A Comparative Study on Management Efficiency and Earnings Quality of Select Public and Private Sector Banks in India

By

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(14PCO013)

Under the guidance of

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Certificate

Department of Commerce

Avinashilingam Institute for Home Science and Higher Education for Women

Coimbatore-641043

Certificate

This is to certify that the project entitled,

"A Comparative Study on Management Efficiency and Earnings Quality of Select Public and Private Sector Banks in India"

is a bonafide work done by,

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Submitted in partial fulfilment of the requirement for the Degree of Master of Commerce

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Viva voice examination held on _____

Signature of the Supervisor

Signature of the External Examiner

Declaration

DECLARATION

I hereby declare that the work entitled **"A Comparative Study on Management Efficiency and Earnings Quality of Select Public and Private Sector Banks in India"** is submitted in partial fulfillment of the requirements for the award of the degree of Master of Commerce, under the supervision and guidance of Mrs. P. Sasirekha, M.com, M.Phil, PGDCA, NET, SET, Assistant Professor, Department of Commerce, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore-641043.

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SYNOPSIS

The Banking Industry is one of the basic instruments for economic growth. Banking industry serves as the backbone of the financial sector that accumulates saving from surplus economic units in the form of deposits and provides it to deficit economic units in the form of advances. Therefore, the banking sector is a vital part and decides the progress of the nation's economy.

This research work "A Comparative Study on Management Efficiency and Earnings Quality of Select Public and Private Sector Banks in India" examines to understand how management efficiency and earnings quality of banks plays a crucial role in financial performance of banking sector. The present study is mainly based on secondary data. Thus the two public sector banks and two private sector banks are selected based upon the average profitability. The period of the study was ten years from 2006-2007 to 2014-15. The objectives of the study are to analyse the management efficiency of public sector and private sector banks, to examine the earnings quality of public sector and private sector banks and to make a comparison of management efficiency and earnings quality of select public sector and private sector banks.

Ratio of management efficiency and earnings quality are used. Mean, standard deviation and coefficient of variation are used to evaluate the performance of select banks. Correlation analysis and ANOVA are used to analyse the performance of banks. The hypotheses proposed in this study have been examined with appropriate tools.

The result of the study reveals that the private sector banks are performing well when compared to public sector banks. So, public sector banks should concentrate on the management efficiency and earnings quality to compete with private sector banks.

Introduction

CHAPTER I
INTRODUCTION

Financial sector of an economy plays an important role in the economic development and prosperity of the country. Banking industry serves as the backbone of the financial sector that accumulates saving from surplus economic units in the form of deposits and provides it to deficit economic units in the form of advances (Sachdeva, 1972). Banking industry provides support to the economy and industries in specific in the time of recessions and economic crisis. As an economic institution, the bank is expected to be more direct and more positively related to the performance of the economy than the most non-economic institutions (Rondo, 1972). Banks are considered to be the mart of the world, the nerve centre of the economies and finance of a nation and the barometer of its economic perspective. They are not merely dealers in money but are in fact dealers in development (Sharma, 1974). Hence, banking can better be described as the kingpin of the chariot of economic progress.

The banks are very important instruments of macro-economic policy to stabilize economy. By controlling the volume of credit, they are able to check both inflation and deflation effectively in the economy. Through the mobilization of resources and their better allocation, commercial banks play an important role in the development process of underdeveloped countries (Paul and Suresh, 2006). In fact, the Central Bank depends upon the commercial banks for the success of its monetary policy, keeping in view the different requirements of a developing economy. It is true that credit policy with regard to volume and direction is subject to the control of the Central Banking Authority. In a nutshell, the commercial banks have become an omnibus institution in the modern times to which people of varied interests look for help and success (Gupta, 1985).

Banking can be defined as the business activity of accepting and safeguarding money owned by other individuals and entities, and then lending out this money in order to earn a profit. However, with the passage of time, the activities covered by banking business have widened and now various other services are also offered by banks. The

banking services these days include issuance of debit and credit cards, providing safe custody of valuable items, lockers, ATM services and online transfer of funds across the country / world.

1.1 BANKING IN INDIA

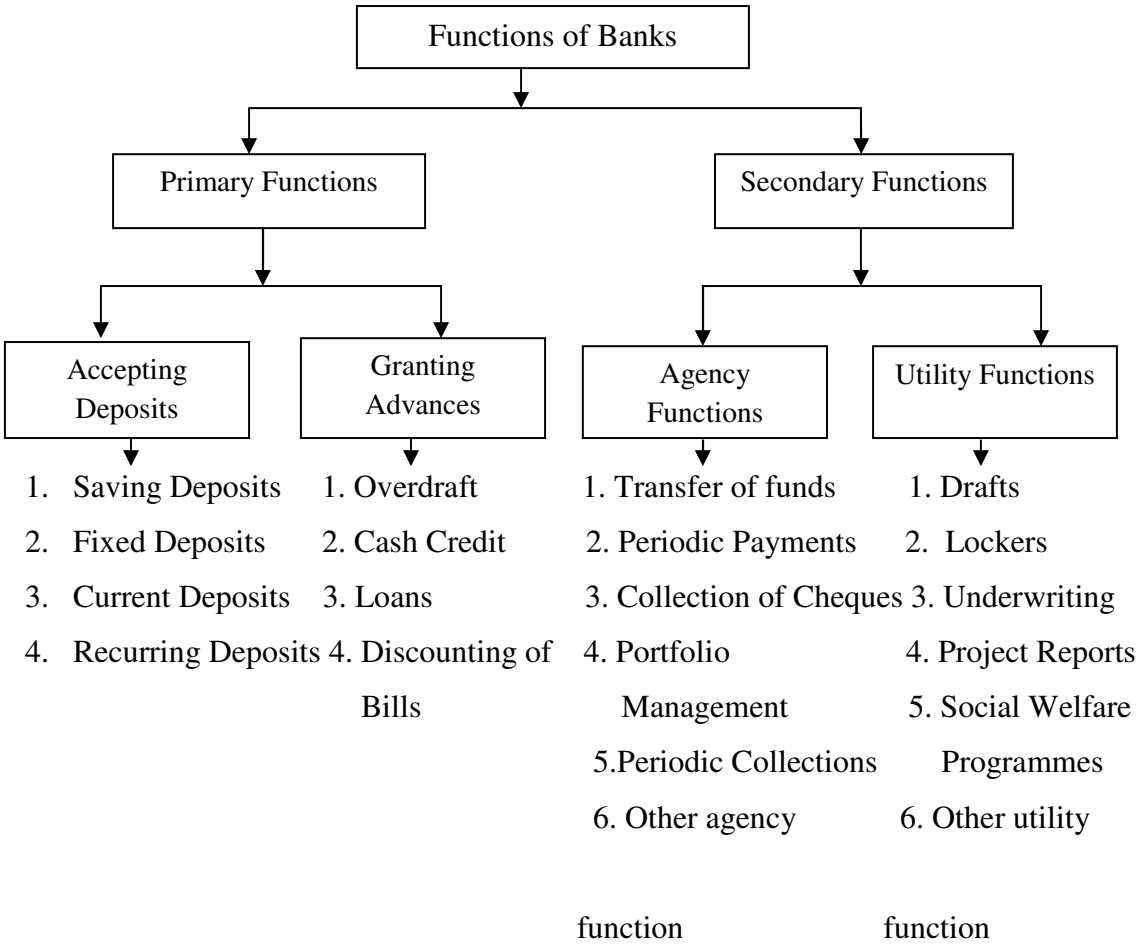
Banking in India is the modern sense originated in the last decades of the 18th century, established in 1770 and liquidated in 1829-32; and General Bank of India, established in 1786 but failed in 1791.The largest bank and the oldest still in existence, is the State Bank of India. It originated as the Bank of Calcutta in June 1806. In 1809, it was renamed as Bank of Bengal. This was one of the three banks funded by a Presidency Government, the other two were the Bank of Bombay and the Bank of Madras. The three banks were merged in 1921 to form the Imperial Bank of India, which upon India's independence, became the State Bank of India in 1955. For many years the presidency banks had acted as quasi-central banks, as did their successors, until the Reserve Bank of India was established in 1935, under the Reserve Bank of India Act, 1934.

In 1960, the State Banks of India was given control of eight state-associated banks under the State Bank of India (Subsidiary Banks) Act, 1959. These are now called as its associate banks. In 1969 the Indian Government nationalized 14 major private banks. In 1980, six more private banks were nationalized. These nationalized banks are the majority of lenders in Indian economy. They dominate the banking sector because of their large size and widespread networks.

The Indian banking sector is broadly classified into scheduled banks and non-scheduled banks. The scheduled banks are those which are defined under the 2nd schedule of the Reserve Bank of India Act, 1934. The scheduled banks are further classified into: Nationalized banks, State Bank of India and its associates, Regional Rural Banks (RRBs), Foreign banks and other Indian private sector banks. The term Commercial Banks refers to both Scheduled and Non-Scheduled commercial banks which are regulated under the Banking Regulation Act, 1949.

Generally banking in India was fairly mature in terms of supply, product range and reach-even though reach in rural India and to the poor still remains a challenge. The Government has developed initiatives to address this through the State Bank of India expanding its branch network and through the National Bank for Agriculture and Rural Development with things like microfinance.

1.2 FUNCTIONS OF BANKS



1.2.1 Primary Functions of Banks: The primary functions of banks are explained below.

1. Accepting Deposits The bank collects deposits from the public. These deposits can be of different types, such as:-

a. Saving Deposits
b. Fixed Deposits
c. Current Deposits
d. Recurring Deposits

a. Saving Deposits: This type of deposits encourages saving habit among the public. The rate of interest is low. At present it is about 5 percentage p.a. Withdrawals of deposits are allowed subject to certain restrictions. This account is suitable to salary and wage earners. This account can be opened in single name or in joint names.

b. Fixed Deposits: Lump sum amount is deposited at one time for a specific period. Higher rate of interest is paid, which varies with the period of deposit. Withdrawals are not allowed before the expiry of the period. Those who have surplus funds go for fixed deposit.

c. Current Deposits: This type of account is operated by businessmen. Withdrawals are freely allowed. No interest is paid. In fact, there are service charges. The account holders can get the benefit of overdraft facility.

d. Recurring Deposits: This type of account is operated by salaried persons and petty traders. A certain sum of money is periodically deposited into the bank. Withdrawals are permitted only after the expiry of certain period. A higher rate of interest is paid.

2. Granting of Loans and Advances

The bank advances loans to the business community and other members of the public. The rate charged is higher than what it pays on deposits. The difference in the interest rates (lending rate and the deposit rate) is its profit. The types of bank loans and advances are as follows:-

a. Overdraft
b. Cash Credits
c. Loans

d. Discounting of Bill of Exchange

a. Overdraft: This type of advances is given to current account holders. No separate account is maintained. All entries are made in the current account. A certain amount is sanctioned as overdrafts which can be withdrawn within a certain period of time say three months or so. Interest is charged on actual amount withdrawn. An overdraft facility is granted against a collateral security. It is sanctioned to businessman and firms.

b. Cash Credits: The client is allowed cash credit upto a specific limit fixed in advance. It can be given to current account holders as well as to others who do not have an account with bank. Separate cash credit account is maintained. Interest is charged on the amount withdrawn in excess of limit. The cash credit is given against the security of tangible assets and / or guarantees. The advance is given for a longer period and a larger amount of loan is sanctioned than that of overdraft.

c. Loans: It is normally for short term say a period of one year or medium term say a period of five years. Now-a-days, banks do lend money for long term. Repayment of money can be in the form of installments spread over a period of time or in a lump sum amount. Interest is charged on the actual amount sanctioned, whether withdrawn or not. The rate of interest may be slightly lower than what is charged on overdrafts and cash credits. Loans are normally secured against tangible assets of the company.

d. Discounting Bill of Exchange: The bank can advance money by discounting or by purchasing bills of exchange both domestic and foreign bills. The bank pays the bill amount to the drawer or the beneficiary of the bill by deducting usual discount charges. On maturity, the bill is presented to the drawee or acceptor of the bill and the amount is collected.

1.2.2 Secondary Functions of Banks

The bank performs a number of secondary functions, also called as non-banking functions. These important secondary functions of banks are explained below.

1. Agency Functions: The bank acts as an agent of its customers. The bank performs a number of agency functions which includes as follows:-

a. Transfer of Funds
b. Collection of Cheques
c. Periodic Payments
d. Portfolio Management
e. Periodic Collections
f. Other Agency Functions

a. Transfer of Funds: The bank transfer funds from one branch to another or from one place to another.

b. Collection of Cheques: The bank collects the money of the cheques through clearing section of its customers. The bank also collects money of the bills of exchange.

c. Periodic Payments: On standing instructions of the client, the bank makes periodic payments in respect of electricity bills, rent, etc.

d. Portfolio Management: The bank also undertakes to purchase and sell the shares and debentures on behalf of the clients and accordingly debits or credits the account. This facility is called portfolio management.

e. Periodic Collections: The bank collects salary, pension, dividend and such other periodic collections on behalf of the client.

f. Other Agency Functions: They act as trustees, executors, advisers and administrators on behalf of its clients. They act as representatives of clients to deal with other banks and institutions.

2. General Utility Functions

The bank also performs general utility functions, such as follows:-

a. Issue of Drafts, Letter of Credits, etc.
b. Locker Facility
c. Underwriting of Shares
d. Dealing in Foreign Exchange
e. Project Reports
f. Social Welfare Programmes
g. Other Utility Functions

a. Issue of Drafts and Letter of Credits: Banks issue drafts for transferring money from one place to another. It also issues letter of credit, especially in case of, import trade. It also issues travellers' cheques.

b. Locker Facility: The bank provides a locker facility for the safe custody of valuable documents, gold ornaments and other valuables.

c. Underwriting of Shares: The bank underwrites shares and debentures through its merchant banking division.

d. Dealing in Foreign Exchange: The commercial banks are allowed by RBI to deal in foreign exchange.

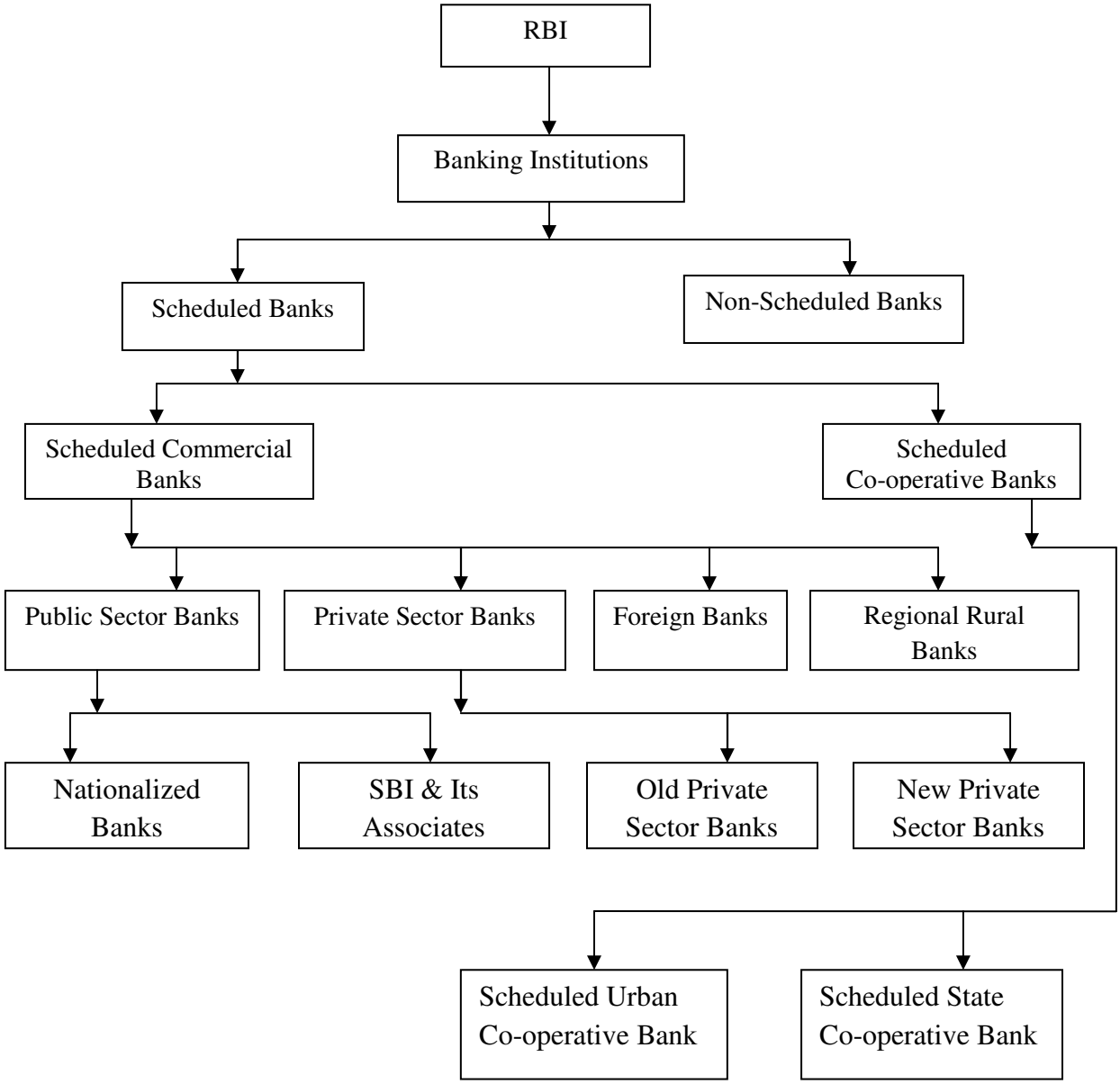
e. Project Reports: The bank may also undertake to prepare project reports on behalf of its clients.

f. Social Welfare Programmes: It undertakes social welfare programmes, such as adult literacy programmes, public welfare campaigns, etc.

g. Other Utility Functions: It acts as a referee to financial standing of customers. It collects creditworthiness information about clients of its customers. It provides market information to its customers, etc. It provides travellers' cheque facility.

1.3 STRUCTURE OF INDIAN BANKING INDUSTRY

Structure of Indian Banking Industry



Source: Report on Trend and Progress of Banking in India, 2011-2012

1.3.1 PUBLIC SECTOR BANKS

Public sector banks are the ones in which the Government has a major holding. They are divided into two groups (i.e.) Nationalized Banks and State Bank of India and its associates. Among them, there are 19 nationalized banks and six State Bank of India associates. Public Sector Banks dominate 75 percentage of deposits and 71 percentage of advances in the banking industry. Public Sector Banks dominate commercial banking in India.

The lists of Public Sector Banks are as follows:

Name of the Banks	
Nationalized Banks	**State Bank and its Associates**
Allahabad Bank	State bank of India
Andhra Bank	State bank of Patiala
Bank of Baroda	State bank of Mysore
Bank of India	State bank of Travancore
Bank of Maharastra	State bank of Bikaner and Jaipur
Canara Bank	State bank of Hyderabad
Central Bank of India	
Corporation Bank	
Dena Bank	
Indian Bank	
Indian Overseas Bank	
Oriental Bank of Commerce	
Punjab and Sind Bank	
Syndicate Bank	
UCO Bank	
Union Bank of India	
United Bank of India	
Vijaya Bank	
IDBI Bank	

1.3.2 PRIVATE SECTOR BANKS

The **Private-Sector Banks in India** represents part of the Indian Banking Sector. The "Private Sector Banks" are banks where greater parts of stake or equity are held by the private shareholders and not by government. However since liberalization in government banking policy in the 1990s, old and new private sector banks have re-emerged. They have grown faster and bigger over the two decades since liberalization using the latest technology, providing contemporary innovations and monetary tools and techniques. The private sector banks are split into two groups by financial regulators in India, old and new. The old private sector banks existed prior to the nationalization in 1969 and kept their independence because they were either too small or specialist to be included in nationalization. The new private sector banks are those that have gained their banking license since the liberalization in the 1990s.The private sector banks play a vital role in the Indian economy. They indirectly motivate the public sector banks by offering a healthy competition to them.

The lists of Private Sector Banks are as follows:

Name of the Banks	
Old Private Sector Banks	**New Private Sector Banks**
City Union Bank	Axis Bank
Dhanalaxmi Bank	Development Credit Bank
Federal Bank	ICICI Bank
Ing Vysya Bank	IndusInd Bank
Jammu And Kashmir Bank	Kotak Mahindra Bank
Karnataka Bank	Yes Bank
Karur Vysya Bank	HDFC Bank
Lakshmi Vilas Bank	
South Indian Bank	
Tamilnad Mercantile Bank	
Cathiloc Syrian Bank	

1.4 STATEMENT OF THE PROBLEM

The Indian banking industry plays an important role in the economic development of the country and is the most dominant segment of the financial sector. Banking industry provides support to economy in general and industries in specific in the time of recessions and economic crisis. Sound financial health of the banks is the guarantee not only to its depositors but also equally significant for the shareholders, employees and the whole economy as well. Earlier, the Indian banking sector was dominated by public sector banks; however, this has changed now. New generation banks, with the use of technology and professional management, have gained a reasonable position in the banking industry. In this competitive environment, it becomes essential to measure the performance of the banks. Banking sector is one of the fastest growing as well as most complex sectors in India. It serves as the backbone of the Indian economy. Indian banking sector is one of the healthiest performers in the world banking industry seeking tremendous competitiveness, growth, efficiency, profitability and soundness, especially in the recent past (S.S.Kundu, November 2015).

The financial performance of the banks can be measured through various criterian. In this, the management efficiency and earnings quality are the two major factors determine the financial performance of any banking sector. Every business entity is judged by its efficiency and earnings. The management efficiency and earnings quality are the important criterion determines the ability of banks to earn consistently in future. These two criterions basically determine the quality and efficiency of banks and its ability to maintain quality, sustainability and growth in future. Hence, these parameters gain the important in the light of the argument. Therefore, the present study on **"A Comparative Study on Management Efficiency and Earnings Quality of Select Public and Private Sector Banks in India"** was undertaken to study the performance of both Public and Private Sector Banks.

1.5 OBJECTIVES OF THE STUDY

- To analyse the management efficiency of public sector and private sector banks in India.
- To examine the earnings quality of public sector and private sector banks in India.
- To make a comparison of management efficiency and earnings quality of select public sector and private sector banks.

1.6 HYPOTHESES OF THE STUDY

The following hypotheses are framed in order to substantiate the arguments and discussions of the study and also to draw the logical conclusion.

- H_{01}: There is no relationship between the ratio's of management efficiency.
- H_{02}: There is no relationship between the ratio's of earnings quality.
- H_{03}: Management efficiency does not influence the earnings quality of banks.

1.7 SCOPE OF THE STUDY

A well-functioning financial sector facilitates efficient intermediation of financial resources. The more efficient a financial system is in resource generation and in its allocation, the greater is its contribution to economic growth. For instance, enhanced efficiency in banking can result in greater and more appropriate innovations, improved earnings quality as well as greater safety and soundness. Moreover, efficiency and earnings quality measures could act as leading indicators for evolving strengths or weaknesses of the banking system and could enable pre-emptive steps by the regulator when necessary. Therefore, investigation and measurement of efficiency and earnings quality in the banking sector have always been areas of interest for economic research.

The assessment of efficiency and profitability of the banking sector in India has assumed primal importance due to intense competition, greater customer demands and changing banking reforms. The financial performance can be measured through various aspects, but in the current study it is measured through management efficiency and earnings quality of select public and private sector banks in India.

1.8 LIMITATIONS OF THE STUDY

- The data which is used for this study is based on annual report of the banks and secondary data collected from RBI and IBA Bulletin published from time to time. Therefore, the quality of this research depends on quality and reliability of data published in annual reports.
- This study is related with two public sector banks and two private sector banks. Any generalization for universal application cannot be applied here.
- There are different methods to measure the productivity of the banks. In this connection view of expert differed from one another.

Review of Literature

CHAPTER II
REVIEW OF LITERATURE

A review of literature is a test of a research work, which includes the current knowledge including substances, findings as well as theoretical and methodological contributes to a particular topic. It helps to determine the nature of the research. The review of literature related to the research study are thoroughly scrutinized and presented here.

Kumar Sunil & Gulati Rachita (2015) has conducted a study on **"Measuring efficiency, effectiveness and performance of Indian public sector banks"**. The study analyzes the efficiency, effectiveness and performance of 27 public sector banks operating in India by using a two-stage performance evaluation model. Using the cross-sectional data for the financial year 2013-2014, the technique of data envelopment analysis has been used for computing the efficiency and effectiveness scores for individual PSBs. The empirical results reveal that high efficiency does not stand for high effectiveness in the Indian PSB industry. A positive and strong correlation between effectiveness and performance measures has been noted. Further, on the efficiency front, State Bank of Travancore appears as an ideal benchmark, while State Bank of Bikaner and Jaipur and State Bank of Mysore emerge as ideal benchmark on the effectiveness front.

Subrahmani & Raghav (2015) studied the **"Operational Efficiency of Banks"**. The study analyzed and compared the efficiency in six public sector banks, four private sector banks and three foreign banks for the year 2012-2013. Operational efficiency is calculated in terms of total business and salary expenditure per employee. The analysis revealed that higher per employee salary level need not result in poor efficiency and business per employee efficiency co-efficient was calculated. Among the PSBs, Bank of Baroda registered the high efficiency and operating profit per employee. Among the private sector banks Indus Bank followed by Citi Bank registered highest and second highest operating profit per employee respectively. However, among the Nationalised Banks there existed wide variations in efficiency.

Cheenu Goel and Chitwan Bhutani Rekhi (2014) in the research work **"A Comparative Study on the Performance of Selected Public Sector and Private Sector Banks in India"**. The study compared about the profit earning of the selected public sector banks and private sector banks from the financial years 2010 to 2013 and to investigate the factors affecting the profit earning of the selected banks during the period. The study was conducted by taking three major Public sector banks and Private sector banks on the basis of their total assets for the year 2010-2013 by following Judgement Sampling. The necessary data were collected through RBI monthly bulletins, Annual Reports, money rediff, money control and bank websites etc. The study reveals that Capital Adequacy Ratio and Profitability is good for Private Sector banks than Public sector banks.

Jayanta Kumar Nandi (2014) has conducted a study on **"Efficiency analysis of Selected Public and Private sector banks in India through Data envelopment analysis"**. The study evaluate the relative performance of selected public and private sector banks in India through Data Envelopment Analysis (DEA) for the period 2012-2013 and to maximize output and output oriented Data Envelopment Analysis is used. The necessary data collected from secondary sources, i.e. Capitaline Corporate database, Statistical tables relating to banks in India i.e. RBI data base. The tools used for the analysis are regression and DEA. DEA is typically used to measure the Technical Efficiency (TE) between zero to one ranges. DEA analysis of the selected banks under study highlights the fact that by improved handling of operating expenses and interest costs and by boosting banking incomes, the less efficient banks can successfully achieve optimum performance level.

Ahmad Zahoor and Jegadeeshwaran DM. (2013) was undertaken a **"Comparative Study on NPA Management of Nationalized Banks"**. The study states that the Non-Performing Assets (NPA) account not only reduces profitability of banks by provisioning in the profit and loss account, but their carrying cost is also increased which results in excess & avoidable management attention. It also reveals that high level of NPA also puts strain on a bank's net worth because banks are under pressure to maintain a desired level of Capital Adequacy and in the absence of comfortable to assess the health of various categories of loan assets in various categories of banks. The data was collected

for a period of five years and analyzed by mean, CAGR, ANOVA and ranking banks. The individual banks got ranks as per their performance in management of NPA's. It was also tested, whether there is significant difference between Non-Performing Assets of banks, it was found that there is significant difference in the level of NPA's of nationalized banks which reflect their varied efficiency in the management of Non-Performing Assets.

Kajal Chaundhary and Monika Sharma (2013) studied the Performance of **"Indian Public Sector Banks and Private Sector Banks: A Comparative Study"**. Described about the performance of Public and Private sector of banks of India and to find out trends in NPV level. The study concluded that it is right time to take suitable and stringent measures to get rid of NPA problems and an efficient management information system should be developed. The bank staff involved in sanctioning the advances should be trained about the proper documentation and charge of securities and motivated to take measures in preventing advances turning into NPA. Public banks must pay attention on their functioning to compete Private Banks. Banks should be well versed in proper selection of borrower/project and in analyzing the financial statement.

Loriya Chirag Thakarshibhai (2013) conducted **"A Study of Profitability Analysis of Selected Public Sector and Private Sector Banks of India"**. Described about the comparison based on profitability performance of Public and Private Sector Banks of India. The study was conducted by taking selected ten major public sector banks and private sector banks on the basis of profitability ratio. The necessary data were collected through annual reports of the respective banks. The study covers the period of five years i.e. from the year 2009-2010 to year 2013-2014. To measure the Profitability performance, the tools ANOVA and means analysis of variances were used. The study reveals that, in Public Sector Banks return on capital employed found poor as compared to Private Sector Banks. The study concludes that, it is necessary for the public sector banks to utilize their capital employed very effectively to generate enough return compared to Private Sector Banks.

Samir and Deepa Kamra (2013) carried a study **"A Comparative Analysis of Non-Performing Assets (NPAs) of Selected Commercial Banks in India"**. The study is based on the opinion analyses the position of NPAs in selected banks namely State Bank of India (SBI), Punjab National Bank (PNB) and Central Bank of India (CBI). It also highlights the policies pursued by the banks to tackle the NPAs and suggests a multi-pronged strategy for speedy recovery of NPAs in banking sector. The study spans the period starting from 1996-1997 to 2009-2010. The authors analyzed the trends in NPAs in terms of values, gross and net NPAs as a percentage of gross advances and net advances, gross and net NPAs as a percentage of Total Assets respectively. The paper details about the sector-wise classification of NPAs, reasons for their occurrence, the effects of NPAs on banks, and frequency distribution of public sector banks by ratio of net NPAs to net advances.

Syed Ibrahim.M (2013) has studied the **"Growth and Working of Indian Commercial Banks: A Review"**. The study was conducted for seven financial year 2006 to 2012. It shows that the total number of banks is low in Private Sector Banking as well as in Public Sector Banking and it is very high in Foreign Sector Banking. All the three sectors of banks have shown significant growth. It has been noted that the amount of profit per employee is very high in Foreign Banks. The interest income which is composed of interest on advances and interest on securities is very high in Public Sector Banks. Analysis of parameters of other income shows that the share of other income in the total income is very high in case of public sector banks as they deal in foreign exchange transactions as well as it is also high in private sector banks as various financial services are rendered by private sector banks. Analysis of parameters of cost of funds shows that the cost of funds is very high in case of public sector banks as well as private sector banks and very low in foreign banks.

Bimal Anjum and Deepika (2012) carried a study on **"Technological Implementations-path of growth: A Comparative Study of Public and Private Sector Banks"**. They analyzed about the Indian Banking Industry in Technological advancement for the financial year 2009 to 2010 and described the phase. They found that, the Private Sector Banks outperform the Public Sector Banks. Nationalized banks

are perform well as indicated by the various positive figures in case of Net Profit, Profit per Employee and Business per Employee. The study concludes that, RBI has to take various steps so that the Public Sector Banks (Nationalized and SBI and its Associates) becomes able to manage their profitability by striking the balance between technological investments (Expenditures) and incomes.

Gurumoorthy T.R. and Sufha B (2012) studied the **"Non-Performing Assets (A Study With Reference to Public Sector Banks)"**. The study analyzes the classification of loan assets in PSBs, composition of NPAs in different sectors and NPAs position in PSBs. In this study, it is observed that PSBs exercised stringent control measures to reduce the level of NPAs. It concludes that Non-Performing Assets may not turn banks into Non-Performing Banks; instead steps should be taken to convert Non-Performing Assets into Now-Performing Assets. As far as old NPAs are concerned, a bank can remove it on its own or sell the assets to Asset Management Companies (AMCs) to clean up its balance sheet. For preventing fresh NPAs, the bank itself should adopt proper policies. It is better to avoid NPAs at the budding stage of credit consideration by putting in place of rigorous and appropriate credit appraisal mechanisms. It finally states that, PSBs should be well versed in proper selection of borrower or project and in analyzing the financial statement.

Viral V. Acharya and Nirupama Kulkarni (2012) in their research study on **"State Ownership and Systemic Risk: Evidence from the Indian Financial Sector during 2007-2009"**. The study explained about the relatively strong performance of public sector banks versus their private sector counterparts. The global crisis which erupted in 2007 had its impact on the Indian economy only in the beginning 2008. While the global impact on the financial sectors has been severe, Indian financial firms have fared much better. Much of this has been credited to the public sector firms which lent stability during the crisis period. The analysis shows that while this may be true, public sector firms benefitted significantly from government guarantees. At the peak of the financial crisis, the Indian government announced a series of stimulus packages with the aim of restoring the economy. As a result even some risky public sector banks performed better than their less risky public sector counterparts and overall they fared better than the

private sector counterarts. The study states that, the stability and efficiency of public sector banks relative to private sector banks appears questionable.

Vivek Srivastava and Deepak Bansal (2012) did **"A Study of Trends of Non-Performing Assets in Private Banks in India"**. The study aims to find out whether there is positive trend and control of NPA'S by the private sector banks in India. The data were collected for a period of five years from 2007-2012 from various secondary sources and analyzed by average and comparative percentage analysis. It was found that that the level of NPA is alarming with public sector banks in India but there is slight improvement in the asset quality reflected by decline in the NPA percentage. The study concludes that, the banks should take timely action against degradation of good performing assets.

Debanprosanna Nandy (2010) has studied the **"Banking Sector Reforms in India and Performance Evaluation of Commercial Banks"**. The period of study was fifteen financial years from 1992-2007 explained the need and relevance of reforms in Indian Bank and to assess the efficiency and profitability of Indian Bank during reforms from different perspectives and also to analyze the role of Information Technology and its relevancy in Indian bank in the era of reforms. The study was conducted among some selected commercial banks of India. The necessary data were collected through secondary sources. The study concluded that efficiency and profitability of Indian Bank is good during reforms period.

Vikas and Tandon Sunman (2010) attempts to analyze the **"Performance Evaluation of Public Sector Banks in India"**. Public sector banks form major part of total banking system in India so there is a need to evaluate the performance of these banks. The study is based upon secondary data covering the period from 1997-2007. For analyzing the performance Compound Annual Growth Rate (CAGR) and Coefficient of Variation of advances, deposits, total assets, return on assets, and return on equity and spread ratio are calculated. Decline in growth of nonperforming assets ratio is also considered for this evaluation. It is concluded the CAGR of various variables have shown variations from bank to bank. State Bank of Indore has shown maximum CAGR in case of total advances, total deposits and total assets. Punjab & Sind Bank has shown least

growth of deposits and advances and State Bank of India has least growth of deposits. CAGR of return on equity and return on assets was at peak of United Bank of India whereas Dena Bank, Punjab& Sind Bank and Indian Bank have shown negative trend in these ratios. Decline of NPA's ratio was highest in case of State Bank of Hyderabad and least in case of Dena Bank.

Usha Arora, Bhavna Vashisht and Monica Bansal (2009) **conducted "An Analytical Study of Growth of Credit Schemes of Selected Banks"**. Analyzed and compared the performance (in terms of loan disbursement and non- performing assets) of credit schemes of selected banks for the last five years. This study is divided into two parts. In the first part, bank-wise as well as year-wise comparisons are done with the help of Compound Annual Growth Rate (CAGR), mean and standard deviation; and in the second part, a positive relationship is found between total loan disbursement and total NPA O/S of selected banks with the help of a correlation technique. The study found a positive relationship between total loan disbursement and total Non-Performing Assets Outstanding (NPA O/S) of selected banks.

Paroma Sanyal and Rashmi Shankar (2008) conducted a study on **"Ownership, Competition and Bank Productivity: An Analysis of Indian Banking in the Post-Reform Period"**. Focused on the bank productivity growth after liberalization shows an increasing trend. For Indian banks, especially the Public Sector Banks, the Government often bails out ailing entities by pumping money into them. This is almost a 'free' injection of cash into their system and measures of profitability may thus be contaminated and not contain appropriate information about performance. It is measured by the total factor productivity which is essentially the difference between the output and input of a bank. It is concluded from the study that, the banking reforms were primarily aimed at increasing the efficiency of the large public banks and the preliminary evidences were presented that they may not have been successful, at least in terms of raising productivity.

Gopal and Dev (2006), were empirically analyzed the **"Productivity and Profitability of Selected Public and Private Sector Banks in India"**. They evaluated the effect of globalization and liberalization on the productivity and profitability of Indian banks during the period 1996-1997 to 2003-04. The study observed that emergence of

new private sector banks as well as entry of new foreign banks in this era has thrown tremendous challenges in the form of tough competition among the Indian banks. The spirit of competition and emphasis on profitability are also forcing the PSBs towards greater profit orientation. They selected five large banks each on the basis of highest quantum of deposit mobilization from both the public and private sectors during the period under study. The ongoing reforms in the banking sector, with a thrust on transparency and efficiency have forced the Indian banking sector to adopt suitable strategies which focus on productivity and sustainability. The matter of achieving the target profitability is concerned, SBI and PNB were most successful followed by HDFC Bank and ICICI Bank but the performance of J& K Bank, Canara Bank and Bank of India was poor in terms of achievements. The study found that interest spread emerged as the only strong factor influencing the profitability. It also founds the existence of high degree of positive association between productivity and profitability during the study period speaks about the efficiency of the banks in utilizing their resources.

Ram Mohan and Ray (2004) were studied the, **"Comparing Performance of Public and Private Sector Banks: A Revenue Maximization Efficiency Approach"** made a comparison of performance among three categories of banks - public, private and foreign banks - using physical quantities of input and outputs and comparing the revenue maximization efficiency of banks during 1992-2000. The findings of the study showed that public sector banks performed significantly better than the private sector banks but in no way different from foreign banks. In this study, a comparison of public, private and foreign banks in India has been made using Data Envelopment Analysis (DEA). In DEA, physical quantities of inputs and outputs are used. Therefore measures of efficiency based on output-input quantities may be more suitable. In the Indian context, the approach of using deposits and loans as output have been appropriate in the nationalized era when maximizing these was indeed the objective of a bank. Interest expense and operating expense are treated as input when amount to maximizing revenue. Finally they concluded that the superior performance of PSBs is to be described higher technical efficiency rather than higher allocative efficiency.

Pathak (2003) has conducted a study on **"Comparing the financial performance of private sector banks"**. Since 1994-95, explained that the private sector banks have delivered a new banking experience. Looking to the growing popularity of services provided by them, their public sector counterparts have started emulating them. They studied the performance of these banks in terms of financial parameters like deposits, advances, profits, return on assets and productivity. In this paper, the study made an attempt to have an insight into the financial operation of these institutions. A sample of 5 banks has been taken for financial analysis. Financial track record of all these banks was evaluated, and their financial performance was compared. The working of all the constituents was satisfactory but the HDFC Bank emerged as a top performer among them followed closely by the ICICI Bank.

Research Methodology

CHAPTER III
RESEARCH METHODOLOGY

Research commonly refers to a search for knowledge. Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. Research consists of various steps that are generally adopted by a researcher in studying the research problem along with the logic behind them. This chapter has been divided into various sessions as follow,

3.1 Selection of the Sample

3.2 Period of the Study

3.3 Sources of Data

3.4 Tools and Techniques used for Data Analysis

3.1 Selection of the Sample

On the basis of ten years average profitability, top two banks in both the public sector and in private sector banks are selected as sample units for the study.

3.2 Period of the Study

The study covers a period of ten financial years from 2006-2007 to 2014-2015.

3.3 Sources of Data

The main source of the data is secondary data. The secondary data were collected from the RBI website, annual reports of the banks, relevant journals and reports.

3.4 Tools and Techniques Used for Data Analysis

To draw meaningful inferences, a sound methodology accompanied by appropriate tools and techniques of analysis is necessary.

3.4.1 Ratio Analysis

Ratio analysis was carried on a management efficiency and earnings quality to find out the actual performance of the banks individually and collectively among its group. The ratios were calculated for the individual banks for ten year period of 2006-07 to 2014-15 and then the average of individual banks was calculated year wise. Thereafter, from this individual figure the average ratios for the group were calculated. Therefore, the calculated ratios reveal a true and fair representation of each group. The study uses following ratios to assess the efficiency and quality of select public and private sector banks.

3.4.1.1 Management Efficiency

Management efficiency means adherence to set norms, knack to plan and be proactive in the dynamic environment, leadership, innovativeness and administrative competence of the bank. The management of the banks takes crucial decisions depending on its risk perception. This parameter is used to evaluate management efficiency as to assign premium to better quality banks and discount poorly managed ones. The ratios that are used to evaluate management efficiency are:

- Business per Employee
- Profit per Employee
- Credit Deposit Ratio
- Return on Net Worth

1. **Business per Employee**

Ratio of sales at a company in relation to the amount of current employees. The figure is computed by taking the total earnings of a company and dividing it by number of current employees.

$$\text{Business per Employee} = \frac{\text{Total Business}}{\text{No of Employees}}$$

$$\text{Total Business} = \text{Total Advances} + \text{Total Deposits}$$

2. Profit per Employee

The financial ratio profit per employee is a measure of management efficiency. Profit per employee takes the bank's net profit from the profit and loss account and divides it by the number of employees needed to produce that revenue

$$\text{Profit per Employee} = \frac{\text{Net Profit}}{\text{No of Employees}}$$

3. Credit Deposit Ratio

The credit deposit ratio is the ratio of credit to deposits. Credit refers to loans which have been advanced by the bank to members. Deposit refers to money entrusted with the bank for safe keeping and investment purpose.

$$\text{Credit Deposit Ratio} = \frac{\text{Total Advances}}{\text{Total Deposits}} \times 100$$

4. Return on Net Worth

This ratio measures the overall profitability, the operational efficiency and borrowing policy of the enterprise. It indicates the relationship of net profit with capital employed in the business. The primary objective of business is to maximize its earnings and this ratio indicates the extent to which this primary objective of business is being achieved.

$$\text{Return on Net Worth} = \frac{\text{Net Profit}}{\text{Shareholder's Fund}} \times 100$$

3.4.1.2 Earnings Quality

Strong earnings and profitability profile of banks reflects the ability to support present and future operations. More specifically, this determines the capacity to absorb losses, finance its expansion, pay dividends to its shareholders and build an adequate level of capital. Being front line of defense against erosion of the capital base from losses, the need for high earnings and profitability can hardly be overemphasized. The following ratios measure earnings quality:

- Return on Assets
- Net Interest Margin (NIM) to Total Assets
- Operating Profit to Total Assets
- Interest Income to Total Income

1. Return on Assets

Return on assets is defined as net income divided by total assets. Higher return on asset means greater returns earned on assets deployed by the bank. This ratio measures the return on assets employed or efficiency in utilization of the assets.

$$\text{Return on Assets} = \frac{\text{Net Profit}}{\text{Average Total Assets}} \times 100$$

2. Net Interest Margin (NIM) to Total Assets

Net interest margin is divided as net interest income by average assets that should be whole divided by total assets. Net interest income is defined as the difference between interest earned and interest expended. It is one of the important indicators to determine the profitability of banks. The ratio furnishes a cushion for meeting expenses of management and administration. A higher spread indicates better earnings quality of the bank.

$$\text{Net Interest Margin (NIM) to Total Assets} = \frac{\text{Net Interest Income / Average Assets}}{\text{Total Assets}} \times 100$$

$$\text{Net Interest Income} = \text{Total Interest Earned} - \text{Total Interest Expended}$$

3. Operating Profit to Total Assets

Operating profit from a firm is primary business operations, excluding extraordinary income and expenses. It gives a more accurate picture of a firm's profitability than gross income. Operating profit also called operating margin. This ratio

represents the operating profit per unit of working funds. Working funds refer to total assets of the bank.

$$\text{Operating Profit to Total Assets} = \frac{\text{Operating Profit}}{\text{Total Assets}} \times 100$$

$$\text{Operating Profit} = \text{Net Profit} + \text{Non-Operating Expenses} - \text{Non-Operating Income}$$

4. Interest Income to Total Income

Interest income is the difference between the revenue that is generated from a bank's assets and the expenses associated with paying out its liabilities. A typical bank's assets consist of all forms of personal and commercial loans, mortgages and securities. The liabilities are, of course, the customer deposits. The excess revenue that is generated from the spread between interest paid out on deposits and interest earned on assets is the interest income.

$$\text{Interest Income to Total Income} = \frac{\text{Interest Received} - \text{Interest Paid}}{\text{Total Income}} \times 100$$

3.4.2 Summary Statistics

The management efficiency and earnings quality ratios are analyzed with help of summary statistics like arithmetic mean, standard deviation and coefficient of variation.

3.4.2.1 Arithmetic Mean

A measure of the central tendency of a data set, the mean is the average value in a data set. It is determined by adding all the values and dividing the sum by the number of values in the data set.

$$\text{Mean} = \frac{\sum X_i}{n}$$

where $i = 1, 2, 3 \ldots n$,

n = number of samples

3.4.2.2 Standard Deviation

The standard deviation (SD) is less affected than the range by extreme and untypical values. It is a very accurate measurement for showing how closely the values in a list cluster around or diverge from the average. The standard deviation is lower if the values cluster closely around the mean and becomes higher the more they diverge from it. For the mathematically inclined, the Standard Deviation is defined as the square root of the variance, or

$$\text{Standard Deviation} = \sqrt{\frac{\sum (X - \overline{X})^2}{n}}$$

= Sum of squares of deviation taken from an arithmetic average number of items.

3.4.2.3 Co-efficient of Variation

The co-efficient of variation (CV) is a measure of dispersion of a probability distribution. It is defined as the ratio of the standard deviation to the mean. The coefficient of variation is a dimensionless number that allows comparison of the variation of populations that have significantly different mean values. It is used in this study, to check the consistency of the variables among the selected bank groups.

$$CV = \frac{SD}{Mean} \times 100$$

3.4.3 Correlation Analysis

Correlation analysis is applied to study the ratios of management efficiency and earnings quality of select public and private sector banks in India. It also used to study the overall comparison of management efficiency and earnings quality of banks.

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

3.4.4 ANOVA

ANOVA stands for analysis-of-variance, a statistical model meant to analyze data. Generally the variables in an ANOVA analysis are categorical, not continuous. The term main effect is used in the ANOVA context. The main effect of x seems to mean the result of an F test to see if the different categories of x have any detectable effect on the dependent variable on average. ANOVA is applied to test the significant difference in management efficiency and earnings quality of public and private sector banks in India.

Analysis and Interpretation

CHAPTER IV

ANALYSIS AND INTERPRETATION

The present chapter focuses to study the Management Efficiency and Earnings Quality of select Commercial Banks by adopting various statistical tools like mean, standard deviation, co-efficient of variation, correlation analysis and ANOVA. The findings of the current study "A Comparative Study on Management Efficiency and Earnings Quality of Select Public and Private Sector Banks in India" are discussed with the help of following objectives:

- To analyse the management efficiency of public sector and private sector banks.
- To examine the earnings quality of public sector and private sector banks.
- To make a comparison on management efficiency and earnings quality of select public sector and private sector banks.

4.1 Management Efficiency of Public Sector Banks and Private Sector Banks

The bank management efficiency guarantees the growth and survival of a bank. It involves analysis of efficiency of management in generating business (top-line) and in maximizing profits (bottom-line). The management of the banks takes crucial decisions depending on its risk perception. The following ratios are considered to capture the possible dynamics of management efficiency which affects the financial performance of the banks.

1. Business per Employee
2. Profit per Employee
3. Credit Deposit Ratio
4. Return on Net Worth

4.1.1 Business per Employee

It is used as a tool to measure the efficiency of all the employees of a bank in generating business for the bank. This can be done by dividing overall business generated per head of the employees working in each of the banks. The higher the ratio signifies better managerial capability and the better financial performance of the bank.

Table 1

Ratio of Business per Employee

(Rs in Lakhs)

Years	Public Sector Banks		Private Sector Banks	
	State Bank of India	Punjab National Bank	ICICI Bank	HDFC Bank
2006	4.6208	3.3621	12.8261	6.1036
2007	6.0605	4.1492	13.5878	5.3642
2008	7.6986	5.1492	14.7681	4.2556
2009	8.5594	6.7380	10.1859	4.5869
2010	9.9150	7.7503	11.3799	5.6556
2011	10.1463	10.6182	9.0422	6.6207
2012	11.9656	11.0379	9.8509	6.7403
2013	13.2284	11.5274	10.3882	7.8289
2014	15.3901	13.0707	10.3405	13.4070
2015	16.8676	13.4699	12.1497	10.9285
Average	**10.4452**	**8.6873**	**11.4519**	**7.1419**

Source: Computed Data

Table 1 shows the business per employee of both the public and private sector banks from the year 2006 to 2015. In State Bank of India, the business per employee shows that there is a gradual increase from 2006 (4.6208) to 2015 (16.8676) and it also shows that the business per employee is higher in the year 2015 (16.8676). In Punjab National Bank, the business per employee shows a gradual increase from 2006 (3.3621) to 2011 (10.6182) and there is a constant increase from the year 2012 (11.0379) to 2013 (11.5274) and also showed slight increase from the year 2014 (13.0707) to 2015 (13.4699). It also shows that the business per employee is higher in the year 2015 (13.469). In ICICI Bank, the business per employee showed a slightly increase from the year 2006 (12.8261) to 2008 (14.7681) and slightly decreased from the year 2009 (10.1859) to 2012 (9.8509) and increased to 12.1497 in 2015. It also shows that the business per employee is higher in the year 2008 (14.7681). In HDFC bank, the business per employee shows slight decrease from the year 2006 (6.1036) to 2010 (5.6556) and

there is a gradual increase from the year 2011 (6.6207) to 2014 (13.4070) and decreased to 10.9285 in 2015. It also shows that the business per employee is higher in the year 2014 (13.4070).

The comparison of public sector banks, the business per employee is higher for State Bank of India in the year 2015 (16.8676) than Punjab National Bank in the year 2015 (13.469). While comparing the private sector banks, the business per employee is higher for ICICI Bank in the year 2008 (14.7681) than HDFC Bank in the year 2014 (13.4070).

The overall comparison of all the banks, the business per employee of ICICI Bank is higher, supported by the highest average ratio of 11.4519.

The ratio of business per employee of the public and private sector banks is illustrated in Figure 1.

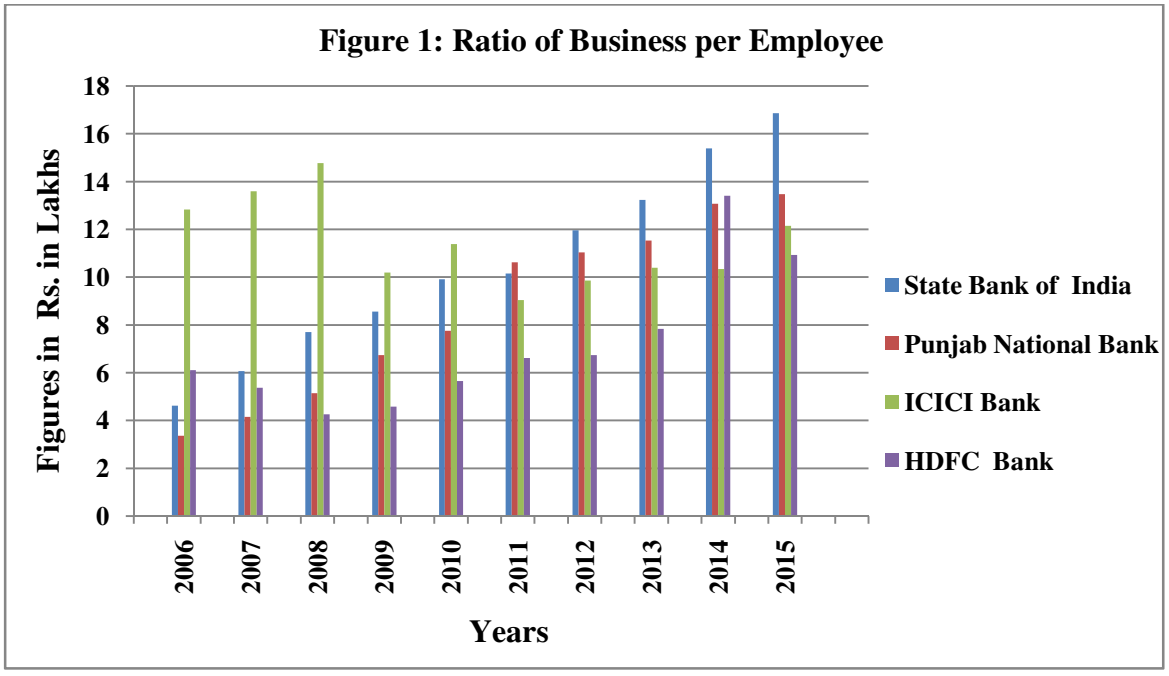


Table 2

Business per Employee

(Rs in Lakhs)

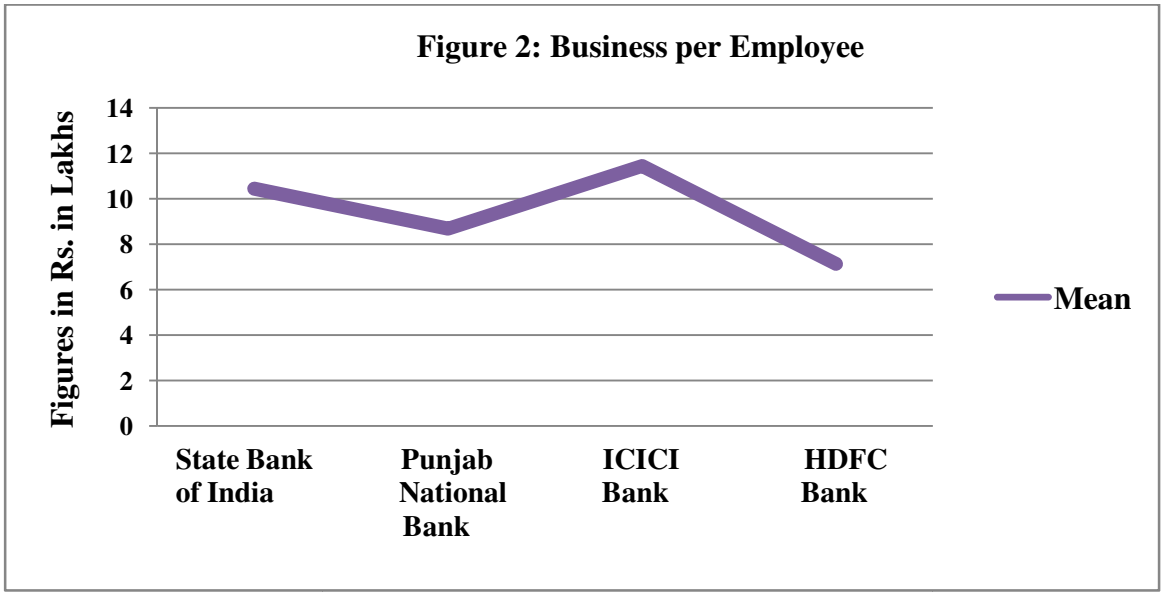
Particulars	Public Sector Banks		Private Sector Banks	
	State Bank of India	Punjab National Bank	ICICI Bank	HDFC Bank
Mean	10.4452	8.6873	11.4519	7.1419
Standard deviation	3.9493	3.7350	1.8342	2.9021
Co-efficient of Variation	37.8097	42.9937	16.0165	40.6348

Source: Computed Data

Table 2 shows that the mean value is higher for State Bank of India (10.4452) than Punjab National Bank (8.6873) in public sector banks and in private sector banks the mean value is higher for ICICI Bank (11.4519) than HDFC Bank (7.1419). The overall comparison of all the banks, the mean value of ICICI Bank (11.4519) is higher, supported by standard deviation (1.8342) and co-efficient of variation (16.0165).

The mean value of business per employee of public and private sector banks is illustrated in Figure 2.

Figure 2: Business per Employee



4.1.2 Profit per Employee

Profit per employee is a measure of how efficiently a bank is utilizing its employees. It is arrived at by dividing the Net Profit earned by the bank by the total number of employees. It also gives valuable inputs to assess the real strength of a bank's branch network. The higher the ratio, the higher is the efficiency of the management. In general, rising revenue per employee is a positive sign that suggests the bank in finding ways to squeeze more sales revenue out of each employee.

Table 3

Ratio of Profit per Employee

(Rs in Lakhs)

Years	Public Sector Banks		Private Sector Banks	
	State Bank of India	Punjab National Bank	ICICI Bank	HDFC Bank
2006	0.0286	0.0269	0.0909	0.0993
2007	0.0378	0.0331	0.0717	0.1218
2008	0.0520	0.0422	0.0886	0.0921
2009	0.0547	0.0631	0.0757	0.0922
2010	0.0610	0.0748	0.1310	0.1257
2011	0.0504	0.0917	0.1405	0.1550
2012	0.0758	0.0873	0.2049	0.1755
2013	0.0841	0.0864	0.2728	0.2236
2014	0.0716	0.0644	0.3046	0.3976
2015	0.0880	0.0584	0.4051	0.3396
Average	**0.0604**	**0.0628**	**0.1786**	**0.1822**

Source: Computed Data

Table 3 discloses the profit per employee of both the public and private sector banks for the year 2006 to 2015. In State Bank of India, the profit per employee showed a gradual increase from 2006 (0.0286) to 2013 (0.0841) and slightly decreased to 0.0716 in 2014 and increased to 0.0880 in 2015. It also shows that the profit per employee is higher in the year 2015 (0.0880). In Punjab National Bank, the profit per employee is increased

from the year 2006 (0.0269) to 2011 (0.0917) and starts declining from the year 2012 (0.0873) to 2015 (0.0584). It also shows that the profit per employee is higher in the year 2011 (0.0917). In ICICI Bank, the profit per employee is decreased from the year 2006 (0.0909) to 2007 (0.0717) and starts increasing from the year 2008 (0.0886) to 2015 (0.4051). It also shows that the profit per employee is higher in the year 2015 (0.4051). In HDFC bank, the profit per employee is increased from the year 2006 (0.0993) to 2014 (0.3976) and decreased to 0.3396 in 2015. It also shows that the profit per employee is higher in the year 2014 (0.3976).

The comparison of public sector banks, the profit per employee is higher for Punjab National Bank in the year 2011 (0.0917) than State Bank of India in the year 2015 (0.0880). The comparison of private sector banks, the profit per employee is higher for ICICI Bank in the year 2015 (0.4051) than HDFC Bank in the year 2014 (0.3976).

The overall comparison of all the banks, the profit per employee of HDFC is higher, supported by the average ratio of 0.1822.

The ratio of profit per employee of the public and private sector banks is illustrated in Figure 3.

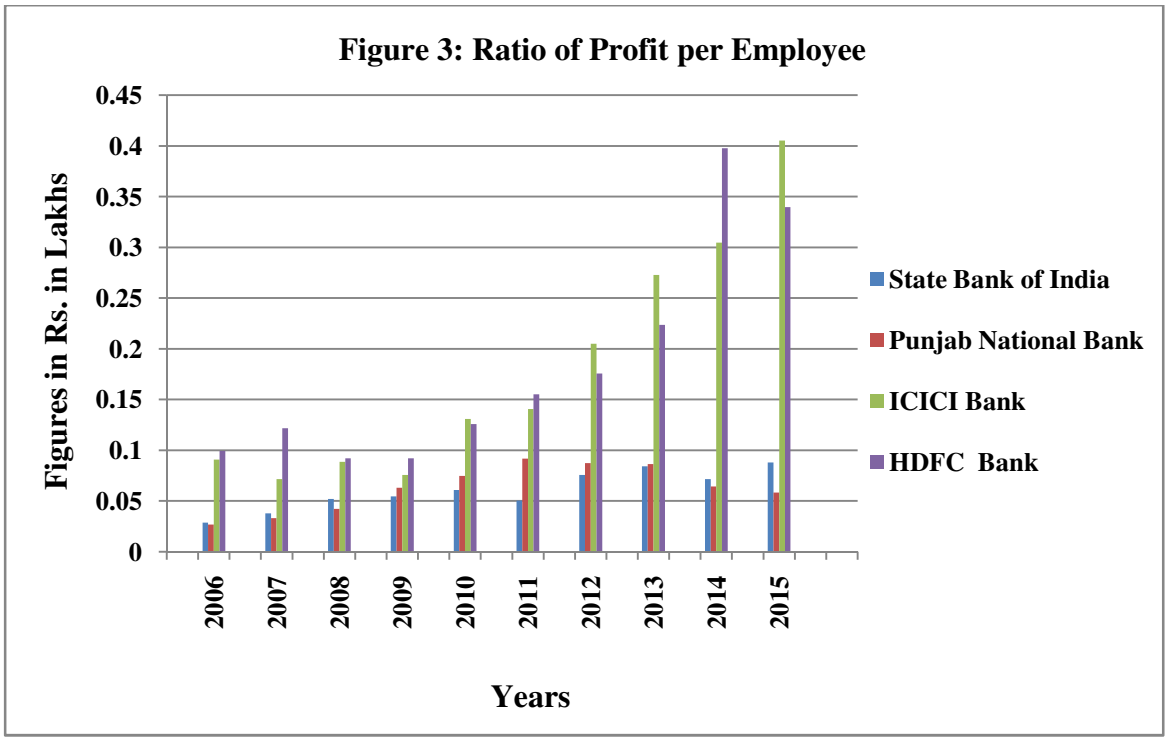


Table 4

Profit per Employee

(Rs in Lakhs)

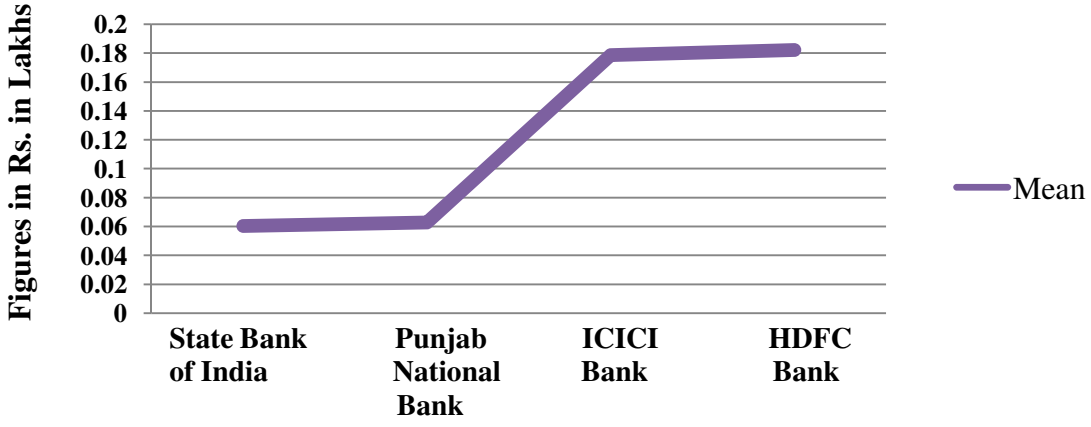
Particulars	Public Sector Banks		Private Sector Banks	
	State Bank of India	Punjab National Bank	ICICI Bank	HDFC Bank
Mean	0.0604	0.0628	0.1786	0.1822
Standard deviation	0.0194	0.0229	0.1146	0.1072
Co-efficient of Variation	32.1192	36.4649	64.1657	58.8364

Source: Computed Data

Table 4 shows that the mean value is higher for Punjab National Bank (0.0628) than State Bank of India (0.0604) in public sector banks. In private sector banks the Mean value is higher for HDFC Bank (0.1822) than ICICI Bank (0.1786). The overall comparison of all the banks, the mean value of HDFC Bank (0.1822) is higher, supported by standard deviation (0.1072) and co-efficient of variation (58.8364).

The mean value of profit per employee of public and private sector banks is illustrated in Figure 4.

Figure 4: Profit per Employee



4.1.3 Credit Deposit Ratio

The credit deposit ratio is a commonly used statistic for assessing a bank's liquidity by dividing the banks total advances by its total deposits. This can be expressed in terms of percentage. If this ratio is higher a larger percentage of deposits mobilized are lent to different sectors and it will lead to an improvement in profitability of banks.

Table 5

Ratio of Credit Deposit

(in Per cent)

Years	Public Sector Banks		Private Sector Banks	
	State Bank of India	Punjab National Bank	ICICI Bank	HDFC Bank
2006	68.8344	62.9712	88.7945	62.8952
2007	76.5844	69.9375	82.1145	68.7691
2008	77.6930	72.8332	86.9534	63.0289
2009	74.1473	75.2179	101.6324	69.4223
2010	77.8799	76.0012	93.4619	75.4120
2011	80.1554	78.3433	98.8087	77.2161
2012	82.2562	78.3923	103.6087	80.6513
2013	85.5724	80.2552	104.8300	83.5028
2014	85.8294	79.3734	107.7407	85.9263
2015	82.4278	78.5284	113.6116	85.1480
Average	**79.1380**	**75.1853**	**98.1556**	**75.1972**

Source: Computed Data

Table 5 illustrates the credit deposit ratio of both the public and private sector banks for the year 2006 to 2015. In State Bank of India, the credit deposit ratio shows a gradual increase from 2006 (68.8344) to 2008 (77.6930) and slightly decreased to 74.1473 in 2009 and increased from 2010 (77.8799) to 2014 (85.8294) and decreased to 82.4278 in 2015. It also shows that the credit deposit ratio is higher in the year 2014 (85.8294). In Punjab National Bank, the credit deposit ratio is increased from the year

2006 (62.9712) to 2013 (80.2552) and starts declining in the year 2014 (79.3734) and 2015 (78.5284). It also shows that the credit deposit ratio is higher in the year 2013 (80.2552). In ICICI Bank, the credit deposit ratio is decreased from the year 2006 (88.7945) to 2008 (86.9534) and increased to 101.6324 in 2009 and decreased to 93.4619 in 2010 and starts increasing from 2011 (98.8087) to 2015 (113.6116). It also shows that the credit deposit ratio is higher in the year 2015 (113.6116). In HDFC bank, the credit deposit ratio is increased from the year 2006 (62.8952) to 2007 (68.7691) and decreased in the year 2008 (63.0289) and starts increasing from the year 2009 (69.4223) to 2014 (85.9263) and decreased to 85.1480 in 2015. It also shows that the credit deposit ratio is high in the year 2014 (85.9263).

While comparing the public sector banks, the credit deposit ratio is higher for State Bank of India in the year 2014 (85.8294) than Punjab National Bank in the year 2013 (80.2552) and the comparison of private sector banks, the credit deposit ratio is higher for ICICI Bank in the year 2015 (113.6116) than HDFC Bank in the year 2014 (85.9263).

The overall comparison of all the banks, the credit deposit ratio of ICICI Bank is higher, supported by the average ratio of 98.1556.

The ratio of credit deposit ratio of the public and private sector banks is illustrated in Figure 5.

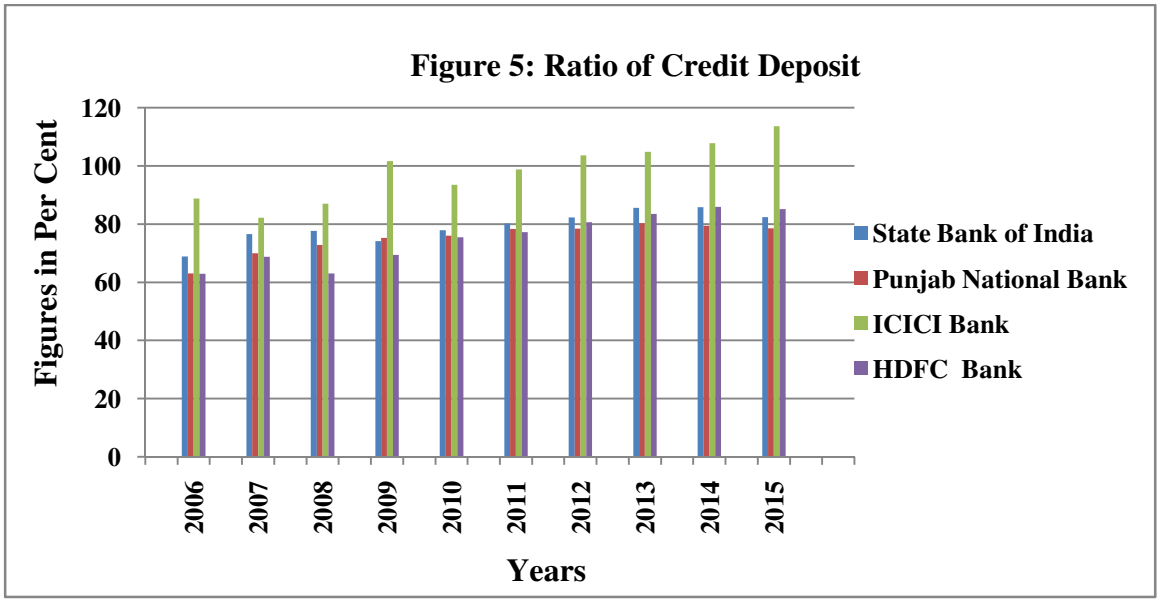


Table 6

Credit Deposit

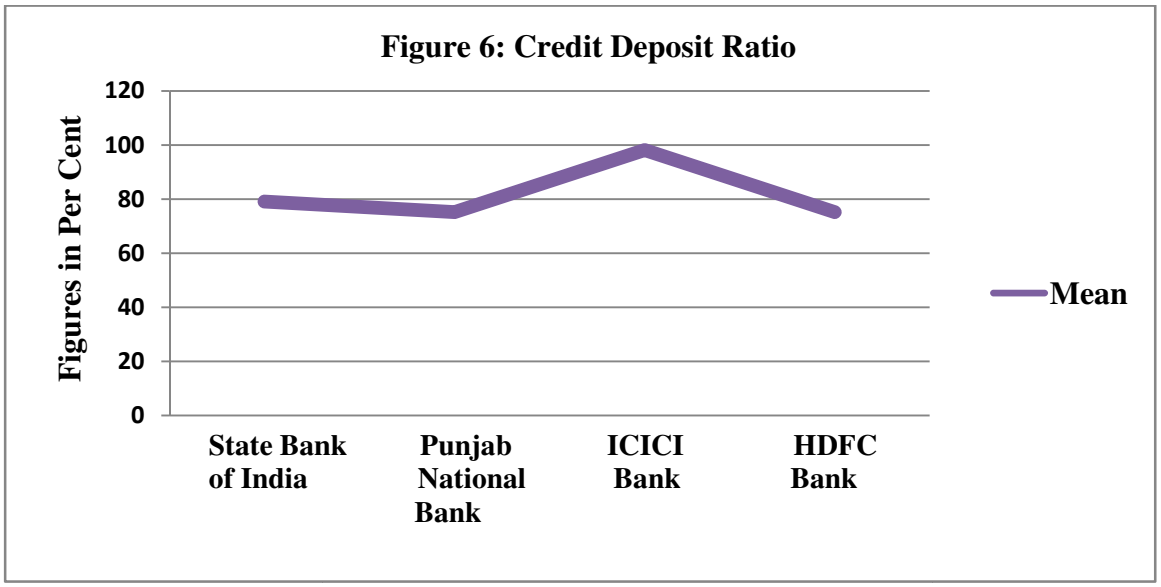
(in Per cent)

Particulars	Public Sector Banks		Private Sector Banks	
	State Bank of India	Punjab National Bank	ICICI Bank	HDFC Bank
Mean	79.1380	75.1853	98.1556	75.1972
Standard deviation	5.2601	5.3499	10.0555	8.7626
Co-efficient of Variation	6.6467	7.1156	10.2444	11.6528

Source: Computed Data

From Table 6 it is clear the mean value is higher for State Bank of India (79.1380) than Punjab National Bank (75.1853) in public sector banks. In private sector banks the mean value is higher for ICICI Bank (98.1556) than HDFC Bank (75.1972). The overall comparison of all the banks, the mean value of ICICI Bank (98.1556) is higher, supported by standard deviation (10.0555) and co-efficient of variation (10.2444).

The mean value of credit deposit ratio of public and private sector banks is illustrated in Figure 6.



4.1.4 Return on Net Worth

Return on net worth is a measurement of profit earned on the net worth in a year. Net worth is described as the sum of capital and reserves. This ratio measures how efficiently the equity shareholders funds are being used in the business. The higher the ratio, the better is the performance and prospects of the company.

Table 7

Ratio of Return on Net Worth

(in Per cent)

Years	Public Sector Banks		Private Sector Banks	
	State Bank of India	Punjab National Bank	ICICI Bank	HDFC Bank
2006	15.3004	16.2656	10.2167	27.7472
2007	16.5025	17.6463	9.8286	40.4605
2008	15.2390	20.5238	6.8953	30.8059
2009	15.5637	24.6240	8.3359	32.1985
2010	14.7187	24.8432	10.4890	30.1842
2011	13.4639	21.5571	14.4782	33.7798
2012	15.3933	18.5833	19.4942	38.3980
2013	15.3685	15.6392	24.6279	42.3594
2014	10.7972	10.5858	28.7931	45.8274
2015	12.1135	9.3666	32.4538	41.0227
Average	**14.4461**	**17.9635**	**16.5613**	**36.2784**

Source: Computed Data

Table 7 presents the return on net worth of both the public and private sector banks for the year 2006 to 2015. In State Bank of India, the return on net worth slightly increased from 2006 (15.3004) to 2007 (16.5025) and decreased to 15.2390 in 2008 and increased to 15.5637 in 2009 and starts decreasing from 2010 (14.7187) to 2015 (12.1135). It also shows that the return on net worth is higher in the year 2007 (16.5025). In Punjab National Bank, the return on net worth is increased from the year 2006

(16.2656) to 2011 (21.5571) and starts declining from the year 2012 (18.5833) to 2015 (9.3666). It also shows that the return on net worth is higher in the year 2010 (24.8432). In ICICI Bank, the return on net worth is decreased from the year 2006 (10.2167) to 2009 (8.3359) and starts increasing from the year 2010 (10.4890) to 2015 (32.4538). It also shows that the return on net worth is higher in the year 2015 (32.4538). In HDFC bank, the return on net worth is increased from the year 2006 (27.7472) to 2007 (40.4605) and decreased in the year 2008 (30.8059) and increased to 32.1985 in 2009 and decreased to 0.1842 in 2010 and increased from 2011 (33.7798) to 2014 (45.8274) and decreased to 41.0227 in 2015.It also shows that the return on net worth is higher in the year 2014 (45.8274).

In public sector banks, the return on net worth is higher for Punjab National Bank in the year 2010 (24.8432) than State Bank of India in the year 2007 (16.5025). In private sector banks, the return on net worth is higher for HDFC Bank in the year 2014 (45.8274) than ICICI Bank in the year 2015 (32.4538).

The overall comparison of all the banks, the return on net worth of HDFC Bank is higher, supported by the average ratio of 36.2784.

The ratio of return on net worth of the public and private sector banks is illustrated in Figure 7.

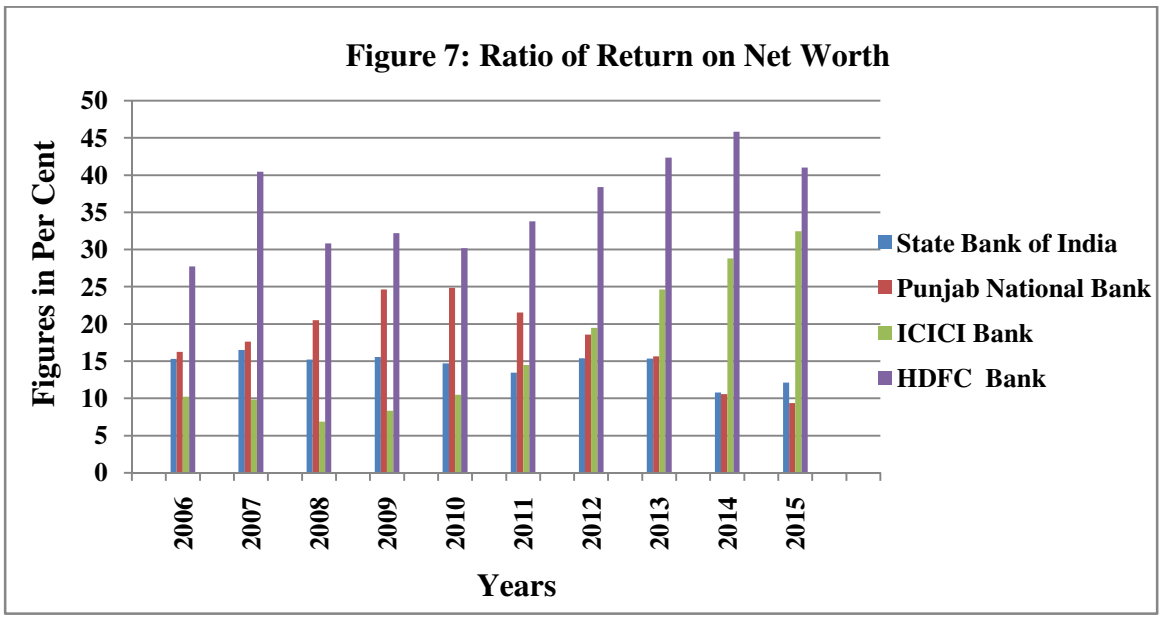


Table 8

Return on Net Worth

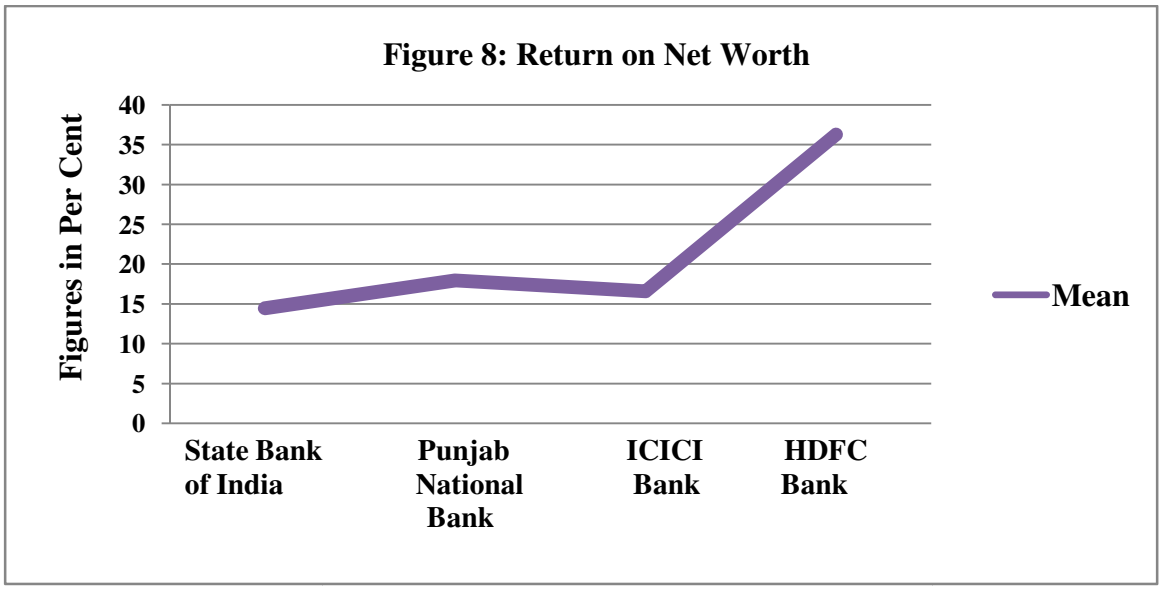
(in Per cent)

Particulars	Public Sector Banks		Private Sector Banks	
	State Bank of India	Punjab National Bank	ICICI Bank	HDFC Bank
Mean	14.4461	17.9635	16.5613	36.2784
Standard deviation	1.7757	5.2521	9.2119	6.1047
Co-efficient of Variation	12.2918	29.2376	55.6230	16.8273

Source: Computed Data

It is clear from the Table 8 the mean value is higher for Punjab National Bank (17.9635) than State Bank of India (14.4461) in public sector banks. In private sector banks the mean value is higher for HDFC Bank (36.2784) than ICICI Bank (16.5613). The overall comparison of all the banks, the mean value of HDFC Bank (36.2784) is higher, supported by standard deviation (6.1047) and co-efficient of variation (16.8273).

The mean value of return on net worth of public and private sector banks is illustrated in Figure 8.



4.2 Earnings Quality of Public Sector Banks and Private Sector Banks

This parameter lays importance on how a bank earns its profits. This also explains the sustainability and growth in earnings in the future. Earning quality represents the quality of a bank's profitability and its capability to maintain quality and earn consistently. This ratio measures the profitability or the operational efficiency of the banks. The following ratios measure the earnings quality:

1. Return on Assets
2. Net Interest Margin (NIM) to Total Assets
3. Operating Profit to Total Assets
4. Interest Income to Total Income

4.2.1 Return on Assets

Return on assets is defined as net income divided by total assets. This is the main indicator to measure the profitability of banks in international comparisons. The higher value of this ratio indicates better financial productivity of banks and lower value indicates lower productivity of banks.

Table 9

Ratio of Return on Assets

(in Per cent)

Years	Public Sector Banks		Private Sector Banks	
	State Bank of India	Punjab National Bank	ICICI Bank	HDFC Bank
2006	0.8214	1.0618	0.8452	2.0324
2007	0.8653	1.1519	0.6127	2.8985
2008	0.9125	1.1782	0.6462	2.6921
2009	0.9379	1.3797	0.8215	2.6880
2010	0.8473	1.4222	1.1109	2.9667

Continued.,

Table 9

Ratio of Return on Assets

(in Per cent)

Years	Public Sector Banks		Private Sector Banks	
	State Bank of India	Punjab National Bank	ICICI Bank	HDFC Bank
2011	0.6846	1.2724	1.5156	3.1341
2012	0.8972	1.1615	1.9950	3.4251
2013	0.9047	1.0931	1.7846	3.8329
2014	0.6670	0.7136	2.9657	4.0432
2015	0.7273	0.6308	3.3515	4.2902
Average	**0.8265**	**1.1065**	**1.5649**	**3.2003**

Source: Computed Data

Table 9 portraits that the return on assets of both the public and private sector banks for the year 2006 to 2015. In State Bank of India, the return on assets increased from 2006 (0.8214) to 2009 (0.9379) and decreased to 0.8972 in 2012 and increased to 0.9047 in 2013 and decreased to 0.6670 in 2014 and again increased to 0.7273 in 2015. It also shows that the return on assets is higher in the year 2009 (0.9379). In Punjab National Bank, the return on assets is increased from the year 2006 (1.0618) to 2010 (1.4222) and starts declining from the year 2011 (1.2724) to 2015 (0.6308). It also shows that the return on assets is higher in the year 2010 (1.4222). In ICICI Bank, the return on assets is decreased from the year 2006 (0.8452) to 2008 (0.6462) and starts increased from the year 2009 (0.8215) to 2012 (1.9950) and decreased to 1.7846 in 2013 and increasing from 2014 (2.9657) to 2015 (3.3515). It also shows that the return on assets is higher in the year 2015 (3.3515). In HDFC bank, the return on assets is increased from the year 2006 (2.0324) to 2007 (2.8985) and decreased to 2.6880 in the year 2009 and increased from 2010 (2.9667) to 2015 (4.2902). It also shows that the return on assets is higher in the year 2015 (4.2902).

The comparison of public sector banks, the return on assets is higher for Punjab National Bank in the year 2010 (1.4222) than State Bank of India in the year 2009

(0.9379). The comparison of private sector banks, the return on assets is higher for HDFC Bank in the year 2015 (4.2902) than ICICI Bank in the year 2015 (3.3515).

The overall comparison of all the banks, the return on assets of HDFC Bank is higher, supported by the average ratio of 3.2003.

The ratio of return on assets of the public and private sector banks is illustrated in Figure 9.

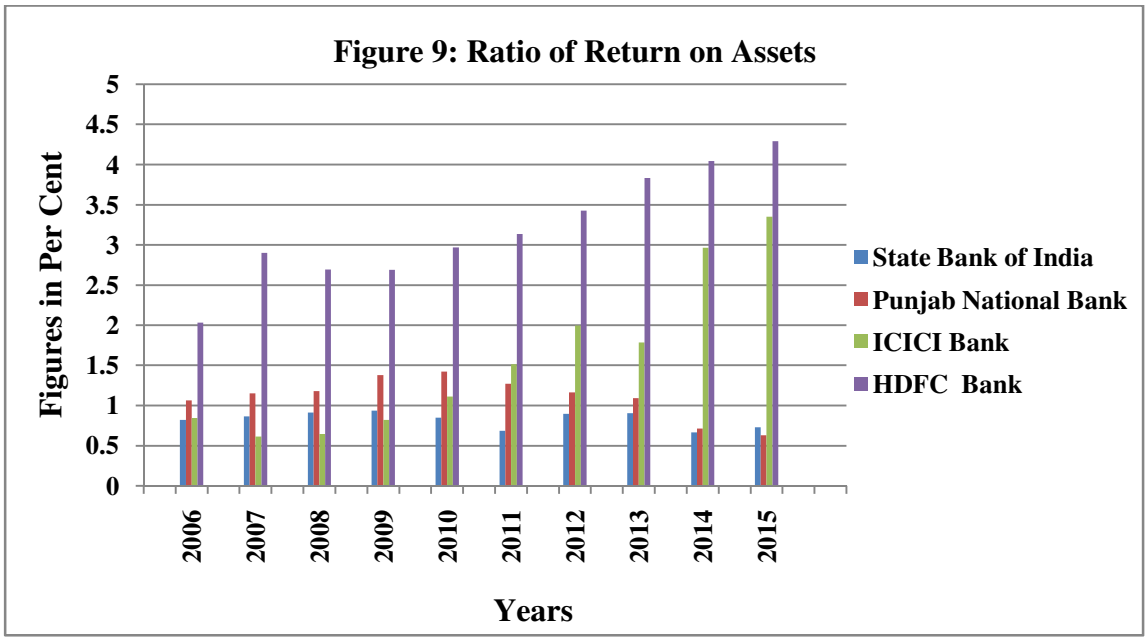


Table 10

Return on Assets

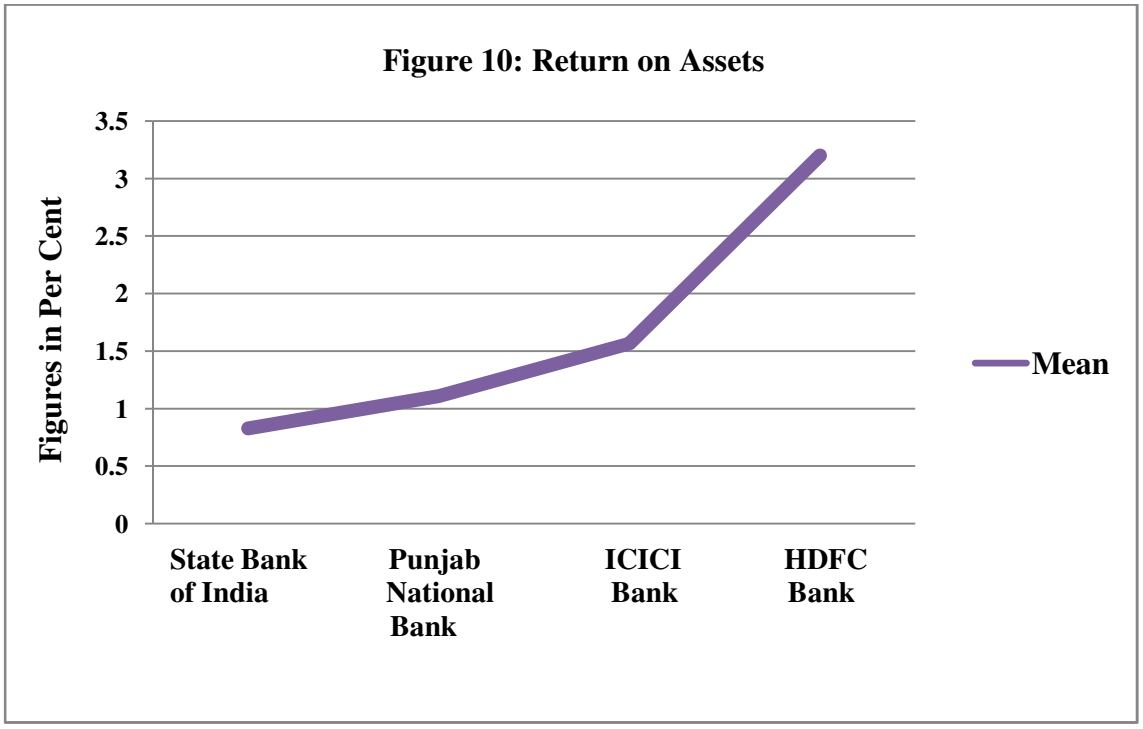
(in Per cent)

Particulars	Public Sector Banks		Private Sector Banks	
	State Bank of India	Punjab National Bank	ICICI Bank	HDFC Bank
Mean	0.8265	1.1065	1.5649	3.2003
Standard deviation	0.0990	0.2571	0.9670	0.6979
Co-efficient of Variation	11.9782	23.2354	61.7930	21.8073

Source: Computed Data

Table 10 shows that, the mean value is higher for Punjab National Bank (1.1065) than State Bank of India (0.8265) in public sector banks. In private sector banks the mean value is higher for HDFC Bank (3.2003) than ICICI Bank (1.5649). The overall comparison of all the banks, the mean value of HDFC Bank (3.2003) is higher, supported by standard deviation (0.6979) and co-efficient of variation (21.8073).

The mean value of return on assets of public and private sector banks is illustrated in Figure 10.



4.2.2 Net Interest Margin (NIM) to Total Assets

The net interest margin can be expressed as a performance metric that examines the success of a firm's investment decisions as contrasted to its debt situations. A negative net interest margin indicates that the firm was unable to make an optimal decision, as interest expenses were higher than the amount of returns produced by investments.

Table 11

Ratio of Net Interest Margin (NIM) to Total Assets

(in Per cent)

Years	Public Sector Banks		Private Sector Banks	
	State Bank of India	Punjab National Bank	ICICI Bank	HDFC Bank
2006	2.2683	2.5623	3.0255	3.5269
2007	1.7670	2.5987	2.0798	2.1429
2008	1.1261	7.0603	1.8002	3.1689
2009	1.0063	5.7300	2.1348	1.5698
2010	8.0179	4.8420	2.0091	8.7178
2011	8.4532	4.1026	1.9239	6.9815
2012	8.7121	3.1392	1.8104	5.7049
2013	6.7798	3.1405	1.8524	4.9290
2014	5.9385	2.5639	1.7952	3.8129
2015	5.1769	2.1715	1.6831	3.2054
Average	**4.9246**	**3.7911**	**2.0114**	**4.3760**

Source: Computed Data

Table 11 depicts the net interest margin to total assets of both the public and private sector banks for the year 2006 to 2015. In State Bank of India, the net interest margin to total assets decreasing from 2006 (2.2683) to 2009 (1.0063) and increased from 2010 (8.0179) to 2012 (8.7121) and decreased from 2013 (6.7798) to 2015 (5.1769). It also shows that the net interest margin to total assets is higher in the year 2012 (8.7121). In Punjab National Bank, the net interest margin to total assets is increased from the year 2006 (2.5623) to 2008 (7.0603) and starts declining from the year 2009 (5.7300) to 2015 (2.1715). It also shows that the net interest margin to total assets is higher in the year 2008 (7.0603). In ICICI Bank, the net interest margin to total assets is decreased from the year 2006 (3.0255) to 2008 (1.8002) and increased to 2.1348 in 2009 and decreased from 2010 (2.0091) to 2012 (1.8104) and increased to 1.8524 in 2013 and decreased from 2014 (1.7952) to 2015 (1.6831). It also shows that the net interest margin to total assets is

higher in the year 2006 (3.0255). In HDFC bank, the net interest margin to total assets is decreased from the year 2006 (3.5269) to 2009 (1.5698) and there is a gradual increase in the year 2010 (8.7178) and decreasing from the year 2011 (6.9815) to 2015 (3.2054). It also shows that the net interest margin to total assets is higher in the year 2010 (8.7178).

The comparison of public sector banks, the net interest margin to total assets is higher for State Bank of India in the year 2012 (8.7121) than Punjab National Bank in the year 2008 (7.0603). The comparison of private sector banks, the net interest margin to total assets is higher in HDFC Bank in the year 2010 (8.7178) than ICICI Bank in the year 2006 (3.0255).

The overall comparison of all the banks, the net interest margin to total assets of State Bank of India Bank is higher with supported by the average ratio of 4.9246.

The ratio of net interest margin to total assets of the public and private sector banks is illustrated in Figure 11.

Figure 11: Ratio of Net Interest Margin (NIM) to Total Assets

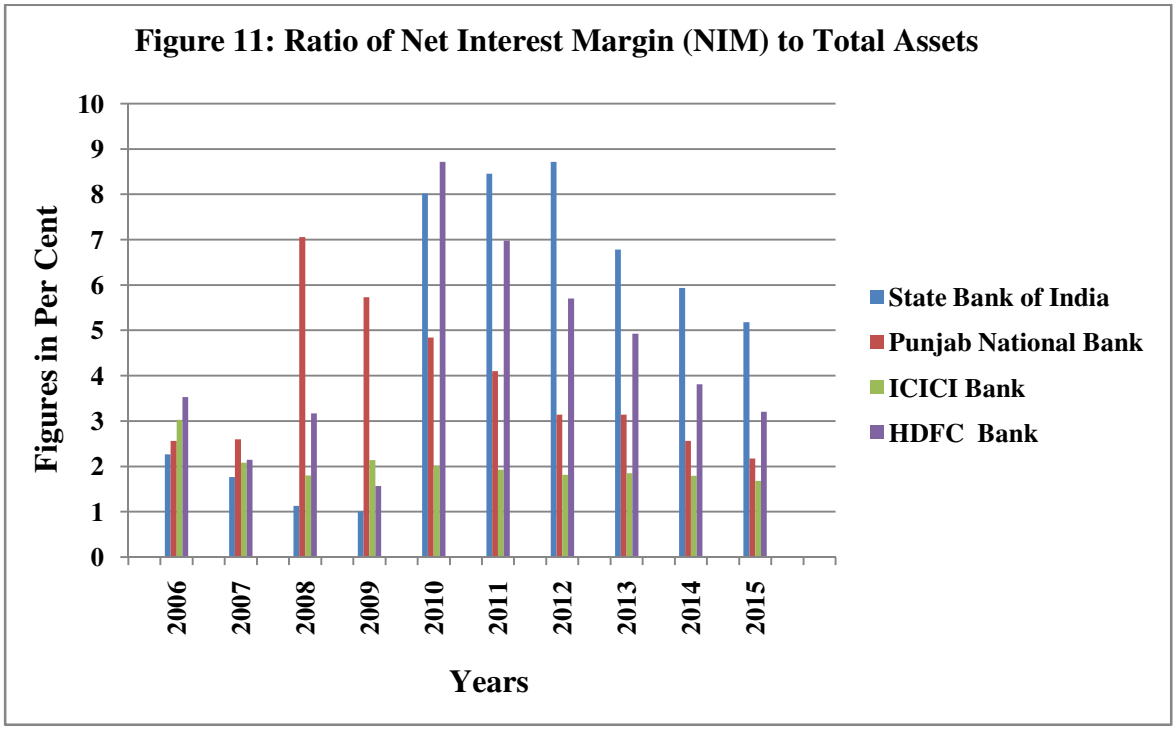


Table 12

Net Interest Margin (NIM) to Total Assets

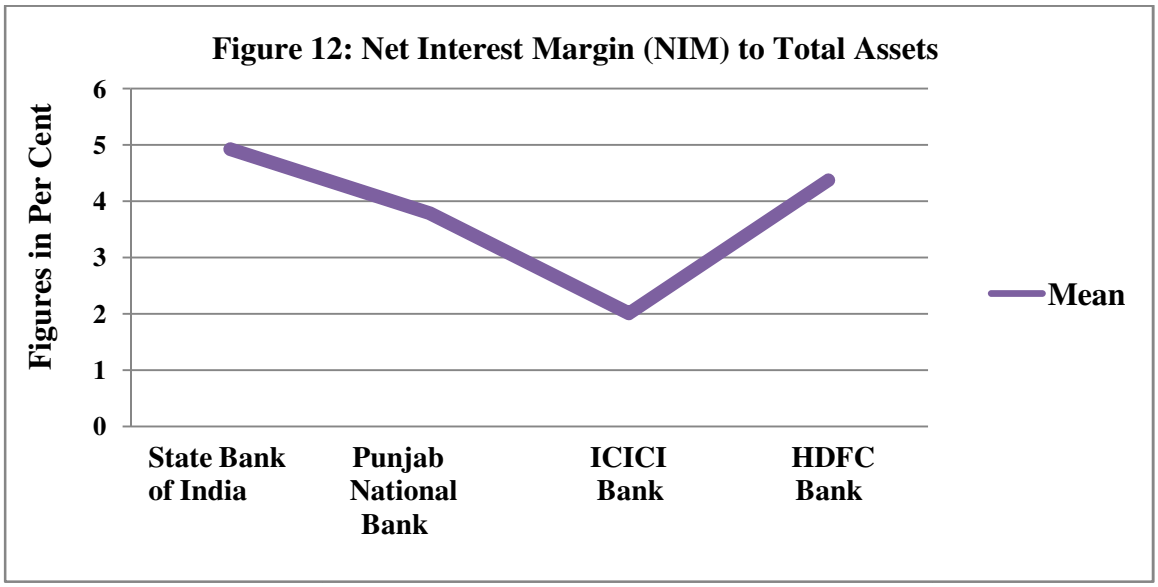
(in Per cent)

Particulars	Public Sector Banks		Private Sector Banks	
	State Bank of India	Punjab National Bank	ICICI Bank	HDFC Bank
Mean	4.9246	3.7911	2.0114	4.3760
Standard deviation	5.5492	3.1432	3.8309	7.3646
Co-efficient of Variation	112.683	95.9755	190.459	220.8143

Source: Computed Data

Table 12 reflects that the mean value is higher for State Bank of India (4.9246) than Punjab National Bank (3.2750) in public sector banks. In private sector banks the mean value is higher for HDFC Bank (3.3352) than ICICI Bank (2.0114). The overall comparison of all the banks, the mean value of State Bank of India (4.9246) is higher, supported by standard deviation (5.5492) and co-efficient of variation (112.683).

The mean value of net interest margin to total assets of public and private sector banks is illustrated in Figure 12.



4.2.3 Operating Profit to Total Assets

This ratio indicates the operating profit per unit of working funds. Working funds refers to the total resources or total assets of the bank. The higher value of this ratio indicates better profitability and lower ratio shows the lower profitability of the bank.

Table 13

Ratio of Operating Profit to Total Assets

(in Per cent)

Years	Public Sector Banks		Private Sector Banks	
	State Bank of India	Punjab National Bank	ICICI Bank	HDFC Bank
2006	2.4289	2.3156	1.0853	1.7052
2007	2.0923	2.5379	1.2424	1.1874
2008	1.5233	1.9000	1.3406	1.4980
2009	1.6329	1.7895	1.4762	1.6459
2010	1.6003	1.7597	1.1112	1.1181
2011	2.2064	2.0837	0.8224	0.9947
2012	2.4072	1.9578	0.4907	0.7371
2013	2.1086	2.2291	1.0399	0.4824
2014	2.2599	2.2793	0.0563	0.1023
2015	2.1443	2.2243	0.2371	0.0868
Average	**2.0404**	**2.1077**	**0.8428**	**0.9384**

Source: Computed Data

Table 13 describes the operating profit to total assets of both the public and private sector banks for the year 2006 to 2015. In State Bank of India, the operating profit to total assets decreased from 2006 (2.4289) to 2010 (1.6003) and decreased from 2011 (2.2064) to 2012 (2.4072) and decreased to 2.1086 in 2013 and again increased to 2.2599 in 2014 and again decreased to 2.1443 in 2015. It also shows that the operating profit to total assets is higher in the year 2006 (2.4289). In Punjab National Bank, the operating profit to total assets is increased from the year 2006 (2.3156) to 2007 (2.5379) and

decreased from 2008 (1.9000) to 2010 (1.7597) and increased to 2.0837 in 2011 and decreased in 2012 (1.9578) and increased from 2013 (2.2291) to 2014 (2.2793) and again decreased to 2.2243 in 2015. It also shows that the operating profit to total assets is higher in the year 2007 (2.5379). In ICICI Bank, the operating profit to total assets is increased from the year 2006 (1.0853) to 2009 (1.4762) and gradual decrease from 2010 (1.1112) to 2015 (0.2371). It also shows that the operating profit to total assets is higher in the year 2009 (1.4762). In HDFC bank, the operating profit to total assets is decreased from the year 2006 (1.7052) to 2007 (1.1874) and increased from 2008 (1.4980) to 2009 (1.6459) and gradual decrease from 2010 (1.1181) to 2015 (0.0868). It also shows that the operating profit to total assets is higher in the year 2006 (1.7052).

The comparison of public sector banks, the operating profit to total assets is higher for Punjab National Bank in the year 2007 (2.5379) than State Bank of India in the year 2006 (2.4289). The comparison of private sector banks, the operating profit to total assets is higher for HDFC Bank in the year 2006 (1.7052) than ICICI Bank in the year 2009 (1.4762).

The overall comparison of all the banks, the operating profit to total assets of Punjab National Bank is higher with supported by the average ratio of 2.1077.

The ratio of operating profit to total assets of the public and private sector banks is illustrated in Figure 13.

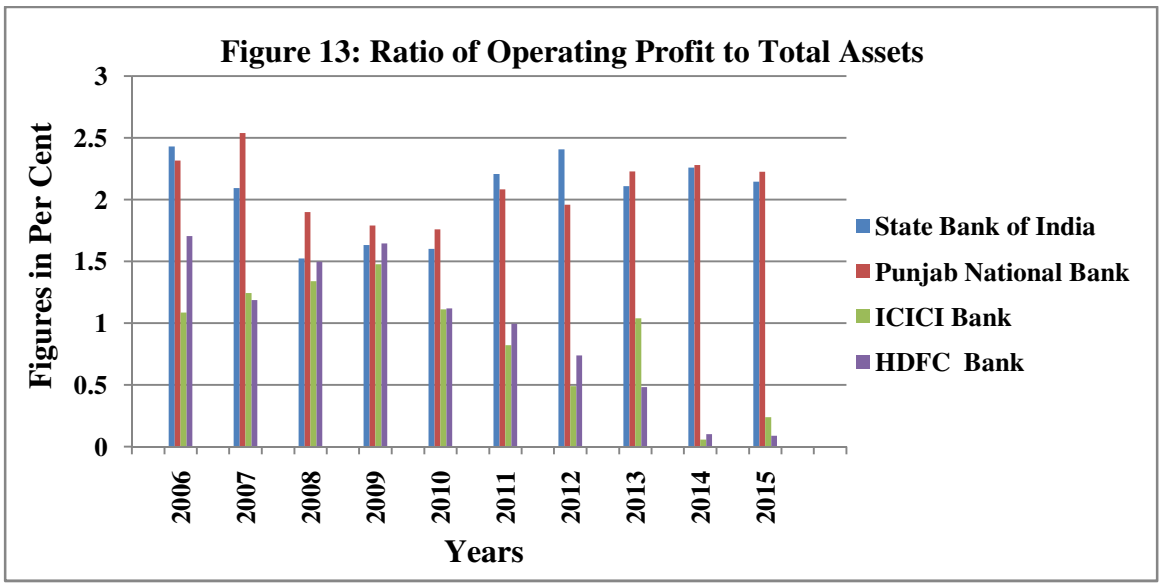


Table 14

Operating Profit to Total Assets

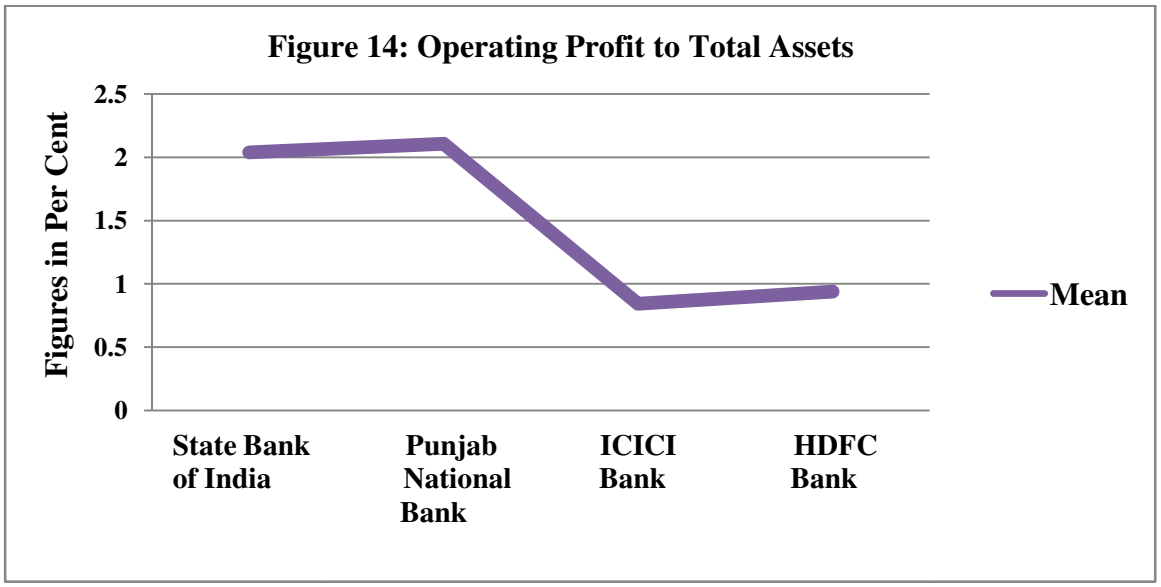
(in Per cent)

Particulars	Public Sector Banks		Private Sector Banks	
	State Bank of India	Punjab National Bank	ICICI Bank	HDFC Bank
Mean	2.0404	2.1077	0.8428	0.9384
Standard deviation	0.3344	0.2526	0.5664	0.6234
Co-efficient of Variation	16.3889	11.9846	67.2045	66.4322

Source: Computed Data

From Table 14, it is identified that the mean value is higher for Punjab National Bank (2.1077) than State Bank of India (2.0404) in public sector banks. In private sector banks the mean value is higher for HDFC Bank (0.9384) than ICICI Bank (0.8428). The overall comparison of all the banks, the mean value of Punjab National Bank (2.1077) is higher, supported by standard deviation (0.2526) and co-efficient of variation (11.9846).

The mean value of operating profit to total assets of public and private sector banks is illustrated in Figure 14.



4.2.4 Interest Income to Total Income

The interest income to total income indicates the ability of the bank in generating income from its lending. Interest income includes income on advances, interest on deposits with the RBI, and dividend income. The total income of a bank consists of interest income and non-interest income.

Table 15

Ratio of Interest Income to Total Income

(in Per cent)

Years	Public Sector Banks		Private Sector Banks	
	State Bank of India	Punjab National Bank	ICICI Bank	HDFC Bank
2006	35.6947	42.0658	17.4833	44.5084
2007	32.9018	42.7998	15.2296	42.1889
2008	25.8596	34.2361	13.7580	42.1236
2009	25.5363	31.7381	15.1145	37.1815
2010	25.5625	34.4097	15.9177	41.6148
2011	30.8095	38.5961	17.4346	43.1135
2012	32.7198	32.8403	19.4748	38.2828
2013	30.4947	32.2406	22.3695	37.5996
2014	29.7796	33.6991	24.8462	37.5784
2015	29.0706	31.6424	25.1017	38.8260
Average	**29.8429**	**35.4268**	**18.6730**	**40.3017**

Source: Computed Data

Table 15 represents the interest income to total income of both the public and private sector banks for the year 2006 to 2015. In State Bank of India, the interest income to total income decreased from 2006 (35.6947) to 2010 (25.5625) and increased from 2011 (30.8095) to 2012 (32.7198) and decreased from 2013 (30.4947) to 2015 (29.0706). It also shows that the interest income to total income is higher in the year 2006 (35.6947). In Punjab National Bank, the interest income to total income is slightly increased from

the year 2006 (42.0658) to 2007 (42.7998) and decreased from 2008 (34.2361) to 2009 (31.7381) and increased from 2010 (34.4097) to 2011 (38.5961) and slightly decreased from 2012 (32.8403) to 2013 (32.2406) and increased to 33.6991 in 2014 and again decreased to 31.6424 in 2015. It also shows that the interest income to total income is higher in the year 2007 (42.7998). In ICICI Bank, the interest income to total income is decreased from the year 2006 (17.4833) to 2008 (13.7580) and gradual increase from 2009 (15.1145) to 2015 (25.1017). It also shows that the interest income to total income is higher in the year 2015 (25.1017). In HDFC bank, the interest income to total income is decreased from the year 2006 (44.5084) to 2009 (37.1815) and increased from 2010 (41.6148) to 2011 (43.1135) and decreased from 2012 (38.2828) to 2014 (37.5784) and increased to 38.8260 in 2015. It also shows that the interest income to total income is higher in the year 2006 (44.5084).

The comparison of public sector banks, the interest income to total income is higher for Punjab National Bank in the year 2007 (42.7998) than State Bank of India in the year 2006 (35.6947). While comparison of private sector banks, the interest income to total income is higher for HDFC Bank in the year 2006 (44.5084) than ICICI Bank in the year 2015 (25.1017).

The overall comparison of all the banks, the interest income to total income of HDFC Bank is higher with supported by the average ratio of 40.3017.

The ratio of interest income to total income of the public and private sector banks is illustrated in Figure 15.

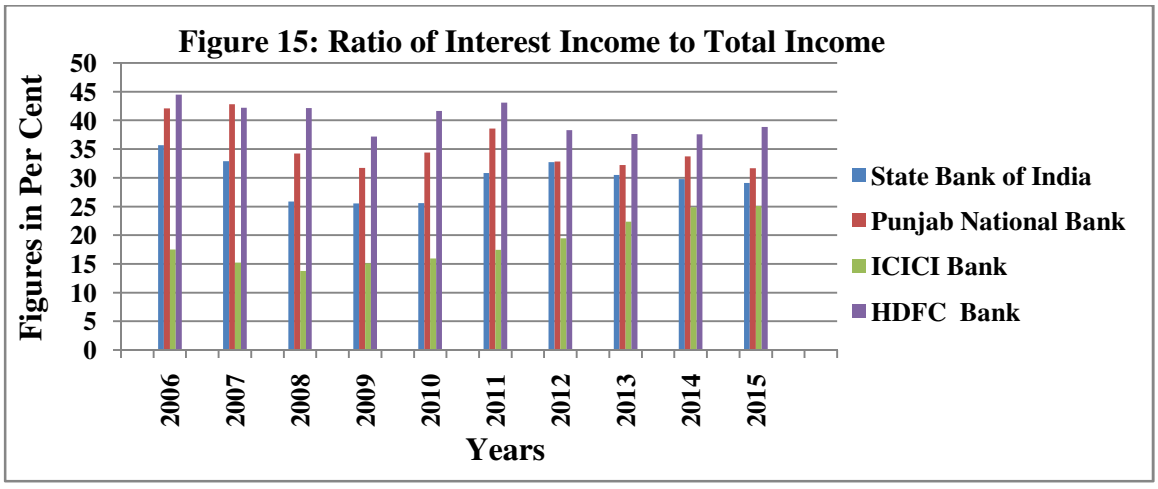


Table 16

Interest Income to Total Income

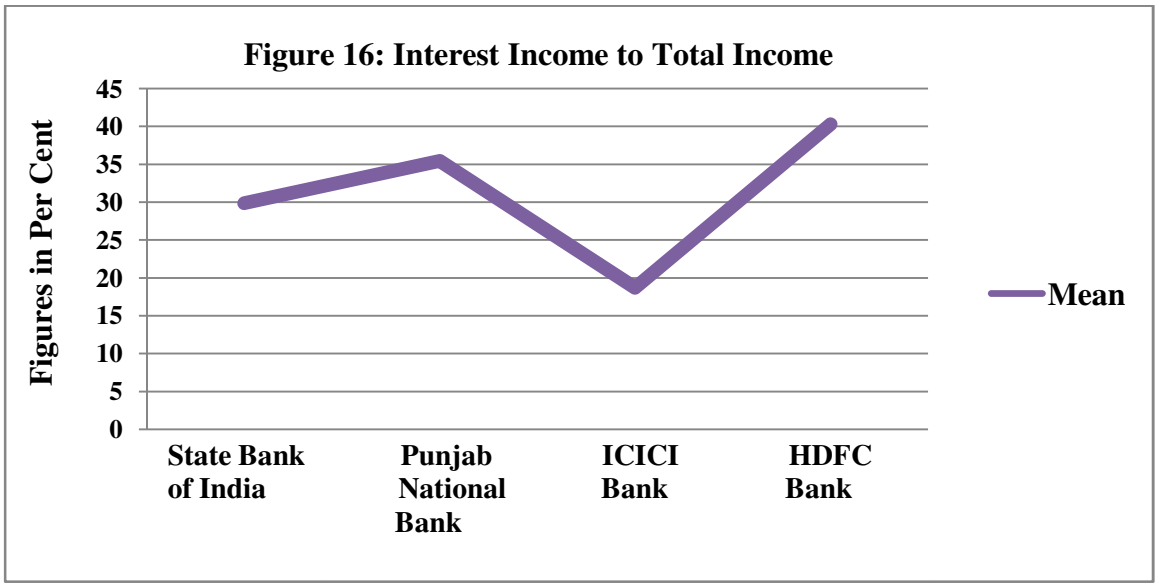
(in Per cent)

Particulars	Public Sector Banks		Private Sector Banks	
	State Bank of India	Punjab National Bank	ICICI Bank	HDFC Bank
Mean	29.8429	35.4268	18.6730	40.3017
Standard deviation	3.4411	4.1990	4.1225	2.6856
Co-efficient of Variation	11.5307	11.8526	22.0773	6.6637

Source: Computed Data

From Table 16 it is clear that the mean value is higher for Punjab National Bank (35.4268) than State Bank of India (29.8429) in public sector banks. In private sector banks the mean value is higher for HDFC Bank (40.3017) than ICICI Bank (18.6730). The overall comparison of all the banks, the mean value of HDFC Bank (40.3017) is higher, supported by standard deviation (2.6856) and co-efficient of variance (6.6637).

The mean value of interest income to total income of public and private sector banks is illustrated in Figure 16.



4.3 Correlation analysis on Management Efficiency and Earnings Quality of select Public and Private Sector Banks

Correlation analysis is applied to study the relationship between the ratios of management efficiency and earnings quality. The correlation co-efficient among the different variables has been worked out to arrive a correlation matrix, which incorporates correlation co-efficient of all the selected variables, as well as the inter correlation among different variables.

The correlation analysis on the ratio of management efficiency and earnings quality variables (M_1 to E_4) of public sector and private sector bank groups from 2006-07 to 2014-15.

4.3.1 Correlation Analysis on Management Efficiency

To identify the relationship between the ratios of management efficiency the following hypothesis is formulated.

H_{01}: There is no significant relationship between the ratios of management efficiency.

Table 17

Correlation Analysis on Management Efficiency of Public Sector Banks

	Business per Employee	Profit per Employee	Credit Deposit Ratio	Return on Net Worth
Business per Employee	1.000			
Profit per Employee	0.851**	1.000		
Credit Deposit Ratio	0.899**	0.907**	1.000	
Return on Net Worth	-0.653*	-0.193	-0.393	1.000

**Correlation is significant at the 0.01 level (p<0.01) *Correlation is significant at the 0.05 level (p<0.05)

Source: Computed Data

From Table 17, it is observed that in **management efficiency of public sector banks,** the variables profit per employee with business per employee (0.851), credit deposit ratio with business per employee (0.899) and profit per employee (0.907) have significant positive correlation. Other variable return on net worth with business per employee (-0.653) has significant negative correlation. And all other variables are not correlated with each other.

Table 18

Correlation Analysis on Management Efficiency of Private Sector Banks

	Business per Employee	**Profit per Employee**	**Credit Deposit Ratio**	**Return on Net Worth**
Business per Employee	1.000			
Profit per Employee	0.750*	1.000		
Credit Deposit Ratio	0.364	0.885**	1.000	
Return on Net Worth	0.670*	0.950**	0.859**	1.000

**Correlation is significant at the 0.01 level (p<0.01) *Correlation is significant at the 0.05 level (p<0.05)

Source: Computed Data

From Table 18, it is observed that in **management efficiency of private sector banks,** the variables profit per employee with business per employee(0.750), credit deposit ratio with profit per employee (0.885), return on net worth with business per employee (0.670), profit per employee (0.950) and credit deposit ratio (0.859) have significant positive correlation. And all other variables are not correlated with each other.

4.3.2 Correlation Analysis on Earnings Quality

To identify the relationship between the ratios of earnings quality the following hypothesis is formulated.

H_{02}: There is no significant relationship between the ratio's of earnings quality.

Table 19

Correlation Analysis on Earnings Quality of Public Sector Banks

	Return on Assets	Net Interest Margin to Total Assets	Operating Profit to Total Assets	Interest Income to Total Income
Return on Assets	1.000			
Net Interest Margin to Total Assets	0.207	1.000		
Operating Profit to Total Assets	-0.606	-0.328	1.000	
Interest Income to Total Income	-0.091	-0.406	0.742*	1.000

*Correlation is significant at the 0.05 level (p<0.05)

Source: Computed Data

From the Table 19, it is observed that in **earnings quality of public sector banks,** the variable interest income to total income with operating profit to total assets (0.742) has significant positive correlation. And all other variables are not correlated with each other.

Table 20

Correlation Analysis on Earnings Quality of Private Sector Banks

	Return on Assets	Net Interest Margin to Total Assets	Operating Profit to Total Assets	Interest Income to Total Income
Return on Assets	1.000			
Net Interest Margin to Total Assets	-0.014	1.000		
Operating Profit to Total Assets	-0.968**	-0.077	1.000	
Interest Income to Total Income	0.627	0.186	-0.714*	1.000

**Correlation is significant at the 0.01 level (p<0.01) *Correlation is significant at the 0.05 level (p<0.05)

Source: Computed Data

From the Table 20, it is observed that in **earnings quality of private sector banks,** the variables operating profit to total assets with return on assets (-0.968) and interest income to total income with operating profit to total assets (-0.714) have significant negative correlation. And all other variables are not correlated with each other.

It is identified through the correlation analysis; while studying the ratios of management efficiency and earnings quality the relationship between the variables are differ in public and private sector banks.

4.4 Analysis of Variance on Management Efficiency and Earnings Quality

The basic principle of ANOVA is to test for differences among the means of the populations by examining the amount of variation within each of these samples, relative to the amount of variation between the samples. Through ANOVA technique one can investigate any number of factors which are hypothesized or said to influence the dependent variable. One may as well investigate the differences amongst various categories within each of these factors which may have a large number of possible values. In the present study ANOVA is used to identify, whether the management efficiency is influencing the earnings quality, so the following hypothesis is formulated.

H_{03}: Management Efficiency does not influence the Earnings Quality of Banks.

Table 21

Analysis of Variance on Management Efficiency and Earnings Quality

Particulars		Sum of Squares	df	Mean Square	F	Sig.
Select Public Sector Banks	Regression	30.222	1	30.222	0.092	0.791
	Residual	658.373	2	329.186		
	Total	688.595	3			
Select Private Sector Banks	Regression	10.930	1	10.930	0.040	0.861
	Residual	552.067	2	276.033		
	Total	562.996	3			

Source: Computed Data

From the Table 20, it is found that for the select public sector banks the F value is 0.092 and P value is not found to be significant. For the select private sector banks the F value is 0.040 and P value is not found to be significant. It is found that the P value for both public and private sector banks are not significant. So the null hypothesis is accepted. Hence, it is concluded that management efficiency of both public and private sector banks does not influence the earnings quality.

4.5 Summary

This chapter attempts to analyse the management efficiency and earnings quality of select public and private sector banks. The ratio analysis was used to study the management efficiency and earnings quality. To study the relationship between the variables of management efficiency and earnings quality, the correlation analysis and ANOVA have been adopted. Finally, it is found that the private sector banks are performing well when compared to public sector banks with regards to management efficiency and earnings quality.

Findings, Suggestions and Conclusion

CHAPTER V
FINDINGS, SUGGESTIONS AND CONCLUSION

Efficiency and earnings quality of the banking sector in India have assumed primal importance due to intense competition, greater customer demands and changing banking sector reforms. The efficiency of banks leads to improved profitability, more fund intermediation, low rates, better service for customers, more safety and soundness. The main goal of banks today is to maintain stability and make sure they are impervious to external shocks while at the same time being internally sound and sensible. Hence, it is important to assess the efficiency and earnings quality of various bank groups in India.

Based on the above mentioned issues, the present study on **"A Comparative Study on Management Efficiency and Earnings Quality of Select Public and Private Sector Banks in India"** is carried out with the following objectives

- To analyse the management efficiency of public sector banks and private sector banks in India.
- To examine the earnings quality of public sector banks and private sector banks.
- To make a comparison of management efficiency and earnings quality of select public and private sector banks.

The following hypotheses were tested

- H_{01}: There is no relationship between the ratio's of management efficiency.
- H_{02}: There is no relationship between the ratio's of earnings quality.
- H_{03}: Management Efficiency does not influence the Earnings Quality of banks.

A total of 4 commercial banks consist of 2 banks under public sector and 2 banks under private sector had been selected for the study. The researcher selected banks based on the criteria that the banks should have maintained its identity and reported its accounts without any gap for the ten consecutive financial years from 2006-2007 to 2014-15.

The study is purely based on the secondary data. The data for the study has been collected from the RBI bulletins, reports on trend and progress of banking in India, schedule of commercial banks in India, report on currency and finance, statistical tables

relating to banks in India which were published by the statistical department of RBI. The collected data had been analyzed with the help of suitable statistical tools namely, ratio analysis, summary statistics, correlation analysis and ANOVA.

5.1 FINDINGS OF THE STUDY

The summary of the major findings that emerged from the analysis are given in the following heads:

- Management efficiency of public sector and private sector banks.
- Earnings quality of public sector and private sector banks.
- Comparison of management efficiency and earnings quality of select public and private sector banks.

5.1.1 Management Efficiency of Public Sector and Private Sector Banks.

Management Efficiency has been employed for assessing the efficiency of banks. The model consists of four ratios, viz., a) Business per Employee, b) Profit per Employee c) Credit Deposit Ratio and d) Return on Net Worth.

Business per Employee

ICICI Banks showed a maximum value of business per employee as 14.7681 lakhs with mean value of 11.4519 lakhs while HDFC Bank showed a minimum value of business per employee as 13.4070 lakhs with mean value of 7.1419 lakhs.

Profit per Employee

HDFC Bank witnessed a maximum value of profit per employee as 0.3976 lakhs with mean value of 0.1822 lakhs and State Bank of India witnessed a minimum value of profit per employee as 0.0880 lakhs with mean value of 0.0604 lakhs.

Credit Deposit Ratio

ICICI Bank maintained a maximum value of credit deposit ratio as 113.6116 per cent with mean value of 98.1556 per cent and Punjab National Bank has a minimum value of credit deposit ratio as 80.2552 per cent with mean value of 75.1853 per cent.

Return on Net Worth

HDFC Bank marked a maximum value of return on net worth as 45.8274 per cent with mean value of 36.2784 per cent and State Bank of India marked a minimum value of return on net worth as 16.5025 per cent with mean value of 14.4461 per cent.

5.1.2 Earnings Quality of Public Sector and Private Sector Banks

Earnings Quality has been employed for assessing the quality of banks. The model consists of four ratios, viz., a) Return on Assets, b) Net Interest Margin (NIM) to Total Assets c) Operating Profit to Total Assets and d) Return on Net Worth.

Return on Assets

HDFC Bank secured a maximum value of return on assets as 4.2902 per cent with mean value of 3.2003 per cent and State Bank of India secured a minimum value of return on assets as 0.9379 per cent with mean value of 0.8265 per cent.

Net Interest Margin (NIM) to Total Assets

State Bank of India had a maximum value of net interest margin to total assets as 8.7121 per cent with mean value of 4.9246 per cent and ICICI Bank had a minimum value of net interest margin to total assets as 3.0255 per cent with mean value of 2.0114 per cent.

Operating Profit to Total Assets

Punjab National Bank marked a maximum value of operating profit to total assets as 2.5379 per cent with mean value of 2.1077 per cent and ICICI Bank marked a

minimum value of operating profit to total assets as 1.4762 per cent with mean value of 0.8428 per cent.

Interest Income to Total Income

HDFC Bank witnessed a maximum value of interest income to total income as 44.5084 per cent with mean value of 40.3017 per cent and ICICI Bank witnessed a minimum value of interest income to total income as 25.1017 per cent with mean value of 18.6730 per cent.

5.1.3 Comparison of Management Efficiency and Earnings Quality of select Public and Private Sector Banks.

Correlation Analysis on Ratio's of Management Efficiency of Public Sector Banks

Credit deposit ratio with Profit per employee has highest Positive Correlation with the value of 0.907.

Correlation Analysis on Ratio's of Management Efficiency of Private Sector Banks

Credit deposit ratio with Profit per employee has highest positive correlation with the value of 0.885.

Correlation Analysis on Ratio's of Earnings Quality of Public Sector Banks

Interest income to total income with operating profit to total assets has highest positive correlation with the value of 0.742.

Correlation Analysis on Ratio's of Earnings Quality of Private Sector Banks

Operating profit to total assets with return on assets has highest negative correlation with the value of -0.968.

5.1.4 Analysis of Variance on Management Efficiency and Earnings Quality

It is found that for the select public sector banks the F value is 0.092 and P value is not found to be significant. For the select private sector banks the F value is 0.040 and P value is not found to be significant. It is found that the P value for both public and private sector banks are not significant. So the null hypothesis is accepted. Hence, it is concluded that management efficiency of both public and private sector banks does not influence the earnings quality.

5.2 SUGGESTIONS

On the basis of the research findings, the following suggestions are offered to improve the management efficiency and earnings quality of public and private sector banks in India.

For Public Sector Banks

- State Bank of India should concentrate to increase the value of net interest margin to total assets.
- Punjab National Bank shall have to increase the value of business per employee and profit per employee

For Private Sector Banks

- ICICI Bank should have to improve the value of return on net worth, return on assets, operating profit to total assets and interest income to total income.
- HDFC Bank shall concentrate to increase the value of credit deposit ratio.

5.3 CONCLUSION

Management efficiency and earnings quality is always playing a major role in the profitability of any sector. The private sector banks are performing well when compared to public sector banks. So, public sector banks should concentrate on the management efficiency and earnings quality to compete with private sector banks. Also, it can be concluded that the banks with least ratios need to improve their performance to come up to the desired standards. To improve their performance, the banks have to re-orient their strategies in the light of their own strength.

Bibliography

BIBLIOGRAPHY

Books

- P.N.Varshney (2009): **'Banking Law and Practice',** Sultan Chand & Sons, Educational Publishers, New Delhi, 18th Edition.
- C.R.Kothari and Gaurav Garg (2014): **'Research Methodology – Methods and Techniques',** New Age International (P) Limited, Publishers, New Delhi, 3rd Edition.

Journals

- Kumar Sunil & Gulati Rachita (2015). **"Measuring efficiency, effectiveness and performance of Indian public sector banks"**. International Journal of Productivity and Performance Management, 59.1:51-74.
- Subrahmani & Raghav (2015). **"Operational Efficiency of Banks"**. Banking in the New Millennium- Issues, Challenges and Strategies, 8.2:65-78.
- Cheenu Goel and Chitwan Bhutani Rekhii (2014). **"A Comparative Study on the Performance of Selected Public Sector and Private Sector Banks in India"**. Journal of Business Management & Social Sciences Research (JBM&SSR), 2.7:46-56.
- Jayanta Kumar Nandi (2014). **"Efficiency Analysis of Selected Public and Private Sector Banks in India through Data Envelopment Analysis"**. Journal of Commerce and Management Review, 18:1-11.
- Ahmad Zahoor and Jegadeeshwaran DM. (2013). **"Comparative Study on NPA Management of Nationalized Banks"**. International Journal of Marketing, Financial Services & Management Research, 2.8:66-78.
- Kajal Chaudhary and Monika Sharma (2013). **"Performance of Indian Public Sector Banks and Private Sector Banks: A Comparative Study"**. International Journal of Innovation, Management and Technology**,** 2.3:249-256.
- Loriya Chirag and Thakarshibhai (2014). **"A Study of Profitability Analysis of Selected Public Sector and Private Sector Banks of India"**. Global Journal for Research Analysis**,** 3:17-19.

- Samir and Deepa Kamra (2013**). "A Comparative Analysis of Non-Performing Assets (NPAs) of Selected Commercial Banks in India"**. The Indian Journal of Commerce, 3.1:68-80.
- Syed Ibrahim.M (2013). **"Growth and Working of Indian Commercial Banks: a Review"**. International Journal of Social Science Research, 1:124-132.
- Bimal Anjum and Deepika (2012). **"Technological Implementations-Path of Growth: A Comparative Study of Public and Private Sector Banks"**. Asia Pacific Journal of Marketing and Management Review, 1:34-44.
- Gurumoorthy T.R. and Sufha B (2012). **"Non-Performing Assets (A Study With Reference To Public Sector Banks)"**. Indian Journal of Applied Research, 2.2:7-9.
- Viral V. Acharya and Nirupama Kulkarni (2012). **"State Ownership and Systemic Risk: Evidence from the Indian Financial Sector during 2007-09"**. International Journal of Innovation, Management and Technology**,** 4:1-62.
- Vivek Srivastava and Deepak Bansal (2012**). "A Study of Trends of Non-Performing Assets in Private Banks in India".** International Journal in Multidisciplinary and Academic Research, 2.2:73-78.
- Debanprosanna Nandy (2010). **"Banking sector Reforms in India and Performance Evaluation of Commercial Banks"**. Journal of Productivity Analysis*,* 2:1-16.
- Vikas and Tandon Sunman (2010). **"Performance Evaluation of Public Sector Banks in India"**. Asia Pacific Journal of Research in Business Management, 1.1:1-17.
- Usha Arora, et al (2009). **"An Analytical Study of Growth of Credit Schemes of Selected Banks"**. The ICFAI University Journal of Services Marketing, 2.1:51-65.
- Paroma Sanyal and Rashmi Shankar (2008). **"Ownership, Competition and Bank Productivity".** Journal of Comparative Banking sector, 25:15-39.
- Gopal M. and Dev S. (2006). **"Productivity and Profitability of Select Public Sector and Private Sector Banks in India: An Empirical Analysis"**. The ICFAI Journal of Bank Management, 5.4:59-67.

- Ram Mohan T. T. and Ray C. (2004). **"Comparing Performance of Public and Private Sector Banks: A Revenue Maximization Efficiency Approach"**. The Journal of Commerce, 8.5:1271-1276.
- Pathak B. (2003). **"A Comparison of the Financial Performance of Private Sector Banks"**. Finance India, 17.4:1345-1356.

Websites

- www.google.com
- www.moneycontrol.com
- www.economictimes.com
- www.rbi.org