0.000	Significant
V4	Leverage Ratio	There is no significant variation in leverage ratio among the sample banks	0.5166	Insignificant
V5	Bad Debt	There is no significant variation in bad debt among the sample banks	0.000	Significant
V6	Default Ratio	There is no significant variation in default ratio among the sample banks.	0.0002	Significant
V7	Cost per Loan Assets	There is no significant variation in cost per loan assets among the sample banks	0.0263	Significant
V8	Cost Income Ratio	There is no significant variation in cost income ratio among the sample banks.	0.0728	Insignificant
V9	Different indicators of Credit Risk Management and Return on Assets	H <sub>06.1</sub> : There is no significant effect of different indicators of credit risk management such as loan & advance, classified loan, unclassified loan, leverage ratio, bad debt, default ratio, cost per loan asset and cost income ratio on financial performance measured by return on assets of the sample banks	0.217	Insignificant
V10	Different indicators of Credit Risk Management and Return on Equity	H <sub>06.2</sub> : There is no significant effect of different indicators of credit risk such as loan & advance, classified loan, unclassified loan, leverage ratio, bad debt, default ratio, cost per loan asset and cost income ratio on financial performance measured by return on equity of the sample banks	0.240	Insignificant
V11	Different indicators of Credit Risk Management and Return on Investment	H <sub>06.3</sub> : There is no significant effect of different indicators of credit risk management such as loan & advance, classified loan, unclassified loan, leverage ratio, bad debt, default ratio, cost per loan asset and cost income ratio on financial performance measured by return on investment of the sample banks	0.2169	Insignificant

V12	Different indicators of Credit Risk Management and Net Profit Percentage	H <sub>06.4</sub> : There is no significant effect of different indicators of credit risk such as loan & advance, classified loan, unclassified loan, leverage ratio, bad debt, default ratio, cost per loan asset and cost income ratio on financial performance measured by net profit percentage of the sample banks	0.611	Insignificant
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## 6.10 Conclusion

In Bangladesh the soundness of the banking sector is crucial for ensuring the developing economy as well as contribute the real productivity to the overall standard of living because banks are the major sources of credit and serves the needs of all kinds of finance related matters. Risk is the element of uncertainty that occurs at any time in any mode of business and credit risk is the possibility of failure of the borrower or counter party to fulfill the commitment and obligations with the banks. The purpose of this chapter is to know the consequence of different indicator of credit risk management practice on financial performance and for this consideration the study has examined the different indicators of credit risk management practice with the use of descriptive statistics and the results reveal that the mean values of the different indicators of credit risk management practice show that there is significant and insignificant variation in case of different indicators among the sample banks over the study period. The study also has conducted the multiple regressions analysis with respective Ordinary Least Square (OLS) model to identify whether there is any significant effect the different indicators of credit risk management practice on the financial performance and the outcomes of the multiple regressions analysis report that the different indicators of credit risk management practice such as loan & advance, classified loan, unclassified loan, leverage ratio, bad debt, default ratio, cost per loan asset and cost to income ratio had revealed the insignificant effect on financial performance measured by return on assets, return on equity, return on investment and net profit percentage of the sample banks over the study period.



## **Chapter Seven**

# **CSR Expenditure and Its Relationship with Financial Performance**

### **7.1 Introduction**

In general, corporate social responsibility means the social, environmental and economic development of the society and making initiative to preserve the environment and culture. The contribution of corporate social responsibility in Bangladesh is important to community development through improving job opportunity, providing basic education, developing infrastructure such as roads and highways and addressing environmental concerns. The corporate sectors are improving not only their own standards through CSR but also are revolutionizing the socially responsible actions of other business (Mohammad and Kamal, 2016). Presently corporate social responsibility has become a prime concern to the society and it is considered as one of the most powerful instruments to earn the competitive advantage among different competitors. Since the corporate social responsibility is closely connected with the modern business, every company invests big amount of money for the purpose of corporate social responsibility of every year. At present Bangladesh Bank is very much concerned about the different activities of corporate social responsibility and considering this Bangladesh Bank gives some directions for the improvement of corporate social responsibility practices (Ferdous and Moniruzzaman, 2013). The better corporate governance ensures a tolerable level of corporate social responsibility. As a member of the global economy, Bangladesh needs to give more attention in case of devising policies and regulations to make business organizations environmentally and socially responsible. Every company has responsibility toward the society for being a corporate member of the society and the extent of this responsibility should be decided by the nature of the industry under which they are operating (Yesmine and Bhuiyah, 2015). The concept of corporate social responsibility is that an entity needs to apprise its influence on their activities and business practices combine not just the owners, but it also includes customers,

suppliers, employees, members of the community it operates in, and even the environment. Good social and environmental records under corporate social responsibility program assists every company to perform better in the long run (Gololo, 2016). The goal of this chapter is to evaluate the contribution of the sample firms to the different areas of corporate social responsibility activities with their variation and to investigate whether there is any significant relationship between the corporate social responsibility expenditures and the financial performance variables among the sample banks over the study period.

## **7.2 Corporate Social Responsibility Practices of the Sample Banks**

For running long term business successfully as well as for maintaining sustainable growth of any business organization, corporate social responsibility has a significant role to play in enriching values both nationally and globally and normally, is noticed as a developed country sensation. Today, the corporate social responsibility practice is global concern and it still is witnessing widely international arena, but it is a matter of great regret that the corporate social responsibility scenario of Bangladesh is lagging behind compared to developed states over the world although the sustainable growth is impossible without the cooperation of the business world (Roy and Sarker, 2017). The study has focused the different aspects of corporate social responsibility expenditure of the sample banks like Sonali Bank Limited, Agrani Bank Limited, Janata Bank Limited and Rupali Bank Limited.

### **7.2.1 Sonali Bank Limited**

As a corporate citizen Sonali bank limited owes a solemn duty to the less fortunate and under-privileged members of the society. Sonali bank limited is large state-owned commercial bank in Bangladesh and it has been playing a significant role in implementing social and philanthropic programs to help disadvantaged people of the country. The different activities of corporate social responsibility of Sonali bank limited prolong to gain momentum and obtain accolades from different sectors of Bangladesh. Corporate social responsibility activity is the ongoing

commitment by the business to behave ethically and contribute to financial growth through developing the quality of life of its manpower and their dependents as well as of the local community and the entire society. The areas of corporate social responsibility activity of Sonali bank limited involves donation with the different aspects such as (i) education, (ii) healthcare, (iii) humanitarian & disaster management, (iv) self-employment, (v) environment, (vi) arts & culture, (vii) liberation war related, (viii) publication and (ix) miscellaneous (Annual Report of SBL) and the Table below provides the category and year-wise expenditures under corporate social responsibility program in Sonali bank limited.

**Table 7.1: Information about the year and category wise expenditure in CSR activities**

(Taka in Million)

Category	2012	2013	2014	2015	2016	Total
Education	14.80	18.50	18.30	18.80	4.20	74.60
Healthcare	0.90	5.70	6.80	9.10	1.30	23.80
Humanitarian & Disaster Management	9.20	24.40	19.00	31.90	2.50	87.00
Self-Employment	0.00	0.00	0.20	0.00	0.00	0.20
Environment	0.00	0.30	0.00	0.00	0.00	0.30
Arts & Culture	0.30	0.00	0.00	0.00	0.00	0.30
Liberation war related	0.90	0.00	0.50	0.00	0.00	1.40
Publication	0.00	0.10	0.00	0.00	0.00	0.10
Miscellaneous	0.30	0.10	0.40	5.90	4.53	11.23
Total Expenditure	26.30	49.10	45.20	65.70	12.53	198.83
Average Expenditure	2.93	5.46	5.02	7.30	1.39	22.10

(Source: Compiled from the Annual Reports of SBL)

Table 7.1 shows that the SBL has contributed 198.83 million taka in the different segments of CSR from 2012 to 2016 and the average expenditure in CSR activities has shown increasing and decreasing tendency gradually but the expenditure in CSR of 2016 was not sufficient compared to that of previous different years. From the above discussion it is evident that the SBL has given emphasis in humanitarian & disaster management, education and healthcare among the different aspects of CSR activities.

### 7.2.2 Agrani Bank Limited

Agrani bank limited is always heedful to perform more and more corporate attributes. Corporate social responsibility activity has become a prime initiative as well as an important instrument for growth of least developed countries all over the world, which finally shows through its initiatives towards the enhancement of the underprivileged community of a society. Agrani bank limited genuinely conceive that a better society is a prerequisite for a better business environment. For this reason, Agrani Bank Limited's ethical standard is not only meant for maximizing profit, but also its vision is to develop a better society where human dignity and rights receive the extreme consideration and evaluation. Finally, social responsibility helps establish a good reputation of any company (Annual Report of ABL). The category and year-wise corporate social responsibility expenditure of the Agrani bank limited are presented below:

**Table 7.2: Information about the year and category wise expenditure in CSR activities**

(Taka in Million)						
Category	2012	2013	2014	2015	2016	Total
Education	28.12	14.33	10.29	0.00	0.10	52.84
Healthcare	8.53	15.40	3.73	10.30	0.00	37.96
Disaster Relief	1.42	26.22	15.11	17.43	22.56	82.74
Environment	0.70	8.05	8.05	0.00	0.00	16.80
Sports	2.12	7.69	11.96	0.00	0.00	21.77
Arts & Culture	4.85	3.91	3.92	0.00	0.25	12.93
Social Welfare	0.00	0.00	0.00	0.00	0.25	0.25
Others	7.57	8.12	11.50	3.92	1.35	32.46
Total Expenditure	53.31	83.72	64.56	31.65	24.51	257.75
Average Expenditure	6.66	10.47	8.07	3.96	3.06	32.22

(Source: Compiled from the Annual Reports of ABL)

Table 7.2 presents the expenditure in CSR activities in different years and the average expenditure of CSR has shown gradually increasing and decreasing tendency but the expenditures of 2013 was largest among the different years and its percentage is 32.48 million taka. Based on the aforesaid information it is apparent that ABL has given more attention in disaster relief in case of CSR program.

### 7.2.3 Janata Bank Limited

With a view to obtaining the sustainable development every business should make a positive expenditure to economic, environmental and social progress and that business have a responsibility to keep away and address the untoward influence of their activities. Corporate social responsibility is the combination of business activities and standards whereby the interests of entire stakeholders namely customers, employees, investors, the community, and the environment are revealed in the company's guidelines and actions. The focus of corporate social responsibility strategy of Janata bank limited is to assist drive value for the bank, its customers, shareholders, employees, communities and society by creating business value and increasing positive social change (Annual Report of JBL). The Table below shows the category and year wise corporate social responsibility expenditure of Janata bank limited:

**Table 7.3: Information about the year and category wise expenditure in CSR activities**

(Taka in Million)

Category	2012	2013	2014	2015	2016	Total
Education & Research	24.20	78.30	11.84	10.70	0.00	125.04
Healthcare & Treatment	35.30	63.90	25.76	3.80	0.00	128.76
Poverty reduction & rehabilitation	14.40	85.30	11.88	0.00	0.00	111.58
Combat against natural calamity	0.60	3.90	0.00	7.90	7.90	20.30
A try to bring the marginal farmers and the poor out of the grip of loan	5.00	0.00	5.00	0.00	0.00	10.00
Preservation of history tradition, culture and sports	18.67	44.50	72.58	0.00	0.00	135.75
Preservation of environment	0.20	0.60	0.25	0.00	0.00	1.05
Expansion of technology	14.30	15.00	11.11	0.00	0.00	40.41
Invention	0.70	0.00	0.00	0.00	0.00	0.70
Others	0.00	0.00	0.00	0.00	1.23	1.23
Total Expenditure	113.37	291.50	138.42	22.40	9.13	574.82
Average Expenditure	11.337	29.15	13.842	2.24	0.913	57.482

(Source: Compiled from the Annual Reports of JBL)

Table 7.3 displays the expenditures in the different segments of CSR and the average expenditure in case of different areas of CSR activities has shown sincreasing and decreasing tendency gradually but the difference was not normal among the different years. JBL has given same concentration in case of education &

research, healthcare & treatment, poverty reduction & rehabilitation and preservation of environment among the different segments of CSR activities. By evaluating the above-mentioned discussion, it is found that JBL has contributed very poor amount over the last two years in comparison to those of the previous years.

#### 7.2.4 Rupali Bank Limited

The corporate houses are trying to integrate corporate social responsibility within their own management structure. Initiatives of Rupali bank limited in fact aim at responding to the huge unmet demand of the society and for this consideration Rupali bank limited provides financial support to empower poor people as well as extending banking facility among the under-privileged people (Annual Report of RBL). The following Table shows the category and year-wise corporate social responsibility expenditure of Rupali Bank Limited:

**Table 7.4: Information about the year and category-wise expenditure in CSR activities**

(Taka in Million)						
Category	2012	2013	2014	2015	2016	Total
Day care development	0.00	0.00	0.00	4.01	1.26	5.27
Distributing blankets among the cold wave hit distressed people	0.00	0.00	0.00	4.73	5.10	9.83
Individual assistance in different sectors	0.00	0.00	1.40	0.00	0.00	1.40
Income generating activities in agriculture/supplementary to agriculture	0.00	0.00	0.10	0.00	0.00	0.10
Education, Research, Health, Medicare and population management	4.17	13.51	4.82	0.00	0.05	22.55
Freedom fighter, their allies and disabled	2.90	1.57	0.00	0.00	0.00	4.47
Poverty reduction and rehabilitation	0.67	1.94	0.15	0.00	0.23	2.99
Art and Culture	0.77	2.80	10.20	0.00	0.00	13.77
Institutions	0.00	0.00	0.00	0.00	0.04	0.04
Natural disaster	2.50	6.49	6.53	0.00	5.00	20.52
Socio-economic development	3.18	4.17	0.00	0.00	0.00	7.35
Environment conservation	0.80	1.20	0.50	0.00	0.00	2.50
Others	0.30	0.50	7.09	0.00	0.00	7.89
Total Expenditure	15.29	32.18	30.79	8.74	11.68	98.68
Average Expenditure	1.249	2.640	1.975	0.795	0.973	7.566

(Source: Compiled from the Annual Reports of RBL)

Table 7.4 exposes the year and category wise total expenditures of the different segments of CSR program. The average expenditure has shown gradually

increasing and decreasing tendency among the different years. From the aforesaid discussion it is found that RBL has spent large amount in education, research, health, medication and population management among the different areas of CSR activities but the expenditure in the different aspects of CSR program is lower than that of other sample banks.

### 7.3 Total CSR expenditure of the Sample Banks

In recent time corporate social responsibility practices have become more significant section of any business organization. The expenditure of financial institutions like banking sector with respect to CSR is very significant considering its exigent role in financing the economic and developmental activities. Corporate social responsibility activity practices by banks improves their own standards as well as affect the socially responsible behaviors of other businesses. Corporate social responsibility activity makes safe tradeoff between economic and social goals to encourage the proper use of resources (Ullah, 2013). The following Table has presented the total corporate social responsibility expenditures of the sample banks over the study period.

**Table 7.5: Information about the total expenditure in CSR program of the sample banks**

(Taka in Millions)

Sample Banks	2012	2013	2014	2015	2016	Total
Ssample_1	26.30	49.10	45.20	65.70	12.53	198.83
Sample_2	53.31	83.72	64.56	31.65	24.51	257.75
Sample_3	113.37	291.50	138.42	22.40	9.13	574.82
Sample_4	15.29	32.18	30.79	8.74	11.68	98.68
Average	52.07	114.13	69.74	32.12	14.46	282.52
SD	43.88	120.18	47.83	24.28	6.85	205.63
CV	84.27	105.31	68.58	75.59	47.38	72.79
Total	208.27	456.50	278.97	128.49	57.85	1130.08

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 7.5 reveals the total CSR expenditures in the different years of the sample banks and the average CSR expenditure has shown gradually increasing and decreasing tendency. The discussion reports that the average expenditure of CSR program is very poor than that of previous years in case of 2016. From the above

discussion it is evident that the sample\_3 has spent 50.87 percent of total CSR expenditure among the sample banks. So, it can be concluded that the CSR expenditure of sample\_3 is better than those of the remaining samples banks over the study period.

### **7.3.1 Variation of CSR expenditure among the Sample Banks over the study period**

In order to examine whether there is any significant variation in CSR expenditure among the sample banks over the study period the study has developed a null hypothesis which is  $H_{016}$ : There is no significant variation in CSR expenditure among the sample banks and conducted the ANOVA technique. The following Table contained the results of ANOVA test in this regard.

**Table 7.6: Information about the results of ANOVA test of the total CSR expenditures**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	25370.801	3	8456.934	2.416	0.104
Within Groups	56016.031	16	3501.002		
Total	81386.832	19			

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 7.6 shows the result of ANOVA test and it has been obtained from the five years panel data from 2012 to 2016 of the sample banks and the results of ANOVA test display that the F (3, 16) value is 2.416 at 0.104 level of significance which is higher than 0.05 level and it indicates that there is no significant variation in total CSR expenditures among the sample banks since the null hypothesis is accepted.

### **7.3.2 Difference of Total CSR Expenditures among the different Sample Banks over the Study Period**

In order to investigate whether there is any significant difference in total CSR expenditures among the different sample banks over the study period the study has developed a null hypothesis which is  $H_{017}$ : There is no significant difference in total CSR expenditures among the different sample banks and conducted paired sample t-test. The following Table reports the results of paired sample t-test in this regard.



**Table 7.7: Information about the sample-wise results of paired sample t-test of total CSR expenditures**

Pairs	Sample Banks	t value	Significance level	Remarks
Pair-1	S_1 vs. S_2	-0.977	0.384	Insignificant
Pair-2	S_1 vs. S_3	-1.525	0.202	Insignificant
Pair-3	S_1 vs. S_4	2.080	0.106	Insignificant
Pair-4	S_2 vs. S_3	-1.574	0.191	Insignificant
Pair-5	S_2 vs. S_4	4.820	0.009	Significant
Pair-6	S_3 vs. S_4	2.047	0.110	Insignificant

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 7.7 exhibits the results of sample-wise paired sample t-test about the total CSR expenditures between the different sample banks over the study period. The results reveal that the significance level of t-values in five pairs out of six pairs are higher than 5 percent level which means that the null hypothesis is accepted and the significance level of the remaining one pair is lower than 0.05 level of significance and it indicates that the null hypothesis is rejected. Based on the results it is evident that there is insignificant difference between the different sample banks except Pair-5 (S\_2 vs. S\_4) in total CSR expenditures over the study period.

### **7.3.3 Difference of Total CSR Expenditures among the different Years under the Study Period of the Sample Banks**

In order to investigate whether there is any significant difference in total CSR expenditures among the different years under the study period of the sample banks the study has developed a null hypothesis which is  $H_{018}$ : There is no significant difference in total CSR expenditures between the different years under the study period of the sample banks and conducted paired sample t-test. The following table reports the results of paired sample t-test in this regard.

**Table 7.8: Information about the year-wise results of paired sample t-test of total CSR expenditures**

Pairs	Years	t value	Significance level	Remarks
Pair-1	2012 vs. 2013	-1.600	0.208	Insignificant
Pair-2	2012vs. 2014	-6.065	0.009	Significant
Pair-3	2012vs. 2015	0.739	0.514	Insignificant
Pair-4	2012vs. 2016	1.649	0.198	Insignificant
Pair-5	2013 vs. 2014	1.218	0.310	Insignificant
Pair-6	2013 vs. 2015	1.283	0.290	Insignificant
Pair-7	2013 vs. 2016	1.623	0.203	Insignificant
Pair-8	2014 vs. 2015	1.317	0.279	Insignificant
Pair-9	2014 vs. 2016	2.207	0.114	Insignificant
Pair-10	2015 vs. 2016	1.436	0.247	Insignificant

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 7.8 presents the results of year-wise paired sample t-test value about the total CSR expenditures among the different years under the study period of the sample banks. Referring to the above-mentioned results it is found that the null hypothesis is accepted in case of nine pairs out of ten pairs since the significance level of t-value is above 5%. In addition, the significance level of the remaining one pair out of ten pairs is lower than 0.05 level of significant and it indicates that the null hypothesis is rejected in this regard. In this context it can be concluded that 90% pairs had revealed insignificant difference and only 10% pairs had revealed significant difference in total CSR expenditures over the study period of the sample banks.

#### **7.4 Different Areas of CSR Expenditure of the Sample Banks over the Study Period**

At present corporate social responsibility is one of the most discussed topics. CSR practices in Bangladesh by different banks are centered on mainly poverty alleviation, healthcare, education, charity activities, cultural enrichment, youth development, women empowerment, patronizing sports and music etc. The areas of corporate social responsibility of the sample banks are education & research, healthcare & treatment, disaster relief management, environment, arts & sports, Socio-economic development, self-employment, liberation war related, social welfare, expansion of technology, poverty reduction and rehabilitation and others but the present research study has emphasized the different segments of CSR expenditure and these are presented below:

#### 7.4.1 CSR Expenditure in Education and Healthcare Area of the Sample Banks

**Table 7.9: Information about the CSR expenditure in education and healthcare of the sample banks**

(Taka in Millions)

Sample Banks	2012	2013	2014	2015	2016	Total
S_1	15.70	24.20	25.10	27.90	5.50	98.40
S_2	36.65	29.73	14.02	10.30	0.10	90.80
S_3	59.50	142.2	37.60	14.50	0.00	253.80
S_4	4.17	13.51	4.82	0.00	0.05	22.55
Average	29.01	52.41	20.39	13.18	1.41	116.39
SD	24.37	60.24	14.16	11.55	2.73	97.75
CV	84.03	114.93	69.45	87.69	192.94	83.99

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 7.9 shows the descriptive statistics about the CSR expenditure in education and healthcare sector of the sample banks. The average CSR expenditure in education and healthcare area has shown increasing and decreasing tendency but the average CSR expenditure in education and healthcare is very poor in 2016 than those of previous years. The discussion also shows that S\_3 has contributed large amount in education and healthcare area among the sample banks which indicates that the CSR expenditure in education and healthcare sector of S\_3 is better than those of other sample banks.

##### 7.4.1.1 Variation of CSR Expenditure in Education and Healthcare Area among the Sample Banks over the Study Period

In order to identify whether there is any significant variation in CSR expenditure of education and healthcare among the sample banks over the study period, the study has developed a null hypothesis which is  $H_{016.1}$ : There is no significant variation in CSR expenditure of education and healthcare area among the sample banks over the study period through conducting the ANOVA technique and the following Table bears the result of ANOVA test in this regard.

**Table 7.10: Information about the results of One-Way ANOVA test of the CSR expenditure in education and healthcare area**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5733.188	3	1911.063	2.210	0.127
Within Groups	13838.77	16	864.9232		
Total	19571.96	19			

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 7.10 shows the result of ANOVA test regarding the CSR expenditure in education and healthcare and it is found from the five years panel data of the sample banks over the study period from 2012 to 2016. The results display that the F (3, 16) value is 2.210 and its significant level is 0.127 which is higher than 0.05 levels of significance. So, the null hypothesis is accepted and it indicates that there is no significant variation in CSR expenditure of education and healthcare area among the sample banks.

#### **7.4.1.2 Difference of CSR Expenditure in Education and Healthcare Area among the different Sample Banks over the Study Period**

The study has tried to know whether there is any significant difference in CSR expenditure of education and healthcare among the different sample banks over the study period through preparing a null hypothesis which is  $H_{017.1}$ : There is no significant difference in CSR expenditure of education and healthcare area among the different sample banks over the study period with the use of paired sample t-test and the results in this regard are given below:

**Table 7.11: Information about the sample wise results of paired sample t-test of CSR expenditure in education and healthcare area**

Pairs	Sample Banks	t value	Significance level	Remarks
Pair-1	S_1 vs. S_2	0.224	0.834	Insignificant
Pair-2	S_1 vs. S_3	-1.303	0.263	Insignificant
Pair-3	S_1 vs. S_4	3.817	0.019	Significant
Pair-4	S_2 vs. S_3	-1.588	0.188	Insignificant
Pair-5	S_2 vs. S_4	2.541	0.064	Insignificant
Pair-6	S_3 vs. S_4	2.047	0.110	Insignificant

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 7.11 expounds the results of paired sample t-test about the CSR expenditure in education and healthcare area among the different sample banks over the study period. The discussion shows that the significant levels of the five pairs are higher than 0.05 level of significance and one pair is lower at 5% level of significance which means that the null hypothesis is accepted and rejected, indicates there is insignificant difference between the different sample banks except pair-3 (S\_1 vs. S\_4) in CSR expenditure in education and healthcare area over the study period.

### 7.4.1.3 Difference of CSR Expenditure in Education and Healthcare Area among the different Years under the Study Period of the Sample Banks

The study has tried to know whether there is any significant difference in CSR expenditure of education and healthcare between the different years under the study period of the sample banks through preparing a null hypothesis which is  $H_{018.1}$ : There is no significant difference in CSR expenditure of education and healthcare area between the different years under the study period of the sample banks. The researcher has used of paired sample t-test and the results in this regard are given below:

**Table 7.12: Information about the year-wise results of paired sample t-test of CSR expenditure in education and healthcare area**

Pairs	Years	t value	Significance level	Remarks
Pair-1	2012 vs. 2013	-1.164	0.329	Insignificant
Pair-2	2012vs. 2014	1.067	0.364	Insignificant
Pair-3	2012vs. 2015	1.264	0.296	Insignificant
Pair-4	2012vs. 2016	2.164	0.119	Insignificant
Pair-5	2013 vs. 2014	1.311	0.281	Insignificant
Pair-6	2013 vs. 2015	1.312	0.281	Insignificant
Pair-7	2013 vs. 2016	1.667	0.194	Insignificant
Pair-8	2014 vs. 2015	1.297	0.285	Insignificant
Pair-9	2014 vs. 2016	2.742	0.071	Insignificant
Pair-10	2015 vs. 2016	2.514	0.087	Insignificant

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 7.12 depicts the results of paired sample t-test value about the CSR expenditure in education and healthcare area between the different years under the study period of the sample banks. By using the above discussion, it is visible that the significant levels of the entire pairs are higher than 5 percent level of significance that confirms the null hypothesis in all cases which means that there is no significant positive difference between the different years under the study period of the sample banks of CSR expenditure in education and healthcare area.

#### 7.4.2 CSR Expenditure in Environment Area of the Sample Banks

**Table 7.13: Information about the CSR expenditure in environment area of the sample banks**

(Taka in Millions)

Sample Banks	2012	2013	2014	2015	2016	Total
S_1	0.00	0.30	0.00	0.00	0.00	0.30
S_2	0.70	8.05	8.05	0.00	0.00	16.80
S_3	0.20	0.60	0.25	0.00	0.00	1.05
S_4	0.80	1.20	0.50	0.00	0.00	2.50
Average	0.43	2.54	2.20	0.00	0.00	5.16
SD	0.39	3.69	3.91	0.00	0.00	7.81
CV	90.88	145.58	177.52	0.00	0.00	151.32

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 7.13 states the CSR expenditure in environment area of the sample banks. The evidence shows that the CSR expenditure in environment area is very much poor and it is very much interesting that the sample banks have not spent anything in environment area of the year 2015 as well as 2016 over the study period. So, the CSR expenditure in environment sector of the sample banks is not satisfactory over the study period.

##### 7.4.2.1 Variation of CSR Expenditure in Environment among the Sample Banks over the Study Period

With the use of ANOVA technique, the study has tried to examine whether there is any significant variation in CSR expenditure on environment area among the sample banks over the study period through developing a null hypothesis which is  $H_{016.2}$ : There is no significant variation in CSR expenditure of environment area among the sample banks over the study period and the results of ANOVA test are given below:

**Table 7.14: Information about the results of ANOVA test of the CSR expenditure in environment area**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	36.61538	3	12.20513	2.602	0.088
Within Groups	75.041	16	4.690063		
Total	111.6564	19			

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 7.14 that presents the result of ANOVA test regarding the CSR expenditure in environment area and it has been obtained from the five years panel data of the sample banks for the study period from 2012 to 2016. Referring to the results it is apparent that the  $F(3, 16)$  value is 2.602 and its significant level is 0.088 which is higher than 0.05 levels and it indicates that the null hypothesis is accepted. Based on the early mentioned discussion it is logical to say that there is no significant variation in CSR expenditure on environment among the sample banks over the study period.

#### 7.4.2.2 Difference of CSR Expenditure in Environment Area between the different Sample Banks over the Study Period

In order to know whether there is any significant difference in CSR expenditure of environment area between the different sample banks over the study period the study has tried to test a null hypothesis which is  $H_{017.2}$ : There is no significant difference in CSR expenditure on environment area among the different sample banks over the study period using the paired sample t-test and the results in this regard are stated below:

**Table 7.15: Information about the sample wise results of paired sample t-test of CSR expenditure in environment area**

Pairs	Sample Banks	t value	Significance level	Remarks
Pair-1	S_1 vs. S_2	-1.753	0.155	Insignificant
Pair-2	S_1 vs. S_3	-2.372	0.077	Insignificant
Pair-3	S_1 vs. S_4	-2.300	0.083	Insignificant
Pair-4	S_2 vs. S_3	1.721	0.160	Insignificant
Pair-5	S_2 vs. S_4	1.611	0.182	Insignificant
Pair-6	S_3 vs. S_4	-2.156	0.097	Insignificant

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 7.15 shows the results of paired sample t-test about the CSR expenditure in environment area among the different sample banks over the study period. The results show that the significance levels of all pairs are higher than 0.05 level of significance and it confirmed that the null hypothesis which means that there is no positive significant difference among the sample banks of CSR expenditure of environment area over the study period.

### 7.4.2.3 Difference of CSR Expenditure in Environment Area between the different Years under the Study Period of the Sample Banks

In order to know whether there is any significant difference in CSR expenditure on environment area among the different years under the study period of the sample banks the study has tried to test a null hypothesis which is  $H_{018.2}$ : There is no significant difference in CSR expenditure on environment area among the different years under the study period of the sample banks with the use of paired sample t-test and the results in this regard are stated below:

**Table 7.16: Information about the year wise results of paired sample t-test of CSR expenditure in environment area**

Pairs	Years	t value	Significance level	Remarks
Pair-1	2012 vs. 2013	-1.210	0.313	Insignificant
Pair-2	2012vs. 2014	-0.954	0.410	Insignificant
Pair-3	2012vs. 2015	2.201	0.115	Insignificant
Pair-4	2012vs. 2016	2.201	0.115	Insignificant
Pair-5	2013 vs. 2014	2.353	0.100	Insignificant
Pair-6	2013 vs. 2015	1.374	0.263	Insignificant
Pair-7	2013 vs. 2016	1.374	0.263	Insignificant
Pair-8	2014 vs. 2015	1.127	0.342	Insignificant
Pair-9	2014 vs. 2016	1.212	0.342	Insignificant
Pair-10	2015 vs. 2016	No result	No result	Not Applicable

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 7.16 presents the results of paired sample t-test regarding the CSR expenditure on environment area among the different years under the study period of the sample banks and the results reveal that the null hypothesis is accepted in all pairs since the significance levels of all pairs are higher than 5% level of significance which means that there is no positive significant difference among the different years under the study period of the sample banks in CSR expenditure on environment area.



### 7.4.3 CSR Expenditure in Art and Culture Area of the Sample Banks

**Table 7.17: Information about the CSR expenditure in art and culture area of the sample banks**

(Taka in Million)

Sample Banks	2012	2013	2014	2015	2016	Total
S_1	0.30	0.00	0.00	0.00	0.00	0.30
S_2	4.85	3.91	3.92	0.00	0.25	12.93
S_3	18.67	44.50	72.58	0.00	0.00	135.75
S_4	0.77	2.80	10.20	0.00	0.00	13.77
Average	6.15	12.80	21.68	0.00	0.06	40.69
SD	8.59	21.20	34.20	0.00	0.13	63.67
CV	139.81	165.56	157.77	0.00	200.00	156.49

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 7.17 depicts the CSR expenditure in art and culture sector of the sample banks over the study period. The average value of CSR expenditure in art and culture area has shown increasing and decreasing tendency despite the fact that the sample banks have not contributed in art and culture area under the CSR program in year of 2015. In fine, it is logical to say that the CSR expenditure in art and culture sector of the sample banks is not satisfactory over the study period.

#### 7.4.3.1 Variation of CSR Expenditure in Art and Culture Area among the Sample Banks over the Study Period

In order to see whether there is any significant variation in CSR expenditure on art and culture among the sample banks over the study period, the study tried to test a null hypothesis which is  $H_{016.3}$ : There is no significant variation in CSR expenditure of art and culture area among the sample banks over the study period. The ANOVA technique has been used in this regard and the following Table shows the result of ANOVA test in this regard.

**Table 7.18: Information about the results of ANOVA test of the CSR expenditure in art and culture area**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2432.612	3	810.8706	3.238	0.050
Within Groups	4006.488	16	250.4055		
Total	6439.1	19			

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 7.18 shows the result of ANOVA test regarding the CSR expenditure in art and culture area and it is found from the five years data of the sample banks over the study period from 2012 to 2016 that the F (3, 16) value is 3.238 at 0.050 levels of significance which indicates that the null hypothesis is rejected and it confirms that there is significant variation in CSR expenditure on art and culture, among the sample banks over the study period.

#### 7.4.3.2 Difference of CSR Expenditure in Art and Culture Area between the different Sample Banks over the Study Period

In order to identify whether there is any significant difference in CSR expenditure of art and culture area among the different sample banks over the study period the study has tried to test a null hypothesis which is  $H_{017.3}$ : There is no significant difference in CSR expenditure on art and culture area among the different sample banks over the study period based on the paired sample t-test and the results in this regard are given below:

**Table 7.19: Information about the sample wise results of paired sample t-test of CSR expenditure in art and culture area**

Pairs	Sample Banks	t value	Significance level	Remarks
Pair-1	S_1 vs. S_2	-2.557	0.063	Insignificant
Pair-2	S_1 vs. S_3	-1.936	0.125	Insignificant
Pair-3	S_1 vs. S_4	-1.384	0.239	Insignificant
Pair-4	S_2 vs. S_3	-1.847	0.138	Insignificant
Pair-5	S_2 vs. S_4	-0.99	0.926	Insignificant
Pair-6	S_3 vs. S_4	2.000	0.116	Insignificant

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 7.19 shows the results of paired sample t-test about the CSR expenditure in art and culture area between the different sample banks over the study period. Since the significant levels of the all pairs are higher than 0.05 level of significance the null hypothesis is accepted in case of all pairs. Referring to the discussion it is found that there is no positive significant difference among the different sample banks over the study period.

### 7.4.3.3 Difference of CSR Expenditure in Art and Culture Area between the different Years under the Study Period of the Sample Banks

In order to identify whether there is any significant difference in CSR expenditure of art and culture area between the different years under the study period of the sample banks the study has conducted to test a null hypothesis which is  $H_{018.3}$ : There is no significant difference in CSR expenditure of art and culture between the different years under the study period of the sample banks with the use of the paired sample t-test and the results in this regard are given below:

**Table 7.20: Information about the year wise results of paired sample t-test of CSR expenditure in art and culture area**

Pairs	Years	t value	Significance level	Remarks
Pair-1	2012 vs. 2013	-1.036	0.376	Insignificant
Pair-2	2012vs. 2014	-1.193	0.319	Insignificant
Pair-3	2012vs. 2015	1.431	0.248	Insignificant
Pair-4	2012vs. 2016	1.414	0.252	Insignificant
Pair-5	2013 vs. 2014	-1.337	0.274	Insignificant
Pair-6	2013 vs. 2015	1.208	0.314	Insignificant
Pair-7	2013 vs. 2016	1.200	0.316	Insignificant
Pair-8	2014 vs. 2015	1.268	0.294	Insignificant
Pair-9	2014 vs. 2016	1.262	0.296	Insignificant
Pair-10	2015 vs. 2016	-1.000	0.391	Insignificant

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 7.20 presents the results of paired sample t-test of CSR expenditure in art and culture area among the different years under the study period of the sample banks and the results report that the entire pairs show higher significant value at 5% level of significance which means that the null hypothesis is accepted in all cases and it identifies that the entire pairs had shown insignificant difference in CSR expenditure of art and culture among the different years under the study period of the sample banks.

#### 7.4.4 CSR Expenditure in Natural Disaster of the Sample Banks

**Table 7.21: Information about the CSR distribution in natural disaster of the sample banks**

(Taka in Million)

Sample Banks	2012	2013	2014	2015	2016	Total
S_1	9.20	24.40	19.00	31.90	2.50	87.00
S_2	1.42	26.22	15.11	17.43	22.56	82.74
S_3	0.60	3.90	0.00	7.90	7.90	20.30
S_4	2.50	6.49	6.53	0.00	5.00	20.52
Average	3.43	15.25	10.16	14.31	9.49	52.64
SD	3.92	11.69	8.54	13.72	8.99	37.26
CV	114.42	76.61	84.10	95.92	94.71	70.78
Total	13.72	61.01	40.64	57.23	37.96	210.56

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 7.21 depicts the CSR expenditure on natural disaster sector of the sample banks over the study period. The mean value CSR expenditure in natural disaster shows gradually increasing and decreasing tendency but the average value of CSR expenditure on natural disaster was poor in 2012 than those of the remaining years among the study period. From the previous discussion it can be concluded that the CSR expenditure in natural disaster sector of S\_1 and S\_2 is comparatively satisfactory than those of S\_3 and S\_4 during the period under study.

##### 7.4.4.1 Variation of CSR Expenditure in Natural Disaster of the Sample Banks over the Study Period

In order to see whether there is any significant variation in CSR expenditure of natural disaster among the sample banks over the study period, the study has developed a null hypothesis which is  $H_{016.4}$ : There is no significant variation in CSR expenditure on natural disaster among the sample banks over the study period. The ANOVA technique shows the results in this regard as follows:

**Table 7.22: Information about the results of ANOVA test of CSR expenditure in natural disaster area**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	832.8379	3	277.6126	4.4320	0.0189
Within Groups	1002.223	16	62.63893		
Total	1835.061	19			

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 7.22 describes the result of ANOVA test regarding the CSR expenditure on natural disaster and it has been obtained from the five-years panel data of the sample banks for the study period from 2012 to 2016. The results of ANOVA test display that the F (3, 16) value is 4.4320 and its significance level is 0.0189. Since this value is lower than 0.05 level of significance the null hypothesis is rejected and it indicates that there is significant variation in CSR expenditure on natural disaster among the sample banks over the study period.

#### **7.4.4.2 Difference of CSR Expenditure in Natural Disaster area among the different Sample Banks over the Study Period.**

The study has tried to identify whether there is any significant difference among the different sample banks over the study period in CSR expenditure of natural disaster based on a null hypothesis which is  $H_{017.4}$ : There is no significant difference in CSR expenditure on natural disaster among the different sample banks over the study period. The result of the paired sample t-test is tabulated below:

**Table 7.23: Information about the sample wise results of paired sample t-test of CSR expenditure in natural disaster area**

Pairs	Sample Banks	t value	Significance level	Remarks
Pair-1	S_1 vs. S_2	0.145	0.891	Insignificant
Pair-2	S_1 vs. S_3	2.498	0.067	Insignificant
Pair-3	S_1 vs. S_4	2.313	0.082	Insignificant
Pair-4	S_2 vs. S_3	3.510	0.025	Significant
Pair-5	S_2 vs. S_4	3.203	0.033	Significant
Pair-6	S_3 vs. S_4	-0.018	0.987	Insignificant

(Source: Researcher's Own Analysis using Financial Data of Annual Reports)

Table 7.23 states the results of paired sample t-test of the CSR expenditure in natural disaster area among the different sample banks over the years from 2012 to 2016. From the aforesaid discussion it is visible that four pairs show the significant levels higher than 5% which means the null hypothesis is accepted and two pairs show lower significance level at 5% level of significance which means the null hypothesis is rejected in this regard and it confirms that there is insignificant difference between the different sample banks except pair-4 and pair-5 over the study period in CSR expenditure of natural disaster area.

#### 7.4.4.3 Difference of CSR Expenditure in Natural Disaster area among the different Years under the Study Period of the Sample Banks

The study has tried to identify whether there is any significant difference among the different years under the study period of the sample banks in CSR expenditure on natural disaster based on a null hypothesis which is  $H_{018.4}$ : There is no significant difference in CSR expenditure on natural disaster area among the different years under the study period of the sample banks by conducting the paired sample t-test and the results in this regard are stated below:

**Table 7.24: Information about the year-wise results of paired sample t-test of CSR expenditure in natural disaster area**

Pairs	Years	t value	Significance level	Remarks
Pair-1	2012 vs. 2013	-2.312	0.104	Insignificant
Pair-2	2012vs. 2014	-2.138	0.122	Insignificant
Pair-3	2012vs. 2015	-1.992	0.140	Insignificant
Pair-4	2012vs. 2016	-1.004	0.373	Insignificant
Pair-5	2013 vs. 2014	2.204	0.115	Insignificant
Pair-6	2013 vs. 2015	0.239	0.827	Insignificant
Pair-7	2013 vs. 2016	1.026	0.380	Insignificant
Pair-8	2014 vs. 2015	-0.996	0.393	Insignificant
Pair-9	2014 vs. 2016	0.117	0.914	Insignificant
Pair-10	2015 vs. 2016	0.582	0.602	Insignificant

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 7.24 presents the results of the paired sample t-test regarding the CSR expenditure in natural disaster area among the different years under the study period of the sample banks and the results show that the significant levels of all pairs are higher than 0.05 level of significance which means that the null hypothesis is accepted and it confirms that there is no significant difference among the different years under the study period of the sample banks in CSR expenditure in natural disaster area.

## 7.5 Corporate Social Responsibility Practices in Bangladesh

Most of the banks are trying to present themselves as global standard companies in respect of corporate social responsibility activities Haldar and Rahman, (2015). The banking sector of Bangladesh is gradually moving from the strong economic and legal realm of corporate social responsibility activities to the ethical and

discretionary aspects. Islam and Hasan, (2016) reported that the participation of banks in the different areas of corporate social responsibility is considerably limited and many areas where the bank has no corporate social responsibility expenditure that is very concerning issue. Hamid, (2016) revealed that the overall corporate social responsibility activities are very poor and most importantly expenditures in the different areas are totally absent though they have given better concentration in education and health related corporate social responsibility. Khatun, (2014) stated that the major Bangladeshi laws, the Company Act 1994 and Bangladesh Labor Law 2006 do not have sufficient focus on the strategies to develop corporate social responsibility. In the Company Act 1994, there is no provision that will make the corporate governance for the development of social responsibility. Ferdous and Moniruzzaman, (2012) revealed that the importance of corporate social responsibility as an instrument to receive competitive advantage has positive influence on employees' behavior, customers' behavior and establishing a bank's image. Ullah, (2013) said that the growing corporate social responsibility practices in the banking sector support to ensure the sustainable development and establishment of an equitable society in Bangladesh. Mohammad and Kamal, (2016) stated that most of the business houses in Bangladesh are not watchful about the benefits of corporate social responsibility. Roy, Sarker and Chowdhury, (2017) revealed that the banks are conscious about corporate social responsibility activities and their donations are growing over the year but the involvement is not satisfactory for a state namely Bangladesh, where around a lot of corporate social responsibility parts are important to more charities from the business segments. Government and Bangladesh Bank should shape a more appropriate standard to increase the corporate social responsibility support by state-owned commercial banks and private commercial banks.

## **7.6 Corporate Social Responsibility Regulation in Bangladesh**

Banking institutions provide the prevailing support and play the fundamental role for industrial and commercial activities in Bangladesh. Since independence in 1971 until 1982, when the "ownership reform" procedures started in the financial

sector, the Government has carried out the regulation and ownership of all financial institutions (Das, Dixon and Michael, 2015). At this moment, there is no mandatory legal requirement for corporate social responsibility and The Government of Bangladesh has not imposed or proposed requirements for disclosure of corporate social responsibility performance. The Bangladesh Companies Act of 1994 and Banking Companies Act of 1991 set the general framework for corporate financial reporting, but no provisions regarding corporate social responsibility exist. Moreover, no separate Bangladesh Accounting Standards have been found regarding social and environment reporting (IASCF, 2003 cited in Masud and Kabir, 2016). However, corporate social responsibility is not mandatory in Bangladesh with the exception of disclosure of expenditure on energy usage required under the Companies Act of 1994 and the Securities and Exchange Rules of 1987, which require the total amount spent on energy to be shown as a separate expenditure in the notes to the financial statements (Bela, 2001 cited in Masud and Kabir, 2016). Masud and Kabir, (2016) stated that the corporate social responsibility related activities in Bangladesh are managed by the following regulatory frameworks and guidelines: (i) Bank Companies Act of 1991; (ii) Financial Institutions Act of 1993; (iii) Securities and Exchange Rules of 1987; (iv) Securities and Exchange Commission Act of 1993; (v) Companies Act of 1994; (vi) Policy Guidelines for Green Banking (Bangladesh Bank), 2011; (vii) Finance Act of 2010 (Updated time to time); (viii) Bangladesh Bank Rules on CSR 2009 (Updated time to time) and BFRS guidelines.

### **7.7 Association between CSR Expenditure and Financial Performance Variables**

Corporate social responsibility means a comprehensive set of policies, practices as well as programs that are integrated into business operation, supply chains, and decision-making processes throughout the company and usually include issues related to business ethics, community investment, environmental concerns, governance, human rights, the marketplace as well as the workplace. In the broadest sense, the net effect of corporate social responsibility is to increase the quality of life, which is decided by the society. It also harmonizes business actions



aimed at achieving the performance of business with society's want (Haldar and Rahman, 2015). The financial services sector plays a significant role in enriching the sustainable development through its financial intermediation. Banks may greatly influence on business practices through creating, allocating as well as pricing financial resources. Project financing by banks should focus on corporate social responsibility practices of the borrower (Ullah, 2013). The corporate social responsibility expenditure assists in improving the financial performance and banks get directly or indirectly benefit from corporate social responsibility expenditure. In order to measure the significant relationship between corporate social responsibility expenditure and financial performance variables the study has conducted simple and multiple regression with the use of corporate social responsibility expenditure as dependent variable and financial performance measured by return on assets, return on equity, return on investment and net profit percentage as independent variables through developing a null hypothesis which is  $H_{019}$ : There is no significant association between corporate social responsibility expenditure and financial performance variables of the sample banks and this section provides the results of regression analysis in this regard.

### 7.7.1 Association between CSR Expenditure and Return on Assets

**Table 7.25: Information about the results of regression analysis between CSR expenditure and ROA**

Sample Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.3681	0.1355	-0.1526	22.2132	0.1355	0.4703	1	3	0.5421
Sample_2	0.3563	0.1269	-0.1641	26.0646	0.1269	0.4362	1	3	0.5561
Sample_3	0.2070	0.0428	-0.2762	128.1684	0.0428	0.1342	1	3	0.7384
Sample_4	0.0808	0.0065	-0.3246	12.6422	0.0065	0.0197	1	3	0.8973

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

To identify whether there is any significant association between CSR expenditure and ROA the simple regression has been employed with a null hypothesis which is  $H_{019.1}$ : there is no significant association between CSR expenditure and ROA. The evidence reports that the significance level of the entire sample banks is higher than 5% level of significance which means that the null hypothesis is accepted.

This implies no significant association between CSR expenditure and ROA of the sample banks.

### 7.7.2 Association between CSR Expenditure and Return on Equity

**Table 7.26: Information about the results of regression analysis between CSR expenditure and ROE**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.3703	0.1371	-0.1505	22.1927	0.1371	0.4767	1	3	0.5395
Sample_2	0.3501	0.1225	-0.1700	26.1303	0.1225	0.4189	1	3	0.5636
Sample_3	0.2423	0.0587	-0.2550	127.1002	0.0587	0.1871	1	3	0.6945
Sample_4	0.1771	0.0314	-0.2915	12.4831	0.0314	0.0971	1	3	0.7757

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

The simple regression has been applied with null hypothesis in order to investigate whether there is any significant association between CSR expenditure and ROE and the null hypothesis is  $H_{019.2}$ : there is no significant association between CSR expenditure and ROE. It is apparent from the results of the study that for all the sample banks significant levels are higher than 0.05 level which leads to conclude that the sample banks had shown insignificant association between the CSR expenditure and ROE since the null hypothesis is accepted.

### 7.7.3 Association between CSR Expenditure and Return on Investment

**Table 7.27: Information about the results of regression analysis between CSR expenditure and ROI**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.4986	0.2486	-0.0019	20.7096	0.2486	0.9926	1	3	0.3925
Sample_2	0.4484	0.2010	-0.0653	24.9340	0.2010	0.7549	1	3	0.4489
Sample_3	0.7772	0.6041	0.4721	82.4295	0.6041	4.5776	1	3	0.1219
Sample_4	0.0601	0.0036	-0.3285	12.6607	0.0036	0.0109	1	3	0.9235

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

With the use of a null hypothesis like  $H_{012.3}$ : there is no significant association between CSR expenditure and ROI the simple regression has been used to know whether there is any significant association between CSR expenditure and ROI and the results show that the null hypothesis is accepted in case of the whole sample banks for showing the higher values of significant levels and it confirms

that there is no positive significant association between the CSR expenditure and ROI of the sample banks during the period under the study.

#### 7.7.4 Association between CSR Expenditure and Net Profit Percentage

**Table 7.28: Information about the results of regression analysis between CSR expenditure and NPP**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sample_1	0.3613	0.1305	-0.1593	22.2777	0.1305	0.4503	1	3	0.5502
Sample_2	0.1839	0.0338	-0.2882	27.4196	0.0338	0.1050	1	3	0.7672
Sample_3	0.3782	0.1430	-0.1426	121.2746	0.1430	0.5007	1	3	0.5302
Sample_4	0.2556	0.0653	-0.2462	12.2622	0.0653	0.2097	1	3	0.6781

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

With a view to examining whether there is any significant association between CSR expenditure and NPP the simple regression has been conducted developing of a null hypothesis which is  $H_{019,4}$ : there is no significant association between CSR expenditure and NPP and it is evident that the null hypothesis is accepted in all cases significance levels are higher than 5% which means that there is no significant association between CSR expenditure and NPP of the sample banks over the study period.

#### 7.7.5 Association between CSR expenditure and Financial Performance measured by return on assets (ROA), return on equity (ROE), return on investment (ROI) and net profit percentage (NPP).

**Multiple Regression Model:**  $CSR = \alpha + \beta_1ROA + \beta_2ROE + \beta_3ROI + \beta_4NPP + \varepsilon$

**Table 7.29: Information about the results of multiple regressions analysis between CSR expenditure and different variables of financial performance**

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-47.4326	129.9914		-0.3649	0.7203
NPP	-0.3737	0.8078	-0.1680	-0.4626	0.6503
ROA	-265.4024	229.5227	-6.6800	-1.1563	0.2656
ROE	206.0175	175.1751	6.7788	1.1761	0.2579
ROI	15.1849	16.5515	0.2558	0.9174	0.3734
Dependent Variable: CSR					
Model Summary: R=0.503, R square=0.253, F-value=1.269, P-value (Sig.) =0.325					

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

The multiple regressions analysis with respective model has been employed to investigate where is there is any significant association between CSR expenditure and the different variables of financial performance and the result reports that the value of R is 0.503 and R square is 0.253 and it indicates that 25.30% of the variation in the CSR expenditure can be explained by the different financial variables. The significant levels of the entire financial performance variables are greater than 0.05 level of significance which indicates that the sample banks had shown insignificant association between the CSR expenditure and the financial performance variable over the study period.

## 7.8 Correlation Matrix among the Different Variables

**Table 7.30: Information about the results of correlation matrix among the different variables**

	CSR	NPP	ROA	ROE	ROI
CSR Expenditure	1.000				
Net Profit Percentage	0.277 0.237	1.000			
Return on Assets	0.148 0.534	-0.123 0.607	1.000		
Return on Equity	0.174 0.462	-0.075 0.754	0.998** 0.000	1.000	
Return on Investment	0.409 0.073	0.522* 0.018	0.162 0.494	0.196 0.408	1.000
*	Correlation is significant at the 0.05 level (2-tailed).				
**	Correlation is significant at the 0.01 level (2-tailed).				

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

Table 7.30 shows the results of correlation matrix among the different variables that has been gleaned from the five years data of five sample banks. The evidence reports that there is significant correlation at 5% level of significance between return on equity and return on assets. The evidence also reports that there is significant correlation at 1% level of significance between return on investment and net profit percentage of the sample banks over the period under study.

But the correlation matrix and VIF shows that there is high degree of correlation among the independent variables which results in biased estimate of parameters. To eradicate the effect of multicollinearity among the independent variables and to obtain precise estimate of parameters the researcher has conducted Ridge Regression to find

out the actual impact of the independent variables on the dependent variable. Accordingly, 1 (one) model has been developed which is as follows:

Ridge Regression is based on altering the data matrix by a data dependent amount called the Ridge “K” (Rahman,1998, 540). Using this model of regression, we get precise estimates of parameters. If we assume that the data matrix of P number of predictors is in correlation form, the ridge estimator may be defined as

$$\hat{\beta}_R = (X'X + K_1)^{-1}X'Y \text{ and}$$

$$K \text{ is defined as } K = \frac{P_i\sigma^2}{\hat{\beta}'\hat{\beta}}$$

Where,

$\hat{\beta}_R$  = Ridge Regression Coefficient

Y = Matrix form of dependent variable

$P_i$  = No of Parameters

$\hat{\beta}$  = Multiple Regression Coefficient

X = Matrix form of independent variable

I = Identity Matrix

$\sigma^2$  = Mean Sum Square error

K = Biasing Parameter of ridge regression coefficient

This model is generally used when the degree of correlation present among the independent variables is great enough to cause the coefficient estimates to be unreliable.

## 7.9 Evaluation the Results of Multicollinearity Statistics about the Different Independent Variables (Different Indicators of Financial Performance)

**Table 7.31: Information about the results of multicollinearity statistics about the different independent variables**

	Collinearity Statistics	
	Tolerance	VIF
Net Profit Percentage (NPP)	0.3775	2.649
Return on Assets (ROA)	0.0015	669.995
Return on Equity (ROE)	0.0015	666.972
Return on Investment (ROI)	0.6407	1.561

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

**Table 7.32: Table showing the Results of Coefficient Correlations**

Model	NPP	ROE	ROI	ROA
NPP	1.000	-0.669	-0.248	0.676
ROE	-0.669	1.000	-0.227	-0.999
ROI	-0.248	-0.227	1.000	0.217
ROA	0.676	-0.999	0.217	1.000

a. Dependent Variable: CSR Expenditure

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

From the Table 7.31 we see that VIF factors of the independent variables are greater than 10 and from Table No. 7.32 it appears that there is high degree of multicollinearity among the independent variables. To obtain precise estimates of parameters ridge regression is required. The precise estimates have, however, been obtained by using an ordinary list square method and augmenting the standardized data by the following method used by Montgomery and Peck, (1982,316-18); Rawlings, 1988 the method

$$X_A = \begin{bmatrix} X \\ \sqrt{K'P} \end{bmatrix} \quad Y_A = \begin{bmatrix} Y \\ O_P \end{bmatrix}$$

Where,

$X_A$ = Augmented Matrix of independent Variables

$Y_A$ = Augmented Matrix of dependent Variable

$\sqrt{K'P}$ =  $\sqrt{K'P}$  is a  $P \times P$  Diagonal matrix with diagonal elements that is equal to the square root of the biasing parameter and

$O_p = O_p$  is a  $P \times 1$  vector of Zero

### 7.10 Explanation the Results of Ridge Regression

In order to obtain the precise estimate of parameters we conducted ridge regression on CSR expenditures taking the same independent variables and the results are shown in Table 7.33.

**Table 7.33: Information about the results of ridge regression coefficients at various values of K**

Particulars	K <sub>0</sub>	K <sub>1</sub>	K <sub>2</sub>	K <sub>3</sub>	K <sub>4</sub>
	K=0.000	K=2.150	K=1918.972	K=40095.967	K=1686995.514
	$\sqrt{K}=0.000$	$\sqrt{K}=1.466$	$\sqrt{K}=43.806$	$\sqrt{K}=200.239$	$\sqrt{K}=1298.844$
ROA	-265.402	-3.646	-0.837	-0.267	-0.044
ROE	206.017	7.778	-0.749	-0.263	-0.043
ROI	15.185	8.273	-0.344	-0.249	-0.043
NPP	-0.374	0.457	0.517	-0.002	0.037
<b>Results of Model Summary</b>					
R <sup>2</sup>	0.253	0.258	0.088	0.072	0.105
F ratio	1.269	1.647	0.456	0.370	0.538
Sig. Level	0.325	0.204	0.767	0.827	0.696

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

**Table 7.33 (Continued): Information about the results of ridge regression coefficients at various values of K**

Particulars	K <sub>5</sub>	K <sub>6</sub>	K <sub>7</sub>	K <sub>8</sub>	K <sub>9</sub>
	K=32942695	K=1.809	K=1621.104	K=199801.92	K=6713537.28
	$\sqrt{K}=5739.57$	$\sqrt{K}=1.345$	$\sqrt{K}=40.263$	$\sqrt{K}=446.992$	$\sqrt{K}=2591.049$
ROA	-0.010	-290.632	-4.923	-0.863	-0.125
ROE	-0.010	225.920	8.745	-0.759	-0.125
ROI	-0.010	9.561	8.224	-0.264	-0.123
NPP	-0.010	-0.335	0.454	0.537	-0.069
<b>Results of Model Summary</b>					
R <sup>2</sup>	0.113	0.334	0.258	0.088	0.088
F ratio	0.606	2.379	1.649	0.454	0.454
Sig. Level	0.663	0.088	0.203	0.765	0.765

(Source: Researcher's Own Analysis Using Financial Data of Annual Reports)

After conducting the ridge regression, we observe that the values of R<sup>2</sup> is 0.088, F ratio is 0.454 and its significance level is 0.765. So, our null hypothesis is accepted which means that the independent variables taken together do not influence the CSR.

### 7.10 Summary of Previous Research Study

SN.	Authors	Year	Remarks
01.	Ullah	2013	There is a significant relationship between CSR expenditure and total revenue, net income after tax, number of branches as well as deposit growth.
02.	Gololo	2016	There is positive relationship between financial performance indicators such as PAT, ROCE as well as RPS and CSR of selected banks in Nigeria.
03.	Kanwal et al.	2013	There is a significant positive relationship between the CSR and financial performance of the firm.
04.	Khan and Tariq	2017	The relationship between CSR and financial performance as both hearted each other.
05.	Neogy et al.	2018	There is no influence of financial performance variables on corporate social responsibility expenditure.
06.	Erdur and Kara	2014	There is significant positive relationship between corporate social responsibility and net profit on the other hand there is no significant relationship between corporate social responsibility and companies' total sales and return on sales ratio.
07.	Chetty et al.	2015	CSR activities confirm to no significant differences in financial performance.
08.	Abiodun	2012	There is no significant relationship between the profit after tax and corporate social responsibility.



### 7.11 Summary of the Hypotheses Testing

VN	Description	Hypothesis	ST	Remark
V1	CSR Expenditure	H <sub>0</sub> : There is no significant variation in total CSR expenditures among the sample banks over the study period	ANOVA	Insignificant
		H <sub>0</sub> : There is no significant difference in total CSR expenditures between the different sample banks as well as different years over the study period	Paired Sample t-test	Insignificant and Significant
V2	Education and Healthcare Area	H <sub>0</sub> : There is no significant variation in CSR expenditure of education and healthcare among the sample banks over the study period	ANOVA	Insignificant
		H <sub>0</sub> : There is no significant difference in CSR expenditure of education and healthcare area between the different sample banks as well as different years over the study period	Paired Sample t-test	Insignificant and Significant
V3	Environment Area	H <sub>0</sub> : There is no significant variation in CSR expenditure of environment area of the sample banks over the study period	ANOVA	Insignificant
		H <sub>0</sub> : There is no significant difference in CSR expenditure of environment area between the different sample banks as well as different years over the study period	Paired Sample t-test	Insignificant
V4	Art and Culture Area	H <sub>0</sub> : There is significant variation in CSR expenditure of art and culture area among the sample banks over the study period	ANOVA	Significant
		H <sub>0</sub> : There is no significant difference in CSR expenditure of art and culture area between the different sample banks as well as different years over the study period	Paired Sample t-test	Insignificant
V5	Natural Disaster	H <sub>0</sub> : There is significant variation in CSR expenditure of natural disaster area among the sample banks over the study period	ANOVA	Significant
		H <sub>0</sub> : There is no significant difference in CSR expenditure of natural disaster area between the different sample banks as well as different years over the study period	Paired Sample t-test	Insignificant
V6	CSR Expenditure and Financial Performance	H <sub>0</sub> : There is no significant association between CSR expenditure and financial performance variables of the sample banks over the study period	Multiple Regression Analysis	Insignificant
V7	CSR expenditure and ROA	H <sub>0</sub> : There is no significant association between CSR expenditure and ROA of the sample banks over the study period	Simple Regression Analysis	Insignificant
V8	CSR expenditure and ROE	H <sub>0</sub> : There is no significant association between CSR expenditure and ROE of the sample banks over the study period	Simple Regression Analysis	Insignificant
V9	CSR expenditure and ROI	H <sub>0</sub> : There is no significant association between CSR expenditure and ROI of the sample banks over the study period	Simple Regression Analysis	Insignificant
V10	CSR expenditure and NPP	H <sub>0</sub> : There is no significant association between CSR expenditure and NPP of the sample banks over the study period	Simple Regression Analysis	Insignificant

## 7.12 Conclusion

At present corporate social responsibility has become more demanding issues in business platform and it is essential to run long term business successfully as well as the sustainable economic growth and considering this the proper guideline regarding the corporate social responsibility expenditure practices is important for catching the public interest, social benefit as well as protection of the environment. Corporate social responsibility expenditure is widely accepted important issue for economic development and competitive business over the world for receiving the attention from the different interested parties like businesses concerns, political persons, academicians as well as researchers. The goal of this segment is to reveal the corporate social responsibility expenditure practice and its relationship with financial performance variables. The findings report that the practice of corporate social responsibility expenditures of the sample banks is limited within some areas and the expenditures are less sufficient. The study also reveals that the corporate social responsibility expenditures of the sample banks have been showing gradually increasing and decreasing tendency and its growth rate also showing increasing and decreasing trend over the study period. The study found that there is no significant variation in corporate social responsibility expenditures among the sample banks but there is significant and insignificant relationship among the sample banks in case of corporate social responsibility expenditures. In the context of the different areas of corporate social responsibility activities the study reveals that there is no significant variation in education & healthcare and environment area but there is significant variation in case of art & culture and natural disaster area. The study also states that there is significant and insignificant relationship in the different areas of corporate social responsibility activities among the sample banks over the study period. The study further found that there is no significant positive relationship between the corporate social responsibility expenditures and the different variables of financial performance of the sample banks over the study period.

## **Chapter Eight**

# **Summary of Study Findings, Recommendations as well as Limitations and Scope for Further Study**

### **8.1 Introduction**

Banks as financial institutions accumulate idle funds and channelize those funds to their loan customers. This is actually the part of business life of the banks since they have to lend funds with the objective of earning profit. While lending money banks have to be guided by strict principles, rules, norms, Acts and standards for safeguarding the interest of the stakeholders. This is true that banks assume risk while conducting normal business activities but the extent of risk must not go beyond the safety of the depositors. Though assuming higher risks breeds higher return, there should be a trade-off or line of demarcation between risk and return. True, there are different types of risks and a variety of decisions like financial decision, investment decision and dividend decision create risk, the management should deal with these aspects efficiently and timely so that the interests of the stakeholders are guarded.

### **8.2 Norms and Practices Analyzed- A Flashback**

To achieve the objectives of the study we have analyzed collected data. To get the opinion of the respondents regarding the compliance status of the different provisions of legal framework prescribed by the regulatory bodies we have selected academicians, chartered accountants and cost and management accountants. An analysis of the opinions of the respondents asseverates that most of the respondents opined that the sample banks have greatly complied with the Banking Companies Act, 1991, the Companies Act 1994 as well as the Bangladesh Bank Order, 1972 for financial reporting practices. Most of the respondents opined that the sample banks have complied with the Securities and Exchange Rules, 1987 as well as the Securities and Exchange Ordinance, 1969 in financial reporting practices. Most of the respondents opined that the sample banks

have moderately applied the accounting standards in financial reporting practices. Our examination of the opinions also shows that most of the respondents are of the opinion that the sample banks have greatly applied the accounting entity assumption, going concern assumption, money measurement assumption, time period as well as historical cost principle for preparing the financial statements. Our analysis of data also confirms that most of the respondents opined that sample banks have moderately applied revenue recognition principle, matching principle, full disclosure principle, costs and benefits constraint, materiality constraint, industry practices and conservatism constraint for preparing the financial statements. An analysis of the opinion of the respondents asserts that most of the respondents opined that the sample banks have moderately applied the accrual basis accounting in preparing the financial statements. We also attempted to investigate whether there is significant difference of opinions among the respondents regarding the degree of compliance with the Acts, Statutes, Ordinances, Standards through developing a null hypothesis by the sample banks. The result of the ANOVA and Chi-Square test corroborates the fact that there are significant and insignificant difference of opinions among the respondent groups.

We also attempted to examine the association between the different surrogates of corporate governance practices with financial performance indicators of the sample banks. Our observation to that sphere indicates that the capital adequacy ratio has positive significant influence on return on assets but the board size, bank age, debt equity ratio, interest income, loan deposit ratio and total assets have insignificant influence on return on assets of the sample banks. Our observation also shows that the capital adequacy ratio has positive significant influence on return on equity but board size, bank age, debt equity ratio, interest income, loan deposit ratio and total assets have no significant influence on return on equity of the sample banks. Our analysis also shows that the interest income as well as total assets have positive significant influence on return on investment but the board size, bank age, debt equity ratio and loan deposit ratio have insignificant impact on return on investment.

Before the regression analysis an evaluation has been made regarding the maintenance of required capital and regulatory capital by the sample banks. It is apparent from the enquiry that there is significant variation among the sample banks regarding the maintenance of required capital and regulatory capital at 5% level. In addition, we also observed that there is no significant variation between statutory and regulatory capital of each sample bank individually. Our observation to that sphere also shows that there is year-to-year significant variation among the sample banks regarding the maintenance of required capital and regulatory capital in 50% of the cases.

In our attempt to enquire into the consequence of credit risk management practices on financial performance tools of the sample banks has led us to conclude that the classified loan has been reported to have significant effect on return on assets but loan and advance, unclassified loan, leverage ratio, bad debt, default ratio, cost per loan asset as well as cost to income ratio have shown insignificant effect on return on assets and return on equity of the sample banks. We also observed that the loan and advance, classified loan, unclassified loan, leverage ratio, bad debt, default ratio, cost per loan asset and cost to income ratio have reported insignificant effect on return on investment and net profit percentage of the sample banks.

But the ridge regression coefficients of various independent variables at various values of  $K$  and the precise estimates of  $R^2$  is 0.684,  $F$  ratio is 5.145 and its significance level is 0.002. So, we conclude that the null hypothesis is rejected and we can confirm that the independent variables taken together influence return on investment.

A close scrutiny of the measurement of corporate social responsibility expenditure practices and their relationship with the financial performance variables demonstrated that there is no significant association between the corporate social responsibility expenditures and the different financial performance variables such as return on assets, return on equity, return on investment and net profit percentage of the sample banks.

### 8.3 A Contour of the Future needs

We have so far discussed the findings of our study regarding compliance status.

We suggest that

- (1) there is further scope to improve compliance status by the sample banks. More CSR disclosure regarding education and healthcare area, environment area, liberation war, cultural area, natural digester area and donation for national disaster should be made.
- (2) Independent audit at regular intervals should be made. The initiative should be taken by the Government and for the sake of transparency the same audit team should not be sent to the same bank again and greater transparency in banks' financial reporting regarding risk management news and regarding the disclosure of capital adequacy ratio should be consistently maintained.
- (3) Bank should also disclose about capital conservation buffer and counter-cyclical buffer.
- (4) In addition to this, the banks must disclose the leverage rate that they use.
- (5) Corporate governance is positively associated with bank performance and considering this banking sector should develop corporate governance policies through ensuring proper internal control structure to bring and maintain the faith of the different stakeholders.
- (6) Robert Bartels (1963) identified four standards which are (a) ethics of collusion, (b) ethics of compulsion, (c) ethics of compliance and (d) ethics of conviction. Among these the banks of Bangladesh should follow or implement ethics of conviction which arises from an integrated sense of social and personal values and for the respect of the general level principle concerning human dignity and well-being. Business leaders should assume these responsibilities as a result of public awareness.
- (7) Banks of Bangladesh should be concerned with the social and environmental impacts of their investment and loans because this concept is related to the sustainability of banks.
- (8) One thing that is related to sustainability is transparency of investments, transparency of provisions and transparency of aging schedule. Though it is

not possible for banks to interfere into the business of clients, yet banks, on ethical ground, cannot finance a business that will destroy the environment, will be engaged in illegal business. What is suggested here is that banks should switch over from single bottom line analysis to triple bottom line analysis which considers environmental, social and financial performance. This means bank should follow environmentally friendly practices and be more conscious about employee travel policies that will help reduce use of fuel. One question may be raised about the losing of business. But this problem can be solved by formulating an environmentally friendly revolution industry wise.

- (9) Before lending bank should critically examine the nature of business which it is going to finance. Bank should not finance the client who will or has the possibility of destroying the environment.
- (10) Before granting loans, the banker must be aware of the danger that may be committed by the loan and its potential huge negative impact on the world money in all forms that has implications and the consequences on the society because money can destroy, pollute, kill, and support evil. This concern for the handling of money by the banks is indeed for a truth which is banks handle to a large scale, investors' money, not, their own.
- (11) What we suggest finally for the banks for being a moral and ethical banker. It should have concern about crime, collusion, corruption, violation of human rights and all sorts of wrong doing. Banks must assume responsibility for evil investment though they are not the only investor.
- (12) Banks should avoid investing to risky investment in securities that may result in clients' wealth destruction.
- (13) Banks should not finance companies who operate their business in countries governed by totalitarian regimes because the corrupt Government may demand substantial bribes to allow them to conduct business in those countries.
- (14) Special attention should be directed to examine the value and ownership of securities for previous 20 years. In case of securities like machineries, care should be taken regarding the longevity by an expert engineer.

#### **8.4 Possibility of Better Banking Industry**

At this stage we suggest for a banking that will be ethically responsible, respectful banking industry which is not only possible but also highly desirable. This kind of banking industry will be possible if there is pressure from the stakeholders. True banking industry cannot move forward without ethical values. It is of highly concern for the stakeholders to know what banks are doing with peoples' resources.

#### **8.5 Limitations and scope for further study**

After considering certain limitations the present study has revealed the findings as per objectives and the following limitations have generated opportunities to conduct further study in this field. Referring to the evidences from the present study the following suggestions are advanced for further study:

- The present study has considered only four state-owned commercial banks as sample but further study can be considered taking large number of banks as sample to conduct a longitudinal study in this field.
- The sample of the present study was limited to state-owned commercial banks but another study can be conducted on the combination of private and state-owned commercial banks.
- The present study has included only conventional commercial banks but further study can be undertaken involving the Islamic shariah based commercial banks.
- The present study has been designed only for short span like five years of time from 2012 to 2016 but further study can be undertaken with long period of time to consider the long experience of Bangladeshi banking sector.



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12. Banks apply of IAS/BAS and IFRS/BFRS for preparing the financial statements of the sample banks.

- i. Extremely Apply
- ii. Moderately Apply
- iii. Slightly Apply
- iv. Neutral
- v. No apply

13. Please state your opinion about the extent of compliance of assumptions, principles and constraints for preparing the financial statements of the sample banks.

Items	Strongly Agree	Moderately Agree	Slightly Agree	Neutral	Disagree
i. Accounting Entity					
ii. Going Concern					
iii. Monetary Measurement					
iv. Time Period					
v. Historical Cost					
vi. Revenue Recognition					
vii. Matching					
viii. Full Disclosure					
ix. Costs and Benefits					
x. Materiality					
xi. Industry Practice					
xii. Conservatism					

14. Please state your opinion about the extent of application of accrual basis accounting for preparing the financial statements of the sample banks.

- i. Extremely Apply
- ii. Moderately Apply
- iii. Slightly Apply
- iv. Neutral
- v. No apply

Signature.....