THE ANALYSIS OF FINANCIAL PERFORMANCE OF SELECTED BANKS IN INDIA (2002-2013)

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In Economics Subject
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July 2015

Declaration

I hereby declare that, a thesis entitled "THE ANALYSIS OF FINANCIAL PERFORMANCE OF SELECTED BANKS IN INDIA" (2002-2013) completed and written by me has not previously formed the basis for award of any degree or other similar title of this or other university or examining body.

Place: TMV Pune (J. J. Nagarkar)

Date: .30.04. 2015 Research Student

CERTIFICATE

This is to certify that Mr. Jeevan Jayant Nagarkar has completed successfully his research thesis entitled, “The Analysis of Financial Performance of Selected Banks in India” (2002-2013) submitted herewith for the award of the Degree of Doctor of Philosophy in Economics, under the faculty of moral and social sciences, Tilak Maharashtra Vidyapeeth, Pune. He carried out this research work under my supervision and guidance and to the best of my knowledge and belief the work embodied in this thesis has not formed earlier the basis for the award of any degree or similar title of this or other university or examining body.

Place: T.M.V. Pune. (Dr. Praveen Jadhav)

Date: 30.04.2015 Research Guide

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Place – Pune
Date- 22.07.2015

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CHAPTER – 1

Introduction to Banking business in India

1.1 Introduction

"Money in the Economy is like blood in the human body". The money also referred as finance is important for the sustenance of economic world. The flow of money in the economy determines a lot of characteristics of an economy. Robust money and capital markets are essentials of a developed society. The short term and long term needs of money of individual and institutions can be efficiently met by financial intermediaries. Commercial banks perform large part of this efficiency. Pooling of scanty deposits into a large capital base and lending it to the desirable sectors is the core of banking business. In a developing economy like India, the role of banking sector becomes even more critical. In the Initial years of economic development, were other sophisticated financial institutions were not present, banks were the only financial intermediaries which helped in bring about the change.[1] Indigenous banks and moneylenders usually tend to exploit the conditions of the underdeveloped market. The sense of confidence in the ethical functioning of financial intermediaries, in the minds of common man, was brought about by well regulated commercial banks in the beginning.

1.2 Functions of Commercial banks[2]

Banks are essentially those financial intermediaries who accept deposits for the purpose of lending.

Deposits generated through millions of people - accepting deposits of various types in one of the important function of banks. People keep money with the banks for two motives a) safe keeping of their money and b) earn some interest for parting with the money.

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[1] *L.M. Bhole& J Mahakud (2009), "Financial Institutions and Markets" Tata McGraw Hill Publishing Company, New Delhi.*

[2] *D Muraleedharan,(2013) "Modern Banking" PHI Learning Private Limited, New Delhi.*

Advances to various sectors- the second most important function of commercial banks is to lend money to individuals and institutions who need short term and long term funds. The economic growth can only be achieved through creating adequate demand in the economy with cash and borrowed money. The role of management of the bank becomes important in this since appraisal of various loan proposals, distribution of loan portfolio such that risk is minimized, and keeping social objectives in mind are critical.

Transfer of money- banks also work as system through which a lot of financial transactions are completed seamlessly. The transfer of money from one account to other account or to multiple accounts can be done without hassle.

Corporate banking- banks do the financial business of all corporate. Funds are raised by the banks for corporate clients in various forms. In fact there are specialized bank branches or subsidiaries that do this job for corporate.

Government business- a lot of welfare schemes of central and state governments are done through commercial banks. In India, State Bank of India has been playing this role for years. Now with the direct transfer of money to the beneficiaries' account would mean banks are the link between the two parties.

International banking- globalization has increased the scope of banking as never before. The increase in foreign trade from India to the rest of the world has to be facilitated by commercial banks. Indian banks are gearing up for this role.

1.3 Importance of commercial banks in economic development[3]

The role of money churning is with banks and without money flowing in the economy with right direction and quantity, it is impossible to achieve economic development.

National savings- banks generate flow of small savings and divert them to productive sectors in term of loans

[3] *Ray Partha (2013), "Monetary Policy" Oxford India Short Introduction, New Delhi*

Creator of money- credit creation capacity of banks is well established. This credit creation boosts economic development.

Capital formation- idle money obtained through saving is helpful in providing huge needs of capital by the corporate and institutions.

Entrepreneurial development- banks have special scheme to promote entrepreneurship in the economy. People with new ideas and new products can change the economy for better.

Agriculture and industrial development- both these sectors are benefitted immensely through banks.

Monetary policy – the major objectives of RBI can be achieved through banking system and periodic changes in interest rates, credit exposure limits, and foreign exchange management can be done.

1.4 Structure of Indian banking sector[4]

1.4.1 Money lenders and indigenous bankers

Before independence, for thousands of years, private money lenders and indigenous bankers dominated this sector in India. The history of banking in India is as old as trade. Even in Vedas and ancient texts the references of indigenous bankers can be found. The modern day indigenous bankers and moneylenders are believed to have exploited the masses.

1.4.2 Commercial banks

Commercial banks are financial intermediary that accepts deposits and grant short term and long term advances to their customers. Commercial banks are mainly of three types

[4] *Machiraju, H.R (2001), "Modern Commercial Banking", Vikas Publishing House P Ltd, New Delhi*

a) Public sector banks – these are the banks where the majority of the ownership is held by the Government. These banks have dominated banking space for last couple of decades.
b) Private sector banks- these are the banks where majority shareholding is with private individuals and institutions. These banks are registered as companies with limited liability. These banks have been more aggressive since the globalization process has started. It won't be an over statement if it is said that these banks brought about competition in real sense in banking sector.
c) Foreign sector banks- these are the banks whose head office is registered in foreign country. These banks operate through branches in India and in rest of the world. The number of foreign banks operating in India has been on the rise since 1991.

1.4.3 Regional Rural banks (RRBs)

Regional rural banks have actively contributed to the growth of the rural sector in India. The growth of rural industries and development of rural business and economy is largely dependent on financial aid and investment made by these banks. The area of operation is restricted by the notification of the government. Commercial banks sponsor these banks where State Bank of India has largest number of RRBs under its working.

1.4.4 Development banks

Big businesses require medium to long term capital to finance machinery, purchase of land, setting up the entire factory and so on. During the initial years of independence, the then private sector banks did not have the finances or willingness to support requirements of these big industries. To support massive industrialization and to provide techno commercial help to big industries, Government of India established a number of development financial institution (DFI). After globalization process a number of development finance institutions were given commercial banking licenses, still a number of such institutes still exists such as Industrial Finance Corporation of India (IFCI) and State Financial Corporations.

1.4.5 Cooperative banks

The cooperative banks are almost 100 years old in India. The cooperative banks play an important role in rural financing. The cooperative banks are registered under the Cooperative Societies Act. These banks are regulated by RBI. Cooperative banks usually finance activities such as, Farming, cattle, milk, hatchery, personal finance. These banks are present in urban areas as well. They finance self-employment, small industries, home finance, and consumer finance. It is in fact true that some multi state cooperative banks are more advanced compared to some public sector banks. There are three types of cooperative banks operating in the country.[5]

1.4.6 Primary credit societies

These village level societies are formed with all types of borrowers and non-borrowers as members. The activities of each society are confined to a small area to facilitate identification of defaulters by members.

1.4.7 Central cooperative banks

The operational area of these banks is confined to district level. The same district primary credit societies are members of these banks. These banks provide loan to these members. They function as link between Primary credit societies and state cooperative banks.

1.4.8 State cooperative banks

These banks function as apex cooperative banks in the respective state of the country. They mobilize funds and help in their proper channelization among various sectors. The money reaches the borrower from the state cooperative banks through the Central cooperative banks and the Primary credit societies.

5*Khan M.Y (1974), "Indian Financial System Theory & Practice", Vikas Publishing House P Ltd, New Delhi.*

1.4.9 Specialized banks

Apart from the banks mentioned above there are some specialized banks which cater to the specific requirement of a sector.

1.4.10 Export Import Bank of India (EXIM Bank)

EXIM bank provides the required support and assistance to set up a business for exporting products abroad and importing products from the foreign countries for sale in our country. The bank grants loans to exporters and importers. It also provides information about the international market and business opportunities available.

1.4.11 Small Industries Development Bank of India (SIDBI)

This bank provides loan on easy terms to establish a small scale business unit or industry. It finances modernization, technology up gradation, and market activities. Its aim and focus is to promote, finance and develop small scale industries as they provide large chunk of employment to the nation.

1.4.12 National bank for Agriculture and Rural Development (NABARD)

It is a central or apex institution for financing agriculture and rural areas. It provides loans to those engaged in agriculture or other activities such as handloom waving and fishing. It provides both short term and long term loans through regional rural banks. It mainly focuses on financial assistance in the areas of agriculture, micro, small and medium scale industries, cottage and village industries, handicrafts and allied economic activities in rural areas.

1.5 RBI the central authority of commercial banks[6]

1.5.1 Importance of RBI

RBI has a major role to play in the development of the nation as a financial sector regulator. Trust and confidence in banking system is essential for the smooth functioning of the economy.

[6] *Ray Partha (2013), "Monetary Policy" Oxford India Short Introduction, New Delhi.*

The primary functions of the Reserve Bank of India are to control the issue of Bank notes and the keeping of reserves with a view to securing monetary stability in India and generally to operate the currency and credit system of the country to its advantage.
- From the Preamble of the Reserve Bank of India Act, 1934
Main objectives of monetary policy

1. Price stability- it is said that inflation hits poor as nothing else. India being a developing country since independence RBI has been mandated with control of inflation. Per capita income was growing at a very slow rate in the first forty years of independence, hence protecting the purchasing power of income was essential
2. Adequate flow of credit to all productive sectors to boost economic growth- as it is said capital is blood in the body of an economy. The major objective of central bank is to create framework and rules to ensure adequate availability of credit to all sectors of the economy.
3. Maintain financial stability- the global financial crisis of 2008 has highlighted the importance of prudent regulation of financial sector to ensure its stability. Proactive regulation and right checks and balance in the financial sector are utmost priority of central bank in India.

RBI monitors and analyzes a number of indicators such as inflation rate, money supply, credit, interest rates, exchange rate, capital flows and fiscal position to develop policy prospective.

The major tools used by RBI in monetary policy

1.5.2 Direct instruments

CRR (Cash Reserve Ratio) - the percentage of net demand and time liabilities that banks must maintain in cash with RBI

SLR (Statutory Liquidity ratio) – the percentage of net demand and time liabilities that banks must retain in safe and liquid assets, like government securities, cash and gold.

Refinance facilities – sector specific refinance facilities provided to banks like refinance against lending to export sector.

1.5.3 Indirect instruments

Bank rate- The rate at which RBI is ready to buy or rediscount the bills of exchange or other commercial papers. It signals the medium term stance of monetary policy.

Repo/Reverse Repo Rate – these rates determine the corridor for short term money market interest rates which is maintained at 100 bps. This influences the rate movements in other segments of financial markets and the real economy.

Open market operations (OMO) – The sales/ purchases of government securities as a tool to determine the level of liquidity over medium term.

Liquidity adjustment facility (LAF) – consists of daily infusion or absorption of liquidity on a repurchase basis, through repo (liquidity injection) and reverse repo (liquidity absorption) auction operations, using government securities as collateral.

MSF (Marginal Standing Facility) – scheduled commercial banks can borrow overnight at their discretion up to one percent of their respective NDTL at 100 basis points above the repo rate to provide safety against unanticipated liquidity shock.

MSS (Market Stabilization Scheme) – liquidity arising from large capital inflows is absorbed through sale of short – dated government securities and treasury bills. The cash mobilized through this instrument is kept in a separate government account with the RBI.

1.5.4 Role of RBI as regulator of banking system

Sound banking system is fundamental necessity for economic growth. The central bank has major role to play in maintain financial stability and public confidence in the banking system. RBI protects the interest of the depositors and ensures orderly development and conduct of banking operations.[7]

[7] *S. G Gupta, (2005), "Monetary Economics",S. Chand & Company Ltd., New Delhi.*

The RBI makes sure of several supervisory tools such as on-site inspections, off site surveillance by making use of required reporting by the banks. Thematic inspections, scrutiny and periodic meetings are held.

As a regulator RBI undertakes following activities

1. Issue of Bank licenses
2. Monitoring governance
3. Prescribing capital requirements
4. Prudential regulation for solvency and liquidity of the banks
5. Lending rules for priority sector
6. Prudential norms to reduce NPAs
7. Regulating interest rates for certain areas
8. Initiating new regulations

The global financial crisis of 2008 made RBI even more cautious about financial stability. It set up financial stability unit in 2009. This unit has put in place a system of continues monitoring of macro financial system.

The department ensures that

- Macro prudential surveillance of financial system is done on an ongoing basis
- econometric models to assess financial stability going forward
- Financial stability reports are prepared on half yearly basis
- Key indicators database is developed in coordination with supervision wing to assess the impact of these indicators on financial stability

Systematic stress tests are developed to assess resilience of financial system.

1.6 The new age policy tools introduced by RBI post financial reforms

Market Stabilization Scheme (2004) - Indian economy witnessed large foreign capital inflows in this period. To stabilize fluctuations in the exchange rate and to effectively suck out unnecessary liquidity, RBI introduced MSS in 2004. Like CRR and OMOs this is a sterilization instrument.

Risk Weights for specific sectors (2004) - prudential norms were announced in respect of risk weights and provisioning norms for commercial real estate and capital market loans. This would protect the portfolio of banks against these sectors' excessive price fluctuations.

Response to the financial crisis by reducing interest rates (2008-09) – RBI considered and calibrated reduction of interest rates until the volatile situation stabilized in the financial markets. It took various steps to boost confidence of people in financial system. It promptly made available domestic and foreign liquidity to reduce speculations.

Marginal Standing Facility (2011) –the problem of liquidity for commercial banks was taken care of by allowing banks to borrow 1% of their NDTL (Net Demand and Time Liabilities), even by dipping into SLR portfolio, at 200 bps more interest compared to the Repo rate.

1.7 Developments in Indian Banking[8]

Commercial Banks are among the major structure of Indian financial system. Banking sector performs the role of financial intermediary in almost all modern business transactions. The study of Indian banking in the aspects such as functions, mobilization of resources, socio economic role becomes important to analyze future prospects of the economy. The evolution of modern banking in India happened with establishment of early 18th century banks. The Presidency banks which were set up in Bombay, Bengal and Madras were the major banks of that time.[1]

As the time progressed and economies become more complex so does banking system. The Indian banks have also changed over a period of time. Private Banks became nationalized; regulatory authority was set up to monitor the functioning of financial sector. The opening of Indian economy to foreign competition saw the privatization of Development Financial Institutions and real reentry of foreign banks in India. Recently two financial institutions have been given new banking licenses for improving financial

[8] *Machiraju, H.R (2001), "Modern Commercial Banking", Vikas Publishing House P Ltd, New Delhi*

inclusion. The progress and coming of age of Indian banking can be divided broadly in to four phases.

Banking during British raj and before nationalization

The planed era of banking

The post globalization banking

The financial inclusion banking

The fourth phase will start from 2014 as new banking licenses will introduce a new rigor in financial inclusion which is the latest objective of RBI in the development of holistic banking.

Banking before major Nationalization

The modern banking in India started in 18th century. There were many banks created during British raj and east India company regime. The thriving mercantile business was to be financed by financial institutions. There were many banks created in 19th and 20th century banks which still exist. The lack of monetary authority created the imbalance between the functions of banks. The private business motive was central in the banking business. The private sector banks of that time were owned largely by Britishers and business communities in India. The early business between Britain and India created a lot of business opportunities and a lot of banking companies were created. The First World War ended this high business scenario for banks and a lot of banks went bankrupt during 1913 to 1921. The need was felt to introduce a banking regulation authority to streamline the business of banking. The Reserve Bank of India (RBI) was established in 1935. The Reserve bank of India was established as an apex bank without major government ownership. The Government of India introduced the Banking Companies act, 1949 later came to be known as banking Regulation Act 1949. As per the Banking regulation (Amendment) Act of 1965 (Act No. 23 of 1965), RBI was authorized with extensive powers for the supervision of banking in India.

Initially RBI had to manage the unregulated and largely owned by private businesses banks. The banking system of that time prompted RBI to introduce regulations to restrict the use of word “bank”. The regulations of minimum capital requirements and reserves were introduced by the central bank.

Government of India took major steps in the Indian banking sector reforms after independence. Imperial Bank of India was nationalized in 1955. The new name given to the bank was State bank of India. SBI with its extensive banking facilities on the large scale, especially in rural and semi urban areas was first major bank of India. SBI used to act as the principle agent of RBI and handle banking transactions of the union and state governments of the country.

1949: Enactment of the Banking Regulation Act

1955: Nationalization of Imperial Bank (SBI)

1959: Nationalization of SBI subsidiaries

1961: Insurance cover extended to deposits

The Plan Era of banking

The banking business was concentrated in urban areas of India. Banks use to fund the trade and commerce which was the most profitable proposition. The large businesses enjoyed large funds of banking sector. This concentration of banks in urban areas left large part of India and Indian population away from banking services. The rural areas and small businesses were left out of banking system. The Indian economy adopted socialist pattern since independence. Financial system had to be reframed to help all sections of the society to have just distribution of credit. The need to achieve efficient distribution of banking resources in tune with the requirement of the economy and to meet the needs of priority sectors, nationalization of banks was required.[9]

The banks had been kept under government's control to achieve the targets of credit distribution. The objective of credit planning became an integral part of formulation of credit policy.

OBJECTIVES OF NATIONALISATION:

1. To help agriculture sector in promoting agricultural production and rural development to augment the major sector of Indian economy.

2. To make sure that credit is not distributed to speculative purposes

[9]*Rangarajan, C. (1989), "Banking Developments since 1947: Achievements and Challenges", RBI Bulletin*

3. To help syndication of loans and reduce the exposure of one bank in a particular industry or business.
4. To bring professionalism in the functioning of banking and awareness of social objectives of the economy.
5. To Provide credit and other facilities to small entrepreneurs with a view to have a self-generating economy so as to enable the improvement of poor and down trodden economically and socially.

In 1969, a major drive was undertaken to nationalize the banks. SBI subsidiaries were nationalized. The 14 major banks of that time were nationalized. This started new phase of banking in India. A focused effort was made to open more branches of banks in rural areas. The priority was to employ more manpower to educate rural folks to the advantages of formal banking. The next twenty years witnessed a large presence of banks in rural areas. The objective was to get rid of indigenous bankers and moneylenders out of the financial system.

The next phase of nationalization of Indian banks was carried out in 1980. Nationalization happened with seven more banks. This process brought 80% of the banking business in India under government ownership. The government took following steps to regulate banking institutions.

Private Sector Bank that became Nationalized Banks

The nationalization process partly helped government to achieve its major objectives of economic growth and reduction in regional imbalances. Banking reached rural areas during nationalization era and reduced the importance of indigenous money lenders. Nationalization also helped in mobilizing small savings in rural and semi urban areas and reduced the credit gap. Nationalized banks started giving credit to small scale businesses and agriculture which helped introduce many government schemes launched after words. The aim was to bring large areas of economic activity within the organized banking system. The two important aspects of nationalization were fast branch expansion and directing credit according to priorities.

The banking sector achieved huge success, during the period of nationalization era, and became much sophisticated with deposits increasing every year, credit being disbursed to all sectors and branch expansion.

The post globalization banking

The Narsimham committee gave revolutionizing recommendations to match Indian banks with the world's best. The phased autonomy proposed in the report help Indian banks to come out of its own shackles. The reduction in CRR and SLR were the major recommendations to free up liquidity to reduce overall interest rates. Determination of interest rate was to be deregulated and it was recommended that market forces should be prime movers of interest rates. It was recommended that to increase competition and efficiency public sector banks should be given more autonomy. The third phase is characterized by process of globalization and reforms in the financial sector. Erstwhile Development Financial Institutions were allowed to do banking business and in the process new private sector banks emerged to give real impetus and competition to nationalized banks.[10] A number of committees were formed to get advice on how to reform financial sector and make it competent to face global competition.

The new private sector banks are

1. ICICI Bank
2. HDFC Bank
3. Axis Bank
4. Development Credit Bank
5. IndusInd Bank
6. Kotak Mahindra Bank
7. Yes Bank

The Narsimham committee 1998 gave more important and path breaking suggestions to bring in more efficiency and readiness for more competition. It was felt that in the context of Current Account Convertibility banks should be able to handle domestic liquidity and foreign exchange. This required Indian banks to be strong enough to handle the pressure of globalization and they should have international presence to be

[10] D.P Gupta, R.k Gupta, (2012) "Modern Banking in India", Asian Books, New Delhi.

better equipped to handle these issues. Capital adequacy was given more importance as non-performing assets were as high as 20% of banks' advances. Market risk should be considered along with credit risk in the banking sector. The committee recommended that minimum capital to risk assets ratio should be increased to 10% from 8%. Capitalization of public sector banks was to happen either from government or by diluting the government ownership in these banks; banks were to be allowed to accesses Indian capital market and abroad. It was observed that directed credit had major role in creation of NPAs, it was suggested that loans to agriculture and small scale industries should be granted on commercial considerations and on the basis of credit worthiness of the borrower. Income from an asset use to consider to be stopped when installment of principle or interest or both was not paid for 180 days, the committee recommended that this time limit should be reduced to 90 days.

The necessity of reforms

The RBI had control over all the functions of banks before reform process started. The need was felt that commercial banks will have to be given some autonomy. The interest rates in India were very high. The system of regulations hardly left any space for banks to implement the policy of their choice. The CRR and SLR were maintained at very high levels. The deposit interest rate and interest rates charged on advances were dictated by monetary authority. The banking sector was increasing demanding autonomy in the couple of functions. The process began of initiating reforms in banking sector as India started liberalizing and globalizing its economy since 1991. The foreign competition in all sectors which was foreseen made it compulsory to liberalize functions of banks in step by step manner.

THE REFORM PROCESS

The globalization process prompted every sector in the economy for the readiness for the competition. All major sectors in the economy were experiencing the changes. Improvement in the productivity and use of latest technology were the only ways to stands the competition. The economic reforms were to bring in real and financial sector out of license raj. The external shock could be felt in the domestic economy, thereby a

sound and flexible policy was needed to benefit from the changes in long run. Financial sector reforms were needed to augment the changes in other sectors.

1.8 Reforms in the Banking sector

The banking sector at that time was dominated by public sector banks. The inherent drawbacks attached to these banks were weighing down on the performance and profitability of these banks. The major objectives of reform process were to develop efficient, productive and profitable banks. This could have been possible only if more autonomy was given to the banks in decision making on day to day basis business.

Banking sector reforms include

1. Enhancing the role of market forces – banks were regulated and runned on the preset objectives of government policies. It was felt the market forces should move the changes in the sector. It was facilitated by reduction in reserve requirements, market determined price of government securities, ending the government determined interest rates, in order to help market discipline enhanced disclosure norms were introduced.[11]
2. Measures to increase competition – banking sector lacked robust competition in pre 1991 era. Allowing private sector banks in 1994, giving operational autonomy to public sector banks, permission to Foreign Institutional Investors (FIIs) to invest in Indian capital markets, allowing public sector banks to tap capital markets by reducing government ownership were some of the steps which were taken.
3. Legal and institutional measures – the entire system needs to have appropriate legal backing to introduce latest change. It is facilitated through setting up lokadalats, asset reconstruction companies, corporate debt restructuring mechanism; debt recovery tribunals etc. to improve the recovery of bad loans and restructuring if required. The most important legal development was introduction of securitization and Reconstruction of Financial Assets and

[11] *Natarajan S, Parameswaran R, (2004), "Indian Banking", S Chand & Company. New Delhi.*

Enforcement of Securities Interest (SARFAESI) Act and its subsequent amendment to ensure creditor rights was the major step[12].

4. Measures to improve supervision – financial sector in India mostly comprised of commercial banks at that time. Improving efficient supervision on banks would ensure financial stability. In the light of this RBI established the Board for Financial Supervision for commercial banks, financial institutions and non-banking financial companies as the apex supervisory authority. The broad based supervision needed broad based parameters to analyze the functioning of banks for this purpose RBI introduced CAMELS supervisory rating system. Overall auditing of banks was also improved by more directives to these firms. The introduction of risk based supervision; offsite surveillance through control returns and consolidated supervision of financial conglomerates were the highlights of these reforms. RBI also introduced fit and proper tests for directors of commercial banks and guidelines for corporate governance with enhanced due diligence on important shareholders.
5. Prudential measures- Indian banking sector was geared up to follow international best practices and norms. RBI introduced phased implementation of these practices through norms on accounting, income recognition, provisioning and exposure of credit to different sectors and risk – weighted capital adequacy requirements. Risk management has been given utmost importance, which can be done through recognition of different components of risk, norms on connected lending, concentration of risk, assignment of risk weights to various assets classes. For prudent risk management application of marked to market principle for investment portfolio was introduced.[13]
6. Measures related to technology – new era banking has to be equipped with latest technology that can help huge amounts of transactions that take place daily. The millions of transactions can happen seamlessly only if technology help is available. The INdianFInancialNETwork (INFINET) has been set up as a

[12]*Mukharjee Sampat, Ghosh Amitava, "Principles of Macroeconomics" (2009) new Central Book Agency P Ltd, New Delhi.*

[13]*Datt, R. and Sundharam, K.P.M. (2004), Indian Economy, S. Chand & Company Ltd., New Delhi*.

backbone for the financial sector. The Negotiated Dealing System (NDS) has been introduced for screen based trading in government securities. The fast clearances of transactions are made possible with Real Time Gross Settlement (RTGS) system.

1.9 Current trends in Banking

The banking sector has been under stress of bad loans and the corporate debt restructuring has been on the rise. The public sector banks usually fund the infrastructural projects and priority sectors more than any other type of banks. The recent economic slowdown has reduced the viability of many such projects. The infrastructural projects have faced problem in last couple of years since government has been trying to reduce its fiscal deficit. The availability of funds by government to these sectors has been going down.

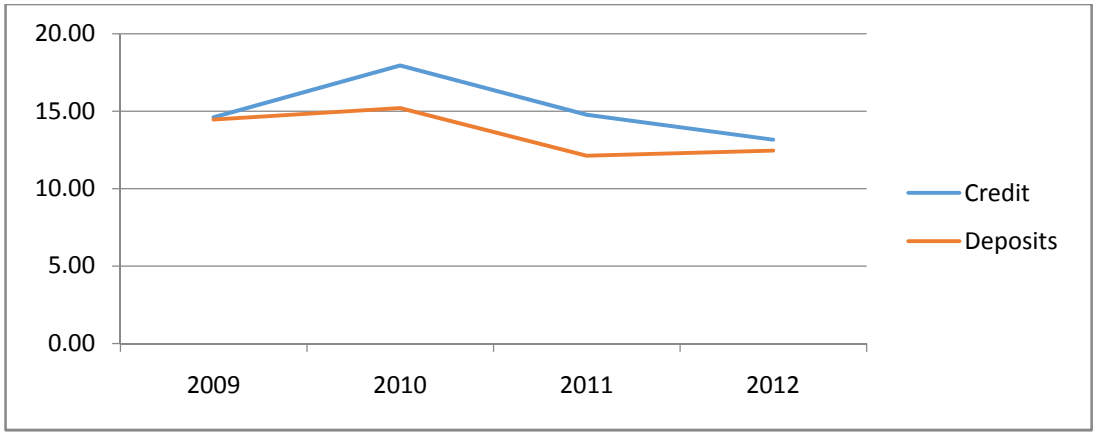
The deposits and credit growth has been slowing down in last couple of years.

				Rs in Billion	
Year	2009	2010	2011	2012	2013
Credit	28575.25	33456.19	40768.68	47827.75	55064.96
Deposits	39373.36	46019.26	54265.10	61741.47	70513.32

Source: Compiled from various issues of RBI publications

The graph below is the percentage growth in the deposits and credit of all commercial banks in India. This has been showing the downward trend over the last four years.

Graph 1: Deposits and Credit of all commercial banks in India (2009-2012)

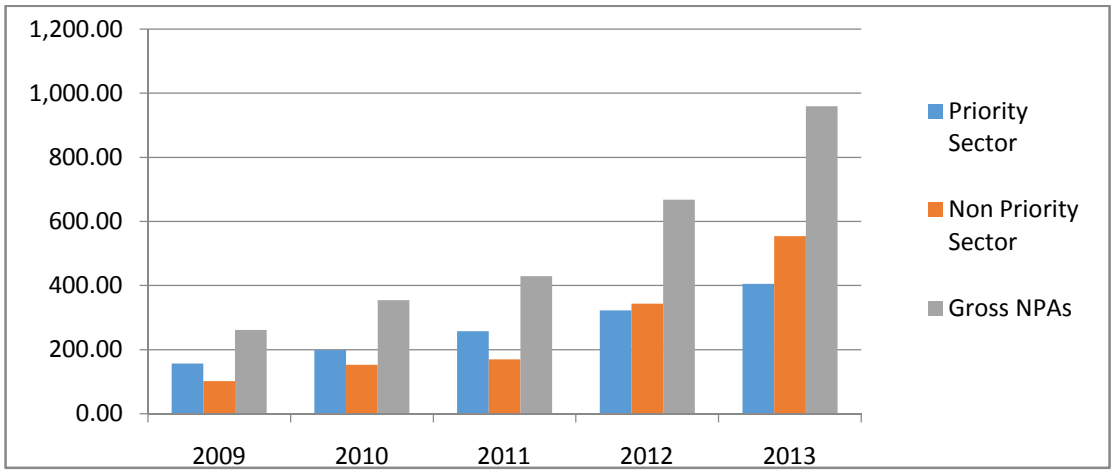


Source: Compiled from various issues of RBI publications

The overall gross non- performing assets have been increasing in all commercial banks.

The graph below explains the rise of non-performing assets in priority and non-priority sectors.

Graph 2: Non-Performing Assets in priority and non-priority sectors



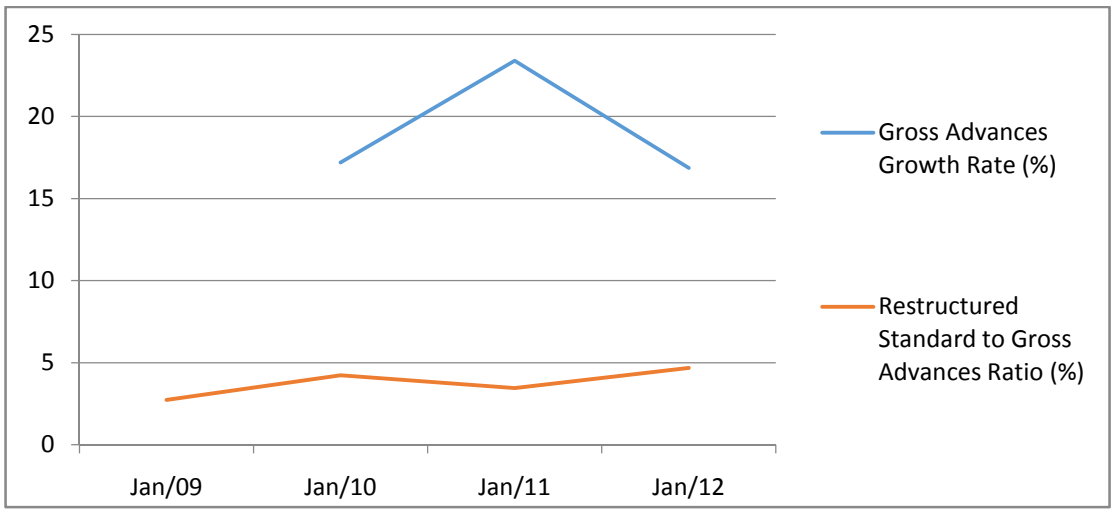
Source: Compiled from various issues of RBI publications

The non-performing assets have given rise to corporate debt restructuring in last couple of years. The following table reflects the reducing rate of credit and increasing rate of restructured assets to gross advances.

		Mar-09	Mar-10	Mar-11	Mar-12
Gross Advances	Growth Rate (%)		17.21	23.41	16.88
Restructured Standard to Gross Advances	Ratio (%)	2.73	4.23	3.45	4.68

Source: Compiled from various issues of RBI publications

Graph 3: Restructured Loans to Total Advances



The following table showcases how banks have performed in recent times

Table 1: Important indicators of Commercial Banks

Important indicators of Commercial Banks									
Indicators	March	March	March	March	March	March	March	March	March
	2005	2006	2007	2008	2009	2010	2011	2012	2013
Number of Commercial Banks	288	222	182	173	170	167	167	173	155
(a) Scheduled Commercial Banks	284	218	178	169	166	163	163	169	151
of which: Regional Rural Banks	196	133	96	90	86	82	82	82	64
(b) Non-Scheduled Commercial Banks	4	4	4	4	4	4	4	4	4
Number of Bank Offices in India	70373	72072	74653	78787	82897	88203	94019	102377	109811
Population per Office (in thousands)	16	16	15	15	15	14	13	13	12
Aggregate deposits of Scheduled Commercial Banks in India (Rs. billion)	17002	21090	26119	31969	38341	44928	52079	59090	67504
Bank credit of Schedule Commercial banks in India (Rs in Billion	11004	15070	19311	23619	27755	32447	39420	46118	52604
SLR investments of Scheduled Commercial Banks in India (Rs in Billion)	7391	7174	7915	9717	11664	13847	15016	17377	20061
Credit of Scheduled Commercial Banks per office (Rs. millions)	170	221	276	322	362	398	458	498	526
Per capita Deposit of Scheduled Commercial Banks (Rs.)	16281	19130	23382	28610	33919	39107	45505	50183	56380
Per capita Credit of Scheduled Commercial Banks (Rs.)	10752	13869	17541	21218	24617	28431	34187	38874	44028

Deposits of Scheduled Commercial Banks as percentage to Gross National Product at factor cost (at current prices)	62.3	64.3	68.8	72.8	77.1	78.2	78.2	78	79.4
Share of Priority Sector Advances in Total Advances of Scheduled Commercial Banks (per cent)	32.2	33.8	33.1	31.6	30.3	31.2	30.6	29.5	28.8
Credit-Deposit Ratio (per cent)	62.6	70.1	73.5	74.6	73.8	73.7	76.5	78.6	79.1
Investment-Deposit Ratio (per cent)	47.3	40	35.3	35.5	35.7	36.4	34.3	34.6	35.2
Cash-Deposit Ratio (per cent)	6.4	6.7	7.2	9.7	7.3	7.7	8.2	5.8	5.1

Source: Compiled from RBI various issues

1.10 Conclusion

Banking sector has come a long way. The pre independence private sector banks to nationalization era of 1950s and 1960s. The major bank expansion happened largely because of nationalization of banks. The government ownership and lack of direct accountability created rigidities in the system. The high regulation, high interest rate regime stopped banks from reaching their potential levels. The globalization process coincided with privatization and computerization process in banking system. The financial and banking sector reforms freed banks from high level of regulations. The intensified competition helped banks in developing high level of professional services.

Chapter 2

Indian Economy: An Overview

Indian economy has come a long way from being considered as Hindu growth rate economy to the third largest economy in the world on purchasing power parity basis. The economic growth and services sector led opportunities created a different impression about Indian economy world over. India is considered as back office of the world. The Information technology industry created unprecedented job opportunities in urban areas. The opening of Indian economy for foreign investors in case of production and portfolio investments have increased capital flows from the world to Indian economy. The current account deficit largely gets funded by this money coming from abroad. The dependence of India on crude oil is major contributor to the current account deficit. The import of food grain has reduced substantially in last couple of decades. The gold imports have contributed largely in the current account deficit. This has to be addressed by introducing gold deposit schemes in commercial banks.

Table 2: Contribution percentage of three major sectors in Indian Gross Domestic Product

Year	Agriculture	Industry	Services
1951	53.15	16.5	30.2
1992	28.8	27.4	44
2009	14.6	28.4	57
2013	13.9	26.1	59.9

Source: compiled from Economic Survey of India of various years

It can be observed from the above table that the contribution of agricultural activities in Indian economy has steady gone down. This is a typical pattern observed in a developing economy. As the economy moves on the maturity path either industrial sector or services sector starts contributing more in the growth of the economy. Industrial sectors' contribution has remained stagnant over the period. The contribution of services sector has doubled in last fifty years. The challenge for the economy like India is how to generate enough jobs in the services sector which is technology driven.

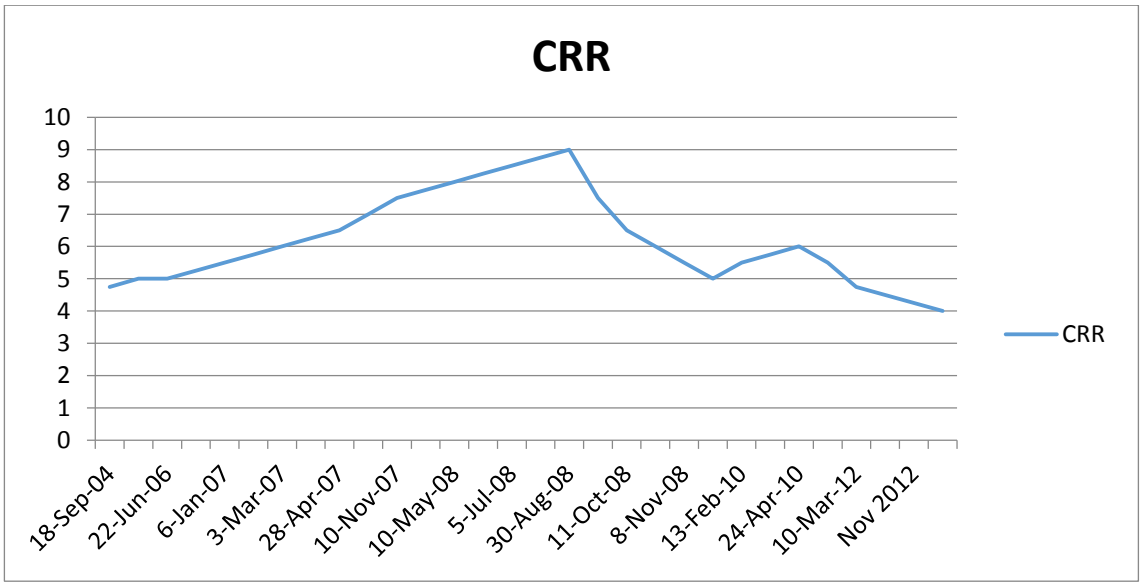
The industrial sector can create more jobs which are required for second most populous nation like India. The small and medium enterprises create maximum jobs. These businesses require bank funding as other sources of capital are seldom available for this sector. The public sector banks are mostly funding these businesses. This is a huge priority for Indian economy. The commercial banks play a significant role in the development of micro, small and medium enterprises and rural economy. The priority sector lending norms of RBI further help in the development of these sectors.

2.1 Business cycles and Indian Economy

To quote RBI Governor D Subbarao "The first thing we learnt is that price stability and macroeconomic stability do not guarantee financial stability. Note that the crisis erupted during a period of extraordinary price stability and macroeconomic stability. Indeed, some analysts have made an even stronger assertion, that an extended period of price and macroeconomic stability can blindside policy makers to seeing the festering financial instability underneath. We also learnt that no country is an island. Although the crisis originated in advanced economies, emerging economies too were affected, indeed by much more than they had thought possible. The contagion brought home a simple message. In a rapidly globalizing world, national and international financial stability are interlinked. They are really two sides of the same coin".

Indian economy has been through phases of business cycles as any other economy of the world. The monetary and fiscal policy mix has to work during the prosperity and recession in such a way that economy should not overheat neither should growth rate reduce to the extent that it cannot recover from such deep recession. Government of India increase spending on social schemes during recession and increase taxes during prosperity. The monetary authority on the other hand reduces policy interest rates during recession and increases these rates during prosperity. The RBI actively change the monetary policy stance from time to time to make sure that liquidity in the overall economy is maintained following graphs give a snapshot of changes in policy rate of CRR and Repo rate.

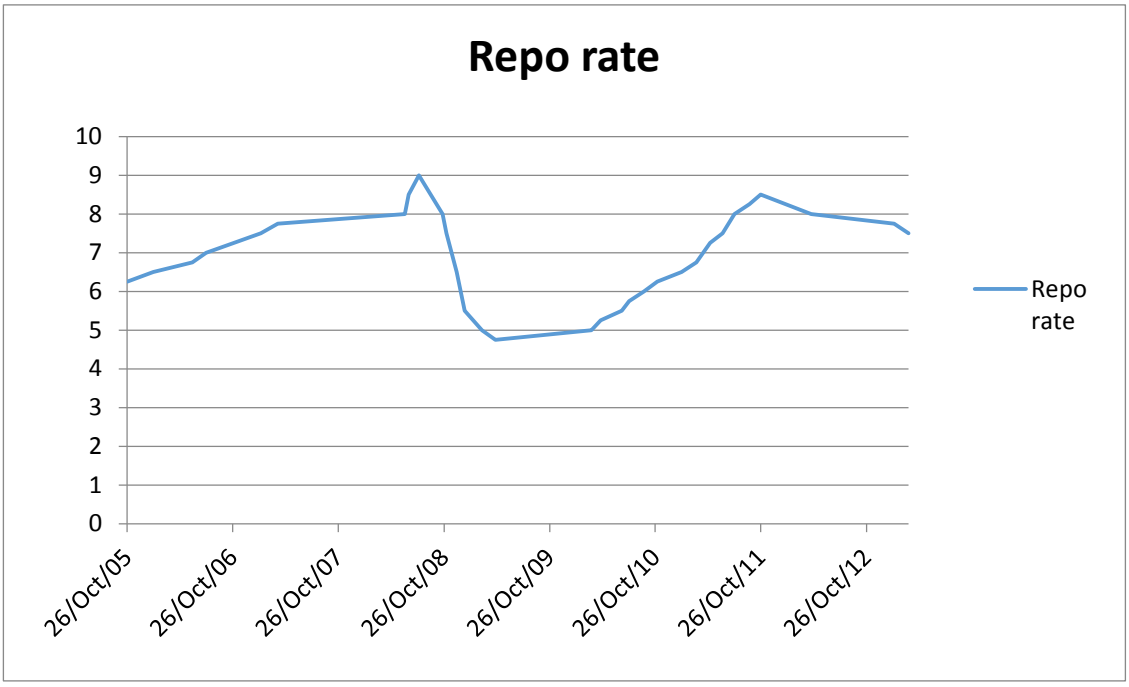
Graph 4: Cash Reserve Ratio movement (2004-13)



Source: Compiled from CSO, RBI and Economic Survey of India various issues

The Repo rate is changed according to the level of inflation to keep cost of money and returns on deposits under control. It is evident from both the rates movement that RBI raised policy rates during high growth years. The financial crisis of 2008 forced RBI to reduce policy rates to increase liquidity and GDP growth of Indian economy.

Graph 5: Repo Rate movements (2005-13)



Source: Compiled from CSO, RBI and Economic Survey of India various issues

The problem Indian economy faced immediately after financial crisis was that government of India increased its spending with expansionary fiscal policy and simultaneously RBI reduced policy rates with accommodative monetary policy. The net result was demand supply mismatch created high inflation. It is visible that inflation started increasing because of high fiscal speeding by government and expansionary fiscal policy in 2009 and 2010. RBI started increasing Repo rate again from 2009-10 to reduce inflation rate. The objective of inflation targeting of RBI has been under question. The policy makers and corporate are debating this issue of how food inflation be curtailed by increasing Repo Rate? The global opinion also suggests that monetary policy alone can't reduce the inflation.[1] The debate still continues and government has been of the view that it is monetary policy which should move first to boost economic growth rate.

The performance of Indian economy in recent years

The Indian economy has been a developing economy since independence. The economy has transformed itself from a pure agrarian economy to a services sector led economy in last fifty years. Agriculture which contributed more than 55% during independence now contributes less than 13%. Industrialization did take place in India during 1960s and 1970s but services sector have grown faster over the years. Services sector now contributes almost 60% of the GDP. The policy makers believed in the beginning that India should become manufacturing power house, by making big investments in core industries in the beginning of the plan era. India has become Information Technology services hub in 21st century. The events of 1991, ballooning current account deficit, over dependence on foreign borrowing the economic growth is central to the development of any nation. The growth rate that a nation can achieve is important for a developing nation. A high rate of growth is a remedy to a number of problems that a typical developing nation faces. The level of unemployment, inflation, interest rates, fiscal prudence, and capital flows, standard of living all this depends on the economic

[1]Ben S. Bernanke and Michael Woodford, (2004) "The Inflation-Targeting Debate" University of Chicago Press

growth rate in medium to long term.[2] The high growth years of 2004 to 2008 gave unprecedented importance to Indian economy. The Indian economy was viewed as emerging superpower. All the indicators of economic development were improving at a rapid speed with average Gross Domestic product (GDP) growth at 9.2% for the period. The financial crisis of 2008 changed the outlook and questions were raised on the sustainability of high growth rate in long term.

The overall image of economy during 2002 to 2008 is of hope and growth. GDP increased at an average rate of 8.5%, the level of production in the economy was high with Index of Industrial Production (IIP) was averaging at 8.4 to 10.5. The Wholesale Price Index (WPI) was continuously under control and was about 5.4% on an average. Export growth was in the range of 25% to 30%. During this entire period forex reserves were increasing at high rate and reached US$309 Billion in 2008. Capital formation rate was as high as 37.7% of GDP in the year 2008. Scheduled commercial bank credit growth was also averaged at 28% during this period. Fiscal deficit was around 3.5% of GDP.[3]

In contrast to the numbers mentioned for the period of 2002 to 2008, due to global financial crisis, the next five years have been largely under the grips of recession. The period of 2009 to 2013 has been of low growth. GDP increased at an average rate of 6%, the level of production in the economy was high with Index of Industrial Production (IIP) was averaging at 1.2 to 10.5. The Wholesale Price Index (WPI) was continuously under control and was about 5.4% on an average. Export growth was in the range of 25% to 30%. During this entire period forex reserves were increasing at high rate and reached US$309 Billion in 2008. Capital formation rate was as high as 37.7% of GDP in the year 2008. Scheduled commercial bank credit growth was also averaged at 28% during this period. Fiscal deficit was around 3.5% of GDP. Bank credit grew at 14% in 2013-14 against 28% in 2006-07.[4]The analysis of business cycles in

[2]*Glen jack et al (2011), "Business Cycle effects on commercial bank loan portfolio performance in developing economies", Review of Developmental Finance 1 (2011) p 150-165 United States.*
[3]*Datt R &Sundaram, (2012), "Indian Economy" S Chand & Co. New Delhi*
[4]*Dr. D Subbarao, (2013), "The Global Financial Crisis and the Indian Financial Sector What Have We Learnt and How Have We Responded?" 7th International Banking & Finance Conference.*

India over a period of time has shown that, after liberalization process, properties of Indian business cycles look closer to that of advanced industrial economies.

(Real GDP) has become less volatile in the post-globalization period; investment has become significantly pro-cyclical in the post-liberalization period; the correlation of imports with GDP has also increased; net exports have become counter-cyclical; the volatility in prices and government expenditure has decreased in the post liberalization period; and the absolute volatility in nominal exchange rate has declined. Further, our results using quarterly data are consistent with the findings of the annual data analysis for the post 1991 period. This suggests that in many key respects, the Indian business cycle shows a growing resemblance with those of the developed economies.

Consumption-output paradigm: The Indian economy has experienced a significant change in many aspects. From a purely monsoon driven economy, fluctuations in the economy are now driven primarily by fluctuations in inventory and investment. The share of investment in GDP has increased from 13% in 1950-51 to 35% in 2009-10. The increase has been particularly prominent since 2004-05.

Agriculture the declining trend: In the India of old, monsoon performance used to define a good or bad time. Adverse agricultural performance used to throw GDP growth of trend (Shah, 2008; Patnaik and Sharma, 2002). In the India of present times, monsoon shocks matter less. This is evident in the declining share of agriculture in Indian GDP. There has been consistently declining share of agriculture since 1950s. Table below shows the changing composition of Indian GDP, the decline in the share of agriculture has been matched with a rise in the share of services.

The importance of public sector has been on the decline. The new private sector and entrepreneurial spirit is evident in all spheres of life. The performance of private enterprises has been impressive. The general dominance of public sector which was present in India before globalization has been on decline.

Business cycles: The policy set up in India of old times was characterized by controls on capacity creation and barriers to trade. The conventional business cycles regarded as interplay of inventories and investment did not exist. The dominant source of investment was government investment in the form of plan expenditure, which did not

show any cyclical fluctuations. The concern was that it was not as productive as it should be. The recent changes in policy frame work allow the barriers to trade to dismantle. The private sector investment as a share of GDP has shown a significant rise. The investment boom of the mid-1990s, private corporate gross capital formation rose from 5% of GDP in 1990-91 to 11% of GDP in 1995-96. This then fell dramatically in the business cycle downturn to 5.39% in 2001-02, and has since recovered to 17.6% in 2007-08.[5]The recent recession has led to its fall to 13.5% in 2009-10.

Higher integration with the world economy: The Indian economy was protected from external competition through quantitative restrictions before globalization. The liberalization policy has enabled fair value of exchange with foreign currency. This has helped in achieving higher efficiency in the production process of every commodity. When the inflow of external capital flows is considered, it can be seen that these flows were 20% of GDP in 1990s. The recent capital inflows have grown to almost 70% of GDP.

2.2 Conclusion

Indian economy was protected from external shocks of business cycles due inward looking closed economy structure till 1990. The process of liberalization and globalization has indeed increased the productivity and consumption level in India. At the same time it has also created an environment in which it has to withstand the global business cycles. The recent financial crisis in USA and Europe had a negative impact on Indian economy. The high growth years of 2004-2008 have become a history and India is struggling to achieve 5% GDP growth in last two years.

Table No 3: GDP, Deposit and Credit growth from 2002-2013

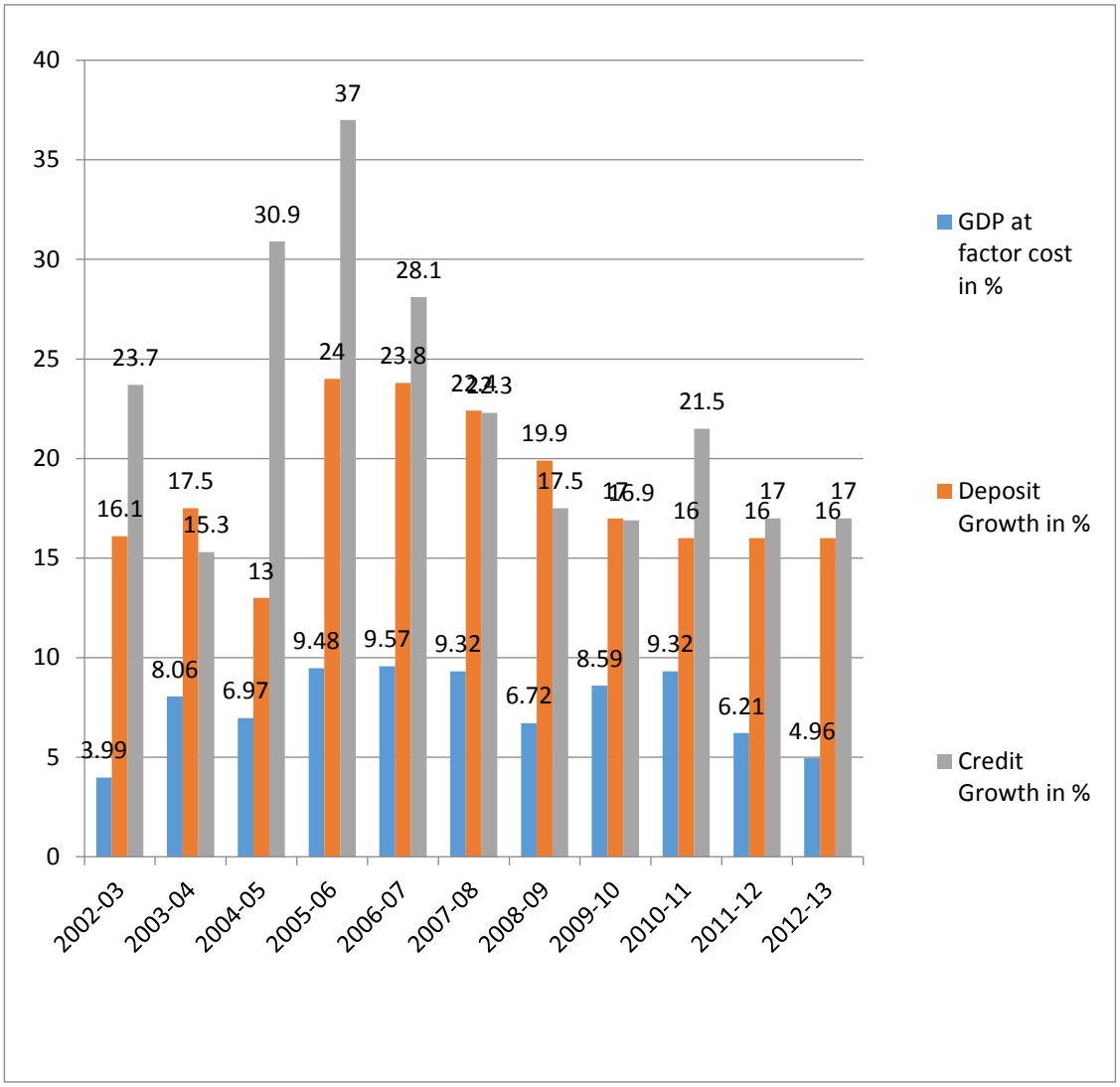
Years	GDP at factor cost in %	Deposit Growth in %	Credit Growth in %
2002-03	3.99	16.1	23.7
2003-04	8.06	17.5	15.3
2004-05	6.97	13	30.9
2005-06	9.48	24	37

[5]*RakshitMihir (2010), "Macro Economics of Post - Reform India" Oxford University Press, New Delhi.*

2006-07	9.57	23.8	28.1
2007-08	9.32	22.4	22.3
2008-09	6.72	19.9	17.5
2009-10	8.59	17	16.9
2010-11	9.32	16	21.5
2011-12	6.21	16	17
2012-13	4.96	16	17

Source: compiled from CSO, RBI

Graph 6: Growth in GDP, Deposits and Credit (2003-2013)



Source: compiled from CSO, RBI

It can be observed from the above table that GDP, Deposit growth and credit growth has been decelerated in last five years. It will be of interest to see how banks have performed during such tough economic environment.

Chapter -3

Research Methodology

3.1 Introduction

Research refers to a search for knowledge[1] Research can also be defined as a scientific and systematic search for pertinent information of a topic. Research is a part of scientific investigation. Redman and Mory defined research as a "systemized effort to gain new knowledge". According to Clifford Woody research comprises defining and redefining problems, formulating hypothesis or suggested solutions; collecting, organizing and evaluating data; making deductions and reaching conclusions; and at last carefully testing the conclusions and determine whether they fit the formulating hypothesis.

There are many types of research. The major types are descriptive, analytical, fundamental, applied, quantitative, qualitative, conceptual, empirical research.

There are many techniques of data collection. Primary and secondary source of data are important tools of collecting data.

Primary data are those which are collected afresh and for the first time. It is original and care need to be taken while collecting the data keeping in mind the objective of the research.

Secondary data means data that are already being collected. When the secondary data is collected one has to look in to various sources from where the data can be obtained.

3.2 Research Problem

The commercial banks in India play a vital role in economic development. The business cycles have an impact on the macro economy and all sectors within it including banks. The impact of recent economic downturn reduced GDP growth from 9% to less than 5%

[1] *C. R Kothari (2006), "Research Methodology- Methods & Techniques" New Age International Publishers, New Delhi.*

in last couple of years. This study is an attempt to understand the performance of commercial banks during high growth years and low growth years. The importance of management decision making during different economic environment is of paramount importance. It is worth studying various ratios related to management efficiency, productivity and profitability during the high and low growth years. Indian economy grew at 8.7% per annum during 2004-08 along with high growth in saving and investment. The global financial crisis of October 2008 created down word pressure on the growth rate of Indian economy. The growth rate continued in 2010 and 2011 largely because of huge fiscal stimulus given by Indian government. In the last two years growth rate has substantially decelerated. Indian financial sector is dominated by banking industry which account for almost 60% of the total, the system which comprises of banks, insurance companies, mutual funds, non- banking financial companies, cooperatives, and other smaller financial entities. Bank assets as a percentage of GDP rose from 60% in 2001 to 93% by 2008-09, but after that it has averaged. Bank credit to GDP ratio rose from 24% to 52% during the same period, but in last 4 years it has stagnated. Banking sector in last 12 years has largely being dependent on the growth rate of GDP. The financial expansion has slowed down after financial crisis, but banking sector has shown resilience. There is some concern about the progress in banking such as NPAs, which declined from 12% in 2001 to 2.4% in 2007-08 it has again increased to 3.7% by 2012. The Net Interest Margin (NIM) has gone up showing deterioration in allocative efficiency. Bank's credit composition has changed in recent years to more long term finances of infrastructure and housing. All these developments indicate that banking sector in recent years have faced daunting task of maintaining the high growth trajectory of 2004-08. The study will concentrate on major financial parameters commonly used by all banks to declare their performance year on year. The study will also have comparative analysis of performance of banks during these two periods i.e. 2002 to 2008 and 2009 to 2013.

3.3 Objectives of the study

1. To study the productivity, profitability, and readiness for the competition of commercial banks in India.

2. To examine the financial performance of selected banks during 2002-13
3. To assess major factor that impact the profitability of banks.

Considering the GDP growth rate, Credit off take, IIP numbers, Global GDP numbers, Export –Import data, the period between 2002 to 2013 can be broadly classified in two sections. The high growth years of 2002 to 2008 & recessionary phase from 2009 to 2013.

3.4 Hypothesis

The hypothesis is made on the basis of two distinct time periods of

1. High growth years: Prosperity Phase : 2002-2008
2. Low growth years: Recessionary Phase : 2009-2013

Group Level comparative study

1. H0: There is no significant difference in the performance of commercial banks on major parameters during the two phases of business cycle.

   H1: There is a significant difference in the performance of commercial banks on major parameters during the two phases of business cycle.

2. H0: There is no significant difference in the performance of commercial banks on CAMEL parameters during the two phases of business cycle.

   H1: There is a significant difference in the performance of commercial banks on CAMEL parameters during the two phases of business cycle.

3.5 Methodology- Sampling Technique and Data collection

The commercial banking in India has a history of more than 200 years. There are 173 banks reporting to RBI as on 31st March 2012. The analysis of performance of commercial banks is possible when selected on the basis of certain purpose. This study

is aimed at analyzing performance of banks on the backdrop of phase's business cycle. To analyze performance of banks on the basis of business cycles' impact, it is necessary to select pan India basis banks. The purposive sampling method is used and the fifteen banks have been selected on the basis of their national level presence. In order to have representation from all major types of banks the data collection is done for the selected five major banks each from, Nationalized Banks, New Private Sector Banks, and Foreign Sector banks. The banks are selected as top five banks from each type of banks on the basis of total assets of the banks. The data published by RBI has different unit of value during different time periods. The data is published in the unit of (Rs in Lacs till 2009, Rs in Cr from 2009 to 2012, and Rs in Million from 2013). The data is reworked as (Rs in Cr) for the entire time period of 2002 to 2013 to maintain parity in the analysis. These banks are as follows

a) Nationalized Banks
    1. State Bank of India
    2. Punjab National Bank
    3. Bank of Baroda
    4. Bank of India
    5. Canara Bank
b) Private Sector Banks
    1. ICICI Bank
    2. HDFC Bank
    3. AXIS Bank
    4. Development Credit Bank
    5. IndusInd Bank
c) Foreign Sector Banks
    1. CITI Bank
    2. Standard Chartered Bank
    3. HSBC Bank
    4. Deutsche Bank
    5. DBS

Table No 4: Relative position of selected banks to total banking business in India. (Rs in Cr)

Sr No	Parameters	All banks aggregates 2011-12	Aggregate of 15 Banks	% of All Banks Aggregates
1	Deposits	6453664	3483226	53.97
2	Advances	5074579	2789607	54.97
3	No of Offices	83229	39256	47.16
4	No of Employees	1013390	560469	55.3

Source: RBI, Profile of Banks.

These banks together have more than 53% of Deposits and almost 55% Advances collected by all the banks in the year 2012, which are reporting to RBI. The conclusions made on the basis of this study can be applied to other banks as well.

The selected banks are analyzed on following parameters

1. Deposits generated
2. Advances disbursed
3. Total Income
4. Interest Income
5. Non-Interest Income
6. Profits earned
7. Cash Deposit ratio
8. Credit Deposit ratio
9. Business per employee
10. Profit per employee
11. CASA percentage year on year
12. Return on assets
13. Cost of deposits
14. Return on advances

15. Capital adequacy ratio
16. CAR- Tier I
17. CAR – Tier II
18. Ratio of net NPA to net advances
19. Ratio of term deposits to total deposits
20. Ratio of secured advances to total advances
21. Ratio of net interest margin to total assets
22. Ratio of operating profits to total assets
23. Return on equity

The analysis will be done for 12 years i.e. 2002 to 2013 the period which has witnessed two major phases of business cycle. The secondary data has been compiled from statistical tables relating to banks, RBI bulletins, and CMIE reports, economic surveys of various years, IBA Bulletins, reports on currency and finance, Prajnan, abhigyan, agenda and proceeding of state level bankers committees, and other published resources.

Factor analysis- Trend Analysis:

Trend analysis becomes imperative to evaluate the overall profits and profitability performance of commercial banks. It clearly indicates the magnitude and direction of operations observe a period of time; it also helps to identify certain banks in respect of their level of efficiency in operations. It shows the trend pattern in order to identify the historical development. The study attempts to assess the profits and profitability of banks, through trend analysis of the following parameters:

1. Advances
2. Deposits
3. Total Assets
4. Expenditure
5. Spread
6. Burden
7. Income
8. Net Profit

3.6 Statistical Techniques

The statistical techniques are used to analyze the data. Arithmetic Mean, standard deviation, coefficient of variation is applied to find out financial performance of banks. The Microsoft Excel and SPSS tools are used for the analysis.

Arithmetic mean

X=Sum X/N

Where X= sum of all the values of the variable X and,

N= Number of observations

Standard deviation

Standard deviation calculates the absolute dispersion or variability from the mean values. When mean deviation is divided by the average used in finding out the mean deviation itself, the resulting quantity is described as the coefficient of mean deviation. Coefficient of mean deviation is a relative measure of dispersion and is comparable to similar measure of other series.[2]

Standard deviation (σ):

$$\sigma = \sqrt{\frac{1}{N}} \sum_{i=1}^{N} (xi - \mu)^2 \qquad ...(1)$$

The data is calculated in two parts

1. Absolute values (in lacs and cr)
2. Ratios are calculated wherever needed

The data is analyzed on the basis of two time periods, each consisting of five years. The arithmetic mean is calculated for each time period and the two mean values are compared with a standard two sample T test.

Statistical Methods

Sample t-tests

One sample t-test:

[2] C R Kothari, "Research Methodology" (2009) New Age publication, New Delhi

It is used to make inferences about the population mean based on data from a random sample.

T-statistic is defined as:

$$t = \frac{\bar{x} - \mu}{s} \times \sqrt{n} \quad \text{...(2)}$$

Where

$\bar{x}$: The mean of the sample

μ : The actual or hypothetical mean of the population

n: the sample size

s: the standard deviation of the sample calculated by the formula

$$s = \sqrt{\frac{\sum (x - \bar{x})^2}{n - 1}} \quad \text{...(3)}$$

Two sample t-test:

It is used to make inferences about the difference between two population means based on data from two independent random samples.

T-statistic is defined as:

$$t = \frac{\overline{x_1} - \overline{x_2}}{s} \times \sqrt{\frac{n_1 n_2}{n_1 + n_2}} \quad \text{...(4)}$$

Where

$\overline{x_1}$: The mean of the first sample

$\overline{x_2}$: The mean of the second sample

n_1 : The number of observations in the first sample

n_2 : The number of observations in the second sample

s: the combined standard deviation calculated by the formula

$$s = \sqrt{\frac{\sum (x_1 - \overline{x_1})^2 + \sum (x_2 - \overline{x_2})^2}{n_1 + n_2 - 2}} \quad ...(5)$$

Factor Analysis

Factor analysis is used to identify underlying items or factors that explain the pattern of correlations and extent of variance explained within a set of observed variables. Here, all sets of interdependent relationships are examined without making the distinction between dependent and independent variables.

The factor analysis model in matrix notation is as below-

$$X - \mu = L \times F + \epsilon$$

(p x 1) (p x m) (m x 1) (p x 1) ...(6)

Where X is the observable random vector with p components, mean vector μ and covariance matrix ∑.

Xis linearly dependent upon a few unobservable random variables F1,F2,….,Fm called common factors, and p additional sources of variation ϵ1, ϵ2,….,ϵp called uniqueness/specific factors or errors. F&ϵ are independent. Matrix L is the matrix of factor loadings lij which is loading of the ith variable on jth factor.

KMO and Bartlett's tests-

The Kaiser-Meyer-Olkin measure of sampling adequacy, tests if the partial correlations among items are small; whereas Bartlett's test of sphericity tests whether the correlation matrix is an identity matrix. Both these tests help in checking the appropriateness of the factor model.

Principal components method of data reduction-

Principal component analysis is a method of factor extraction where linear combinations of variables are formed. The first principal component is the combination of variables or items that account for the largest amount of variance in the sample. The second principal component accounts for the next largest amount of variance in the sample and is not correlated with the first component; and so on.

Factor loadings-

Matrix of loadings represents the correlations between variables and factors.

Rotation-

Rotation is the transformation of the initial loadings matrix into one that can be interpreted. The most commonly used method is the varimax rotation.

Eigen value-It is a variance associated with a factor.

Uniqueness- It is specific variance of each variable.

Factor scores-These are the estimated values of the common factors for each item/observation.

Assumptions

For the F-test, we have assumed that the underlying variables follow a normal distribution under null hypothesis H0.

In case of t-test, in addition to normality assumption, an additional assumption made is that the two populations have equal variances.

Another assumption for both of these tests is that two samples are drawn from independent and identically distributed populations under H0

For factor analysis it has been assumed that variables follow a multivariate normal distribution. Any variable with eigenvalue less than one is not considered as a unique factor. Hence factor analysis is limited to the extent of variation explained by these many unique factors.

Hypothesis testing

Mean of the population can be tested in different situations. Population normal, population finite, sample size small and variance of the population unknown, and hypothesis may be one sided or two sided

Two techniques are used in analyzing the performance of selected banks

1. CAMEL Method
2. Factor analysis- Principle Component Analysis

3.7 Chapter Scheme

The Thesis is divided in the following chapters

Chapter 1: Introduction to Banking Business in India

Chapter 2: Indian Economy: An Overview

Chapter 3: Research Methodology

Chapter 4: Review of Literature and Conceptual Framework

Chapter 5: Data Presentation – CAMEL

Chapter 6: Data Presentation II- Principle Component Analysis

Chapter 7: Interpretation of Financial Performance of Banks

Individual Banks

Banks on Group Level

Chapter 8: Finding & Hypothesis Testing & Conclusion

Chapter 4

Review of Literature& Conceptual Framework

4.1 Review of Literature

Nathwani Nirmal,(2004)1, "The Study of Financial Performance of Banking Sector of India". The aim of the study was to find out different types of efficiency levels of banks. The study has covered evaluation on financial performance on the basis of profitability, credit efficiency, operational efficiency, and productivity of banks. All commercial banks, reporting to RBI are analyzed for the period of 1997-98 to 2001-02. Researcher has used statistical tools like ratios, trends, co relation, regression, T test, F test, Z test, anova and X2 test. The study concludes that banks which adapt to new changes will be able to survive. Product and service quality is a critical link in the success of banking industry in the future.

Varadi, Vijay Kumar (2004),2 "Measurement of efficiency of banks in India". The researcher has studied the data obtained from 93 scheduled commercial banks (SCBs). The banks include 27 public sector banks, 36 foreign banks and 30 private banks. The data pertains to measures of Productivity, Profitability and Financial Management and Asset Quality. The data used in this study have been collected from various issues of I.B.A. annual reports and RBI's Reports on Progress of Banks. The analysis is efficiency has been made for the period of 1999-2000 to 2002-2003. The reference year of the study related to the financial year 1999-2000. DEA technique was used to calculate efficiency and GAMS pregame and DEA Solver package. The study showed that the relative efficiency of public sector banks is found to be efficient in all indicators. The public sector banks are followed by foreign banks then followed by private banks.

[1] *http://etheses.saurashtrauniversity.edu/id/eprint/54, PhD Thesis submitted to The Faculty of Commerce, Saurashtra University under the guidance of Dr. Daxaben C. Gohil*

[2] *http://hdl.handle.net/10603/1664, PhD Thesis submitted to Department of Economics, University of Hyderabad, under the guidance of Dr. Kamaiah, B*

Mohanan, M K (2005), [3]"The impact of banking and financial sector reforms on rural credit: a study with special focus on Kerala" the researcher has considered period of 1981 to 2004. This is divided in two parts from 1981 to 1991- pre reform and from 1992 to 2004 as post reform period. The analysis of two districts of Ernakulum and Idukki was done. The stress of the study was on impact of financial sector reforms on deposits, credits, priority sector advances and agriculture credit of banks. It was found out that agriculture advances declined post reforms period. The researcher has commented that after banking sector reforms banks have started giving more importance to productivity and profitability, and this has shifted banks' thrust from agriculture credit to retail credit to increase profitability. The growth rate of agriculture credit has declined in Kerala compared to national average after banking sector reforms. The main problem of lending through government schemes was that it was difficult to identify beneficiaries, ignorance on the part of probable beneficiaries, and lack of training and monitoring of those schemes.

Sharma Deepak M. (2005), [4]"Critical evaluation of Indian Banking Sector with reference to Private Sector Banks and Public Sector Banks (1998-99) to (2002-03)", it has analyzed 10 banks of which 5 banks are selected from public sector banks and rest of 5 banks from new private sector banks. The study described four types of analytical aspects of performance of India banking sector i.e. Productivity, Profitability, various Financial Efficiency (Ratio) and comparative study with Common Size balance sheet Statements. The data is collected for the period of five years from 1998-99 to 2002-03 of the accounting years. These hypotheses are based on two different statistical tests viz. Kruskal Wallis One Way Analysis of Variance Test and F – test [ANOVA].The researcher has suggested that, the attitude of bankers will have to be more customers oriented than procedure oriented. Banks also should provide customer services during extended business hours and also provide ATM facilities covering residential areas. The non-performing assets of public sector banks have increased during the period of analysis. The scrutiny process of applications has to be enhanced.

3http://hdl.handle.net/10603/7130 PhD Thesis submitted to Postgraduate Department of Commerce and Research Centre, Nirmala College, Muvattupuzha. Mahatma Gandhi University, under the guidance of Mathew, James

[4]*http://etheses.saurashtrauniversity.edu/id/eprint/64, PhD Thesis submitted to Department of Commerce and Business Administration, Saurashtra University, under the guidance of Dr. ShaileshParmar*

Singh, Dharmendra; Kohli, Garima (2006), [5] "Evaluation of Private Sector Banks in India". The banking and financial sector in India underwent a significant liberalization process in the early 1990s, which led to reforms in the banking and financial sector and changed the Indian banking structure. During the period from 1992 to 1997, interest rates were liberalized and banks were allowed to fix lending rates. By 1997 CRR was reduced to 9.5% and SLR was reduced to 25%. As a sequel to these reforms, new private sector banks were allowed entry in the market. Many of these private sector banks brought with them new technologies. Private sector banks started product innovation and competition. Even then Indians prefer nationalized banks for their services. The failure of Global Trust Bank made Indian depositors to question the sustainability of private sector banks. This paper attempts to undertake SWOT Analysis of 20 old and 10 new private sector banks. These banks have also been ranked on the basis of financial data for the years 2003, 2004 and 2005. The study has used CAMEL model for evaluating these banks.

Ansari MohdSamim(2008)[6], "Performance Evaluation of Nationalized Commercial Banks in India through CAMELS Model in the Post Liberalization Era" has analyzed nationalized Commercial banks for the period of 1999-2000 to 2004-2005 on the parameters of CAMELS Model. The data is analyzed on pre-determined scales of the model. Capital adequacy, Management Efficiency and Profitability are given more weightages. The study concludes that Corporation Bank, Andhra Bank and Oriental Bank of Commerce are rated at top on the overall comparison of CAMELS rating. Punjab & Sind Bank, Dena Bank and Indian Bank are at the bottom of the ranking with the rank of 17th, 18th and 19th respectively. The study is done on 19 nationalized banks were SBI and couple of other major banks are not a part of the study.

Singla, Harish Kumar (2008), [7]Financial Performance of Banks in India. The present study was undertaken to examine and understand how financial management plays a crucial role in the growth of banking. The author has selected sixteen banks. They are

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5Journal of Management Research, (09725814). Aug2006, Vol. 6 Issue 2, p84-101. 18p.

[6]http://hdl.handle.net/10603/15600, PhD Thesis submitted to Institute of Economics & Financial Management, Bundelkhand University under the guidance of Dr. RupeshRanga

[7]ICFAI Journal of Bank Management. Feb2008, Vol. 7 Issue 1, p50-62.

compared on profitability position for the period of five years (2001-2007). The study reveals that the profitability position was reasonable during the period of study when compared with the previous years. Return on Investment proved that the overall profitability and the position of selected banks were sustained at a moderate rate. With respect to debt equity position, it was evident that the companies were maintaining 1:1 ratio, though at one point of time it was very high. Interest coverage ratio was continuously increasing, which indicated the company's ability to meet the interest obligations. Capital adequacy ratio was constant over a period of time. During the study period, it was observed that the return on net worth had a negative correlation with the debt equity ratio. Interest income to working funds also had a negative association with interest coverage ratio and the Non-Performing Assets (NPA) to net advances was negatively correlated with interest coverage ratio.

AgarwalRitu (2009)8 has done a study on "A comparative study of nationalized and private banks with reference to customer relation management" The researcher has studied four commercial banks: SBI, PNB, ICICI, HDFC Bank with the objective of finding out each banks' Customer Relationship Management Practices. Banks have become more competitive and customer centric to be more profitable. This new orientation has compelled them to take a more pragmatic approach for conducting the business. While analyzing the CRM Implementation in both the sectors, it was found that the Private Sector Banks have been able to implement the CRM practices more effectively when compared to their Public Sector counterparts. This indicates that strategically speaking, the Private Sector Banks have been more innovative in understanding their customers and in building good relations with them. The economic liberalization measures introduced by the Indian government coupled with trends towards globalization have substantially altered the banking sector and the profitability of public sector banks has declined to a large extent.

[8]*http://hdl.handle.net/10603/2350 PhD Thesis submitted to, School of Management Studies, Punjabi University under the guidance of Dr. RK Sehgal, 2009.*

Bhakare, Ganjanan A, (2010),[9] "A critical study of non-performing assets of commercial banks in Maharashtra an intersectoral comparison" The study aimed at establishing a linkage between internal efforts of bank and financial institution and growth of NPAs. In other words, growth in NPAs can be checked considerably if bank and financial institutions have suitable internal arrangements. Accordingly RBI introduced 'Health Code' system (1994) for credit administration. Under health code system, the bank loan assets were classified under eight categories such as-H C – 1 : Satisfactory, H C – 2 : Irregular, H C – 3 : Sick but Viable, H C – 4 : Sick but Non – Viable, H C – 5 : Recalled, H C – 6 : Suit –filed , H C – 7 : Decreed, H C – 8 : Bad & Doubtful. The researcher has studied the performance of three cooperative banks namely, 1) The Karad Urban Cooperative Bank Ltd., Karad2) The IchalkaranjiJanataSahakari Bank Ltd. Ichalkaranji3) JanataSahakari Bank Ltd., Pune. The researcher has concluded that since cooperative sector banks receive directives from various agencies like NABARD, Cooperative Department of the State Government and RBI which at times is overlapping. This multiplicity of directives is affecting the performance of these banks. Unlike cooperative banks, commercial banks receive directives only from RBI which are unambiguous. It has been recommended that one nodal body should be created which will monitor the functioning of cooperative banks

DishaBansal (2010)[10] has studied "Impact of liberalization on productivity and profitability of public sector banks in India." Where she has concentrated upon public sector banks and has analyzed these banks till 2007. She opines that aggressive strategies of private sector banks can pose a serious challenge moving ahead for public sector banks. The financial crisis of 2008 has turned the tables and is evident from the events thereafter. The results of trend analysis have shown that the net profits in absolute terms have increased for majority of PSBs but profitability has witnessed a decline. But a few banks have improved their profitability over the study period. The main reason for the declining trends in profitability is the increased competition which

[9] *http://hdl.handle.net/10603/4348 PhD Thesis submitted to, Department of Commerce &Management,Shivaji University, Maharashtra under the guidance of Dr. V M Chavan*

[10] *http://hdl.handle.net/10603/701 PhD Thesis submitted to,Department of Business Management, Saurashtra University under the guidance of Dr. Sanjay Bhayani, 2009.*

has been resulting in narrowing spread, Not much interbank differential were found in the trends of various selected parameters. The researcher has used various parameters like profitability, productivity, sustainability, and growth.

Mallick, Soumitra K.; Sarkar, Amitava; Roy, Kalyan K.; Duttachaudhuri, Tamal; Chakrabarti, Anjan. (2010)[11], Dynamics of emerging India'sbankingsector assets: A simple model. Banking sector loans are the principal source of capital for small and medium business ventures in India, comprising firms that are not large enough to be registered with stock exchanges. Non-performing assets (NPAs) are an important measure of the success of these businesses, as well as of their levels of discretion in carrying out their commercial activities conditional on their role in developing India's entrepreneurship outside the stock markets. In this article we analyze certain properties of NPAs in Indian Banks over the 1990s, when liberalization was introduced by opening up a significant portion of the public sector, allowing private banks to do business. We arrive at three conclusions for emerging India'sbankingsector. First, NPAs (as a ratio of loans and advances) are significantly sticky over time. Second, larger NPAs are associated with larger advances and vice-versa. Third, NPAs do not seem to have spiraled out of control over the 1990s.

Neeraj Sharma (2010)12"Evaluation of the key performance indicators of an information system in Indian banking sector" has studied usage of computers and IT in banking sector in Chandigarh and surrounding areas. The researcher has considered 20 Public sector banks, 7 Private sector banks, and 1 foreign sector bank. Correlation and Factor analysis were applied for analysis of data collected. The IS in the bank should be evaluated in a comprehensive way, by taking into consideration the interest of all the stakeholders of the IS in the bank. As IS was lifeline of any data critical organization so the evaluation of IS must not be neglected or delayed for any reasons. It should be done in a regular and positive manner in order to sustain the effectiveness of IS with respect to business needs.

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[11] *Journal of Asset Management.Apr2010, Vol. 11 Issue 1, p62-70. 9p.*

[12] *http://hdl.handle.net/10603/2076 PhD Thesis submitted to, School of Management Studies, Punjabi University under the guidance of Dr. RK Sehgal, 2010.*

Saluja, Rajni; Lal, Roshan (2010)[13], "Comparative Analysis on Non-performing Assets (NPAs) of Public Sector, Private Sector and Foreign Banks in India" The burgeoning NPAs in the banking industry is a matter of deep concern. PSBs are under severe pressures of NPAs as compared to its counterparts that private and foreign banks. NPAs reduce the profitability of banks, weaken its financial health and erode its solvency. The researcher has made an attempt to compare the performance of public and private sector banks and in foreign banks in India with special reference to their NPAs. For this purpose four banks from the public sector (State Bank of India, Allahabad Bank, Bank of Baroda, and United Bank of India), from the private sector (Axis Bank, HDFC Bank, ICICI Bank, and IndusInd Bank), and from foreign banks (Citibank, Deutsche Bank, HSBC Ban, and Standard Chartered Bank) are selected. A comparative analysis of all three categories is made on the basis of gross NPAs and Net NPAs. NPAs are also categorized into priority and non-priority sector for purpose of analysis. The study concludes that there is huge difference in NPAs of public, private, and foreign banks. Public sector banks are highly pressurized by the NPAs. Moreover, greater quantum of NPAs is observed in non-priority sector than in priority sector. NPAs are not confined to PSBs alone but are present in private banks and foreign banks as well.

Haque, Imamul (2011)[14] "Comparative Study between Public Sector Banks & Private Sector Banks" The author has analyzed Service quality in Indian Banking Sector. It is considered as main determinant of customer satisfaction. Before liberalization the banking sector in India was mainly dominated by nationalized banks. After liberalization and implementation of the Narsimham Committee Report, Indian Banksare facing tough competition from the new privateand foreign banks observing International Banking Standard. These new generation banks are characterized by the usage of modern information technology network and modern banking services, like ATM, debit card, online banking facilities. Customers have a wide ranging banking services offered and delivered by modern private sector banks and foreign banks. The

[13]*International Journal of Research in Commerce and Management, November 2010, v. 1, iss. 7, pp. 80-88*

[14]*International Journal of Management & Innovation.2011, Vol. 3 Issue 2, p26-34.*

need of hour for the Indian banking sector is to enhance their services quality and shore up their competitive capabilities, making the banks more market oriented and customer friendly. The study was an attempt to focus on the service quality in Retail Banking and highlight the dimensions of quality banking service in the private sector banksand public sector banks.

Kumar Das, Santosh; Drine, Imed (2011)[15], "Financial Liberalization and Banking Sector Efficiency in India: A Fourier Flexible functional form and Stochastic Frontier Approach". The Indian financial sector has undergone a significant structural transformation since the initiation of financial liberalization during 1990's. It brought significant changes in the financial sector in general and banking in particular. One of the major objectives of financial liberalization was to make the financial institutions more efficient and competent. This paper intended to analyze the cost efficiency of the Indian bankingsector applying the stochastic frontier approach. Using the Fourier Flexible functional form and stochastic cost frontier methodologies, the study finds, the public sector banks are the most efficient banks followed by the domestic private sector and foreign banks. The finding of the study is quite contrary to the international evidence. There could be several potential expiations to this unconventional finding. First, the natural monopoly argument--the public sector banks got the advantage of the first mover and also the economies of scale. Second, the time period of the study is the period of consolidation for the foreign banks and the new private banks. It is because, several banking specific reforms as a part of financial sector reform went on till late 1990's.

Malhotra, D. K, Poteau, Raymond, Singh, Rahul (2011)[16], "Evaluating the performance of commercial banks in India". The authors have analyzed the performance of commercial banks in India during the period 2005 to 2009. This period covers the pre-credit crisis and the crisis time period. Specifically, the paper examines the behavior of profitability, cost of intermediation, efficiency, soundness of the banking system, and industry concentration for public and private

[15] *International Business & Management; 2011, Vol. 2 Issue 1, p42-58, 17p*
[16] *Asia Pacific Journal of Finance & Banking Research. Jun2011, Vol. 5 Issue 5, p15-37. 23p*

sector Indian commercial banks. The empirical results show that competition in the Indian banking industry has intensified. While the net interest margin has improved, cost of intermediation is actually rising and banks are responding to the increased costs with higher efficiency levels.

Marvaniya, Nilesh M (2011)[17], "A comparative study of non-fund based income of selected public sector banks & selected private sector banks in India" the researcher has analyzed ten banks each from public and private sector and analyzed these banks from 2004 to 2008 period. The objective of the study was to study, judge and examine the contribution of non-fund based income in the financial efficiency of commercial banks. It has used T-Test, F- Test, TWO WAY ANOVA techniques for analysis. According to the researcher, banking sector in India should consider the potential of Non-Fund Based Income activities that earn more income rather than interest income. Banks in India required potential diversification benefits from the shifting nontraditional activity. Banking sector in India needs to require risk management information system and to achieve a better credit portfolio equilibrium. Banks should extend the technology which is used in internet banking in Order to remove the difficulties. Banks should provide the services in different languages.

Paul, Purnendu; Bose, Swapan K.; Dhalla, Rizwan S. (2011),[18] "Efficiency measurement of Indian public sector banks: non-performing assets as negative output". In this paper authors have attempted to measure the relative efficiency of Indian PSU banks on overall financial performances. Since, the financial industry in a developing country like India is undergoing through a very dynamic pace of restructuring, it is imperative for a bank to continuously monitor their efficiency on Non-Performing Assets, Capital Risk-Weighted Asset Ratio, Business per Employee, Return on Assets and Profit per Employee. Here, Non-Performing Assets is a negative financial indicator. To prove empirically, we propose a framework to measure efficiency of Indian public sector banks.

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[17] *http://hdl.handle.net/10603/3974, PhD Thesis submitted to, Department of Commerce, Saurashtra University under the guidance of Dr. A.K. Chakrawal*

[18] *Asia Pacific Journal of Finance & Banking Research. Jun2011, Vol. 5 Issue 5, p38-46. 9p.*

Ramaratnam, M. S.; Jayaraman, R.; Srinivasan, B. Balaji (2011)[19], "A Study on Measuring the Performance of Indian Banking Sector in the Event of Recent Global Economic Crisis--An Empirical View" It is argued that the banking sector in India is well insulated and it is immune to the crisis because of well-regulated banking system. In the light of the above fact this paper has made an attempt to highlight certain key parameters to evaluate the performance of the Indian banking sector amidst in the global financial turmoil. The parameters used in evaluating the performance of the banking sector of our sub-continent are current growth of bank credit to the private sector, capital to risk weighted asset ratio (CRAR), asset quality management, classification of loan asset, cost of fund, return on fund and spread, return on asset (ROA) and return on equity and procurement of capital through domestic and foreign sources.

Siraj K. K, Pillai, P. Sudarsanan (2011)[20] "Asset quality and profitability of Indian scheduled commercial banks during global financial crisis". The authors have investigated the performance of commercial banks in India before and after global financial crisis (2007-09). The study concludes that commercial banks have become more vulnerable during crisis time. The notable result was public sector banks were more stable and susceptibility of private sector and foreign sector banks increased during financial crisis period. The stability of banking sector is determined on the basis of its performance and quality of assets. The Indian banking sector has undergone structural changes during post liberalization era with the implementation of prudential norms for income recognition, provisioning and asset classification. According to the researcher notable result is the financial stability of public sector banks and increased susceptibility of private sector and foreign banks during financial crisis.

Bapat, Dhananjay, (2012)[21], "Efficiency for Indian public sector and private sector banks in India: assessment of impact of global financial crisis". The article presents information on the assessment of the impact of the global financial crisis on the

[19]*International Journal of Research in Commerce, Economics and Management, May 2011, v. 1, iss. 1, pp. 106-09*
[20]*InternationalResearchJournal of Finance & Economics. 2011, Issue 80, p55-65. 11p.*
[21]*International Journal of Business Performance Management.2012, Vol. 13 Issue 3/4, p330-340. 11p.*

efficiency of the Indian public and private sector banks in India. It informs that the banking sector in the country has been undergoing many transformations since its liberalization. It further informs that during the analysis interest income and non-interest incomes were used as outputs.

Dr.M.Dhanabhakyam, M.Kavitha, (2012)[22] "Financial Performance of Selected Public Sector Banks in India". The financial performance of six public sector banks was undertaken from 2001 to 2010. The ratios were used such as CD ratio, ratio of Advances to Assets, ratio of Capital to Deposits, Ratio of Capital to Working funds, Ratio of Demand Deposits to Total Deposits, Credit Deposit ratio, etc. the study has found out that though these banks have performed better on all the parameters but aggressive marketing techniques of private sector banks have put pressure on public sector banks. It has been suggested that banks should cater to the ever increasing aspirations of our economy by ensuring minimum profitability.

Dinabandhu Bag (2012)[23], " Stress Testing of the Banking Sector in Credit Risk Framework", the author has given stress testing framework for computing capital ratio levels in which banks' credit risk are modeled in presence of both bank level as well as macro-economic factors. He has defined macro scenarios using multivariate normal distribution and considered its impact on credit quality and hence the resulting changes in the capital ratio levels. He has emphasized that it is important to model and consider the joint dynamics of capital ratio levels and credit losses. In this study it is observed that if credit losses are ignored and changes in capital reserves is stress tested alone, can be seriously underestimated. The article concludes that banks need to stress their individual capital ratio levels both with respect to their own performance as well as the performance of peer banks in the presence of significant economic factors.

Nandy, Debaprosanna (2012)[24] "Efficiency study of Indian public sector banks - an application of data envelopment analysis and cluster analysis" has studied public sector banks with reference to the efficiency of the public sector banks in India. The study is

[22] *International Journal of Multidisciplinary Research Vol.2 Issue 1, January 2012, ISSN 2231 5780*
23 Journal of Social and Management Sciences, Prajnan, Vil. XLI No. 1, ISSN 0970-8448, NIBM p51 – 67
[24] *International Journal of Business Performance Management.2012, Vol. 13 Issue 3/4, p312-329.*

based on the financial performance of the public sector banks in the country. The above mentioned studies are concentrated either on one type of banks or one aspect of banking sector like IT usage or profitability. The researcher is intending to do a comprehensive study by taking leading banks from three major types of banks.

Nandi Jayanta Kumar, (2012)[25] "Performance Evaluation of Selected banking Companies in India – A Study", the researcher has studied 10 banks each from public sector and private sector banks. The study is conducted for the period of 2002 to 2011. The performance is judged on the basis of CAMEL parameters. The deposits, advances, cost efficiency and profitability parameters are analyzed and it has been concluded that new private sector banks have performed well compared to public sector banks. The emphasis on social goals is better with public sector banks. The CAMEL study has higher ranks for private sector banks. Public sector banks have been found to have failed in controlling cost. Social responsibility performance is seen higher in case of public sector banks compared to private sector banks.

Purohit, Jeevraj J, (2012)[26] "A critical analysis of financial reforms in banking sector in post liberalization period: with respect to public and private sector banks" the period of analysis is taken as financial reform process i.e. from 1991-92 to 2009-10. The analysis is made in three phases, i.e. from period of liberalization i.e. first generation reforms, second generation reforms and third generation reforms. The study is concerned with Impact of Banking sector Reforms in the post liberalization period. The researcher has emphasized that the reform measures brought a paradigm shift in the banking industry and enhanced the overall performance of the banks. the research study revealed that the financial reforms was carried out and it has created the efficient, productive and profitable banking sector to function with operational flexibility and functional autonomy and the banking sector has made tremendous progress in terms of all financial parameters like Capital adequacy, asset quality, Operating expenses, profitability, risk management practices.

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[25] *PhD Thesis submitted to, Department of Commerce, Burdwan University under the guidance of Dr. Chitta Sarkar*

[26] *http://hdl.handle.net/10603/3712 PhD Thesis submitted to, Department of Banking & Business Economics,MohanLalSukhadia University under the guidance of Dr. IndraVardhanTrivedi,*

Somnath P Patil, (2012)[27], "Productivity and Profitability of State bank of India and its Associate Banks in changing scenario of Indian Economy", has analyzed the productivity and profitability of SBI and Associate banks. The data has been studied for 2007-08and 2008-09. The parameters like business per employee, deposits per employee, credit per employee and net profit per employee have been considered for productivity of human resource. Branch productivity is considered through business per branch, deposits per branch, credit per branch and net profit per branch. The article concludes that SBI and its Associate banks need to sensitize their personnel in credit appraisal, disbursement of loan amount, recovery schedule, strict follow up and monitoring the targeted borrower's accounts for timely recovery.

Mishra, Krishna Murari, (2013)28 "Financial Performance of Indian Banks in Post Liberalization Era: a study of Public and Private Banks." The analysis of SBI and ICICI bank has been done by using CAMEL Model. The researcher has found out, through analyzing above said banks, that financial performance of Private Sector Bank is better than Public Sector Banks in Post Liberalization Era.

Ram PratapSinha (2013)[29], "A Comparison of the Performance of Commercial Banks: DEA Evidence of India." The researcher has evaluated the performance of 49 banks from 2006-07 to 2010-11 using Seiford and Joe Zhu (2002) approach. The analysis has been done on two parameters 1. Two good outputs- Total assets and other income. 2. One bad output- Gross Non-Performing Assets. The deposits mobilized by banks have been taken as the input indicator. The results indicate that the new private sector commercial banks performed the best, followed by nationalized banks and the SBI group.

Mihir Das &Annyesha Das (2013)[30], "Performance Appraisal of Indian banks using CAMELS rating". The researcher has used CAMEL model which is based on various ratios of banks. Capital Adequacy, Assets Quality, Management Efficiency, Earnings &

[27] *Journal of Commerce &Management Thought III, ISSN No- 0975-623X*
[28] *http://hdl.handle.net/10603/9288, PhD Thesis submitted to Department of Commerce, U P RajarshiTondon Open University under the guidance of R.K, Singh.*
[29] *The IUP Journal of Bank Management, Vol. XII, no 2, 2013, Reference: #10J-2013-05-01-01*
[30] *The IUP Journal of Bank Management, Vol. XII, no 2, 2013, Reference: #10J-2013-05-03-01*

Profitability, and Liquidity are considered in this model. The researcher has taken sample of 58 banks in India for the period 2003-08. It compared public sector banks with private/foreign sector banks. The results show that private/foreign sector banks performed better than public sector banks. The importance of management soundness and earnings & profitability were the major contributors.

SalujaJyoti (2013)[31], "Operational and financial performance of public and private sector banks in India" analyzed public and private sector banks during the period of 1992 to 2010 to find out growth, profitability, efficiency of these banks. Multiple tools are used in the study like regression for profitability, Data Envelopment Analysis for measuring productivity. One of the finding of the study is that public sector banks are less efficient because of excess manpower. Credit deployment was lagging in public sector banks compared to private sector banks. Comparison of banks intra and inter group is done on various parameters as total income, total expenditure, interest income, non-interest income etc.

The majority of the research completed in the past concentrates either on one type of banks, on very few parameters, on the basis of performance of banks post liberalization, or on individual bank. The CAMEL parameters are used extensively in majority of the research. The absolute numbers (such as Deposits, Advances, profit etc. are not considered in many studies. The current study has a very unique approach to the analysis of commercial banks in India. In this study commercial banks are analyzed on their performance on the basis of two phases of business cycle which Indian economy witnessed in last twelve years. It has been observed that commercial bank's performance has a direct correlation with the GDP growth rate. Indian economy registered highest GDP growth rate for couple of years before subprime crisis of 2009. The banking performance at that time was at its best, profits were rising, and non-performing assets were declining at a very impressive rate. The question is did banks performed the same when GDP growth decelerated at lower levels in recent years? The commercial banks are analyzed on various parameters of performance, efficiency,

[31] *http://hdl.handle.net/10603/13574 PhD Thesis submitted to Department of Commerce, Punjabi University, under the guidance of DrRajinderkaur*

productivity and profitability during the two time periods to find out as to how banks performed relatively during this time.

4.2 Conceptual framework

The financial systems and commercial banks are changing fast with the changing economic environment. The commercial bank supervision and analysis of their performance also has to change in methodology. The frequency and depth of the analysis also requires fresh assessment. The analysis is typically done in on site surveillance and off site surveillance. The onsite surveillance can only be undertaken by supervisory authority as it has the mandate and financial wherewithal to undertake such a large scale activity. The offsite surveillance involves financial data disclosed by banks to the supervisory authority of that nation, Reserve Bank of India in case of India. Commercial banks need to disclose financial information of their business to RBI almost on daily and weekly basis. The quarterly and further time horizon data is also disclosed to RBI. This data published by the central monetary authority can be used by researchers and academicians to analyze the performance of banks. This off site surveillance is dependent on the reliable data and is usually cost effective. This analysis can be undertaken with help of balance sheet statement, profit & loss statements, short term asset liability statements and liquidity statements issued by commercial banks from time to time.

The financial performance analysis of banks can be done on the basis of two parameters.

1. The Uniform Financial Institution Rating System, Commonly known as CAMEL rating has been adopted by most of the developed nations and developing nations. RBI also analyzes the performance of commercial banks on these ratings.
2. The financial performance can also be judged on the basis of basic financial parameters of the banks like Deposits, Advances, Profit, Interest Income, Non-Interest Income, Total Income, Net Worth, Total Assets, and Non-Performing

Assets. These parameters can be accessed on the basis of time period for a bank or between banks comparisons.

The current study focuses on the impact of business cycle phases on the performance of commercial banks. As it is said a big tide lifts all boats. The high growth years in Indian economy from 2004 to 2008 helped all sectors including commercial banks to perform at very impressive levels. Did commercial banks performed at the same level during low growth years of 2009 to 2013? What happened to the pan India level commercial banks during low growth years? Are there any important lessons that can be learnt from these years? The corporate sector faced a lot of challenges during last couple of years. What challenges did commercial banks faced? How are these banks dealing with these challenges? These are some of the questions which inspired researcher to undertake this study.

Conclusion

The major thrust of analysis on performance of banks focuses on efficiency, productivity, liquidity, and asset quality, ability to provide professional services, customer satisfaction, and ability to compete in a very dynamic business environment. The current study on the other hand is concentrated on analyzing performance of banks in two phases of business cycle.

Chapter 5

Data Presentation- CAMEL

The data is collected on various parameters on the basis of two time periods i.e. high growth years and low growth years. The Mean values are calculated for two time periods and is presented in two different tables along with Standard Deviation and Coefficient of variation. The data is either absolute number or a ratio. The unit of absolute numbers is given in respective table. The data is analyzed for two time periods thereby two mean values are generated for each parameter. The two mean values of each parameterare compared in T test with level of 95% confidence interval.

CAMEL Analysis

Capital Adequacy- The basic business of a bank is to generate deposits and disburse loans. While disbursing loans banks take a risk of loan amount loss as couple of borrowers do not pay back loan in partial or in full. Commercial banks typically take various types of risks such as operational risk, credit risk and market risk. In order to protect depositor's money from any such losses, banks maintain their own capital as cushion against the losses. The capital that banks maintain is of two types Tier I and Tier II capital. This capital is expressed as a percentage against the risk adjusted assets called as loans. Every type of loan is assigned a particular weightage according to its likeliness of becoming bad loan.

Assets Quality – The poor quality of assets can force the bank to fail. Assets quality has to be maintained by the banks with robust scrutiny process and high level of efficiency of credit approval department keeping in mind latest trends in various sectors of the economy. The trends in credit approval have to be observed if more credit is concentrating in one sector or intra group lending. The loan exposure limits should be maintained strictly. Non-performing assets classification of 90 days, 180 days and so on has to be strictly followed. The analysis should be undertaken to find out as to why non-performing assets are getting created. It has been observed that large exposure to a particular sector of the economy creates a lot of non-performing assets in the system. If

a bank has lent high amounts of credit to such sectors it is bound to have problem of bad loans.

Management Efficiency – The management efficiency is calculated as ability of bank's top management to take right decisions. The top management has to identify measure and control the risk associated with the banking business. It has been observed that a clear and long term vision can help a bank in achieving sustainable growth. The ownership of bank also has an important role in decision making. Public sector banks are seen to be taking decisions on the basis of social good and all-round development of the economy. The majority of infrastructural financing is done by public sector banks in India. Private sector banks are largely seen as profit driven businesses. Though it is nothing wrong in having profit motive but at times decisions are taken compromising the long term sustainability of the business.

Earnings Quality – The earnings quality is of a paramount importance to a bank. The profit numbers are not enough. The quality of earnings is important. Profit generated as one on basis or by selling assets of a bank can not be considered as healthy. The majority of the earnings should come from annuities. The growth trend in earning calculated for longer term should show consistency.

Liquidity – The level to which bank is able to meet its short term obligation on time is decided by the level of liquidity it maintains. There should be no mismatch between maturity of interest rate and annuities received by the bank. The short term assets should always be more than short term liabilities. The faith in the banking system of the depositors is very important.

The short forms are used from hence to mention individual banks. The shorts forms are as follows

Nationalized Banks

State Bank of India - SBI

Punjab National Bank – PNB

Bank of Baroda - BOB

Bank of India- BOI

Canara Bank- Canara

Private Sector Banks

Industrial Credit and Information Corporation Bank -ICICI

Housing Development Finance Corporation Bank - HDFC

AXIS Bank- AXIS

Development Credit Bank - DCB

IndusInd Bank - IndusInd

Foreign Sector Banks

CITI Bank- CITI

Standard Chartered Bank- SCB

Hongkong Shanghai Banking Corporation - HSBC

Deutsche Bank - Deutsche

Development Bank of Singapore - DBS

The parameters analyzed in the study are divided in to two parts.

The high growth years of 2002 to 2008

And low growth years of 2009 to 2013

In the last 14 years all the financial data of commercial banks is published in different values 2002 to 2007 bank data is published in lacs, 2008 to 2011 the data is published in crores and 2012 onwards data is published in million. The consistency in the data is

maintained by converting all the data in crores for the entire time period. This problem is irrelevant when the ratio data is analyzed.

The data is compiled from the RBI publications and bank specific balance sheets of the relevant years. The collected data is analyzed on Mean, Standard Deviation and Coefficient of Variation to find out the performance. The higher Standard Deviation and Coefficient of Variation show the high fluctuations in the parameters. The high fluctuations are considered as inability of the bank to perform consistently. The low level of Standard Deviation and Coefficient of Variation shows low level of fluctuations. The lower fluctuations show higher stability of bank performance.

The means values are considered for the ranking. The higher mean value is given higher rank for a parameter. The rankings are given as 1 to 15 as 15 banks are considered for the study. The rank of 1 is considered as higher and better and rank 15 is given to the lowest performing bank in each category i.e. parameters and absolute numbers.

It is to be noted that financial performance of banks is analyzed on CAMEL parameters (these are absolute numbers or ratios as per the norm) and the principle factor analysis parameters which are absolute numbers.

The higher mean value; higher ranking is the parameter is the rule with the only exception of non- performing assets. The higher non- performing assets reflect the inability of a bank to assess the repayment capacity and mortgage quality of a borrower. The lower mean value on non-performing assets is given higher ranking. The higher mean value of non-performing assets is given lower ranking.

5.1 Capital Adequacy- bank capital has important role in safety and soundness of banking business. Capital adequacy norms help banks maintain the level of capital which can absorb unexpected losses. Capital Adequacy parameter includes following ratios

5.1.1 - CAR – Capital Adequacy Ratio

5.1.2 – Tier I capital

5.1.3- Tier II Capital

5.1.4 – Advances to Total Assets Ratio

5.1.1 CAR – Capital Adequacy Ratio

It is the owner's funds. The basic approach of capital adequacy framework is that a bank should have sufficient capital to provide a stable resource to absorb any losses arising from the risks in its business. Capital is divided into different tiers according to the characteristics / qualities of each qualifying instrument. For supervisory purposes capital is split into two categories: Tier I and Tier II.

Table 5: Capital Adequacy Ratio of Selected Banks 2002-2013 (Mean, SD, CV)

CAR = Tier I capital + Tier II capital / Risk weighted assets

Capital Adequacy Ratio of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Banks	**Mean**	**Standard Deviation**	**Coefficient of Variation in %**
SBI	12.84	0.71	50.74
PNB	12.48	1.37	187.35
BOB	12.66	1.01	101.61
BOI	11.6	0.86	74.79
Canara	12.42	0.79	61.83
ICICI	11.62	0.99	98.31
Axis	11.35	0.72	51.27
HDFC	12.23	1.08	117.62
DCB	11.11	1.72	295.59
IndusInd	12.01	0.82	67.3
CITI	11.11	0.2	3.97
SCB	10.25	0.56	31.81
HSBC	13.22	2.93	856.19
Deutsche	14.31	2.42	583.77
DBS	30.06	15.18	23056.93

Source- Calculated by the researcher

Capital Adequacy Ratio of 15 banks is considered from 2009 to 2013 in this table and mean, standard deviation and coefficient of variation is calculated.

Banks	**Mean**	**Standard Deviation**	**Coefficient of Variation in %**
SBI	13.32	0.76	63.64
PNB	13.23	0.72	57.09
BOB	13.97	0.67	49.21
BOI	12.19	0.7	54.63
Canara	13.72	0.95	98.98
ICICI	17.61	2.2	532.6
Axis	14.42	1.55	265.61
HDFC	16.05	1.27	177.53
DCB	13.97	0.88	86
IndusInd	14.12	1.62	287.93
CITI	15.44	2.26	561.28
SCB	11.75	0.84	77.81
HSBC	15.85	2.67	781.25
Deutsche	15	0.83	75.06
DBS	15.53	1.76	339.28

Source- Calculated by the researcher

The banks have been ranked on the basis of Capital Adequacy Ratio, on the basis of mean values of both the periods. The higher Capital Adequacy Ratio is better for the bank. The higher the Capital Adequacy Ratio, higher the rank is given to the bank.

Table I: Ranking of banks on capital adequacy in period 1 and 2

Rank	**Period 1**	**Period 2**
1	DBS	ICICI
2	Deutsche	HDFC
3	HSBC	HSBC
4	SBI	DBS
5	BOB	CITI
6	PNB	Deutsche

Rank	Period 1	Period 2
7	Canara	Axis
8	HDFC	IndusInd
9	IndusInd	BOB
10	ICICI	DCB
11	BOI	Canara
12	Axis	SBI
13	DCB	PNB
14	CITI	BOI
15	SCB	SCB

DBS and ICICI are ranked no 1 in period 1 and period 2 respectively. This reflects that these banks are maintaining highest CAR in respective time period. SCB has been ranked lowest at 15th rank in both the time periods showing CAR is maintained at the lowest levels among the banks analyzed. HDFC, IndusInd, AXIS, DCB and CITI have improved on their ranking during the period 2. ICICI has the best improvement in ranking. This has improved from the rank of 10th in period 1 to rank 1 in period 2. DBS, Deutsche, SBI, BOB, PNB, Canara and BOI have declined in ranking during period 2 compared to period 1. CITI and BOB have the lowest level of standard deviation and coefficient of co variation in period 1 and period 2 respectively. DBS and HSBC have the highest level of standard deviation and coefficient of co variation in period 1 and period 2 respectively, reflecting inconsistency in performance in this parameter.

5.1.2 Tier I Capital-It consists mainly of share capital and disclosed reserves (minus goodwill, if any). Tier I items are deemed to be of the highest quality because they are fully available to cover losses Hence it is also termed as core capital.

Table 6: Tier I Capital of Selected Banks 2002-2013 (Mean, SD and CV)

Tier I capital of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Banks	Mean	Standard Deviation	Coefficient of Variation in %
SBI	8.63	0.59	34.6
PNB	8.05	1.44	207.52
BOB	8.68	1.2	142.99
BOI	6.96	0.49	23.93
Canara	7.67	0.35	12.52
ICICI	7.47	1.01	101.81
Axis	6.98	0.99	97.21
HDFC	9.18	1	100.42
DCB	7.78	2	399
IndusInd	8.47	1.55	241.77
CITI	9.17	1.02	103.93
SCB	7.51	0.86	73.93
HSBC	10.72	2.32	536.79
Deutsche	11.94	2.29	524.24
DBS	26.73	15.59	24312.51

Source- calculated by the researcher

Tier I capital of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Banks	Mean	Standard Deviation	Coefficient of Variation in %
SBI	9.17	0.72	51.4
PNB	9.09	0.43	18.69
BOB	9.38	1.17	137.78
BOI	8.37	0.41	16.63
Canara	9.09	1.48	220.27
ICICI	12.7	0.83	68.84
Axis	10.28	1.19	142.21
HDFC	11.51	1.1	122.06
DCB	12.13	0.97	93.13
IndusInd	10.22	2.77	765.73

Banks	Mean	Standard Deviation	Coefficient of Variation in %
CITI	14.56	2.33	541.63
SCB	8.78	0.91	82.52
HSBC	14.62	2.6	675.91
Deutsche	14.31	0.92	83.92
DBS	10.8	2.16	467.67

Source- calculated by the researcher

The banks have been ranked on the basis of Tier I Capital, on the basis of mean values of both the periods. The higher the Tier I capital better it is for the bank. The higher the Tier I capital, higher the rank is given to the bank.

Table II: Ranking of banks on Tier I in period 1 and 2

Rank	Period 1	Period 2
1	DBS	HSBC
2	Deutche	CITI
3	HSBC	Deutsche
4	HDFC	ICICI
5	CITI	DCB
6	BOB	HDFC
7	SBI	DBS
8	IndusInd	Axis
9	PNB	IndusInd
10	DCB	BOB
11	Canara	SBI
12	SCB	Canara
13	ICICI	PNB
14	Axis	SCB
15	BOI	BOI

It can be observed that mean value of Tier I capital is highest in case of foreign sector banks. DBS has been on the top on this parameter during first the time period and Deutche bank has topped the list in second period. The overall Tier I capital is a

minimum in case of public sector banks. BOI has been at the lowest level of Tier I capital in both the time periods. DBS has the highest level of fluctuations in maintaining the tier I capital as reflected by highest level of standard deviation and coefficient of co variation. Canara bank has the lowest standard deviation and coefficient of co variation reflecting the lowest fluctuations in case of Tier I capital.

5.1.3 Tier II Capital- it is a regulatory capital also referred to as supplementary capital, it consists of certain reserves and certain types of subordinated debt. Tier II items qualify as regulatory capital to the extent that they can be used to absorb losses arising from a bank's activities. Tier II's capital loss absorption capacity is lower than that of Tier I capital.

Table 7: Tier II Capital of Selected Banks 2002-2013 (Mean, SD and CV)

Tier II capital of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Banks	**Mean**	**Standard Deviation**	**Coefficient of Variation in %**
SBI	4.21	0.91	82.15
PNB	4.42	1.6	255.54
BOB	3.98	1.02	104.88
BOI	4.64	0.56	30.99
Canara	4.76	1.07	114.86
ICICI	4.15	0.12	1.46
Axis	4.37	0.54	28.7
HDFC	3.05	0.98	95.31
DCB	3.34	1.59	253.21
IndusInd	3.54	1.26	158.56
CITI	1.93	0.96	91.89
SCB	2.75	1.01	102.55
HSBC	2.49	1.25	156.99
Deutsche	2.38	1.67	280.03
DBS	3.34	4.18	1750.13

Source- calculated by the researcher

Tier II capital of 15 banks is considered from 2009 to 2013 in this table and mean, standard deviation and coefficient of variation is calculated.

Banks	**Mean**	**Standard Deviation**	**Coefficient of Variation in %**
SBI	4.15	0.48	23.07
PNB	4.15	0.87	76.41
BOB	4.59	0.93	87.05
BOI	3.82	0.63	39.41
Canara	4.63	1.43	205.88
ICICI	4.92	1.62	263.63
Axis	4.14	0.61	37.25
HDFC	4.54	0.88	76.63
DCB	1.84	0.65	42.45
IndusInd	3.89	1.62	264.02
CITI	0.87	0.12	1.33
SCB	2.97	0.48	22.69
HSBC	1.24	0.2	4.03
Deutsche	0.69	0.1	1.07
DBS	4.73	1.04	107.37

Source- calculated by the researcher

The banks have been ranked on the basis of Tier II Capital, on the basis of mean values of both the periods. The higher the Tier II capital better it is for the bank. The higher the Tier II capital, higher the rank is given to the bank.

Table III: Ranking of banks on Tier II in period 1 and 2

Rank	**Period 1**	**Period 2**
1	Canara	ICICI
2	BOI	DBS
3	PNB	Canara
4	Axis	BOB
5	SBI	HDFC

Rank	Period 1	Period 2
6	ICICI	SBI
7	BOB	PNB
8	IndusInd	Axis
9	DBS	IndusInd
10	DCB	BOI
11	HDFC	SCB
12	SCB	DCB
13	HSBC	HSBC
14	Deutsche	CITI
15	CITI	Deutsche

It can be observed that public sector banks have topped the list of tier II capital parameter followed by private sector banks. Foreign sector banks are ranked the lowest the reason can be found in the fact that, these banks have been maintaining very high Tier I capital. Canara bank which topped the list in first period slipped to 3rd position in period 2. ICICI bank has been seen borrowing maximum amounts from the market during the period 2, has topped the list. ICICI and IndusInd have the highest standard deviation and coefficient of co variation reflecting the highest fluctuations in case of Tier II capital. Deutsche has the lowest standard deviation and coefficient of co variation reflecting stability in maintaining Tier II capital. The observation can be made that banks which have performed well in performance of Tier I capital have not performed well in Tier II capital parameter.

5.1.4 Advances to Total Assets Ratio- it is the ratio of advances given by a bank to the total assets. The higher ratio indicates that bank is able to utilize the resources to the optimum level.

Table 8: Advances to Total Assets Ratio of Selected Banks 2002-2013 (Mean, SD and CV

Advances to Total Assets of 15 banks are considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Banks	Mean	Standard Deviation	Coefficient of Variation in %
SBI	44.84	10.31	10630.8
PNB	49.78	5.1	2599.83
BOB	48.78	5.91	3487.34
BOI	56.84	2.33	540.79
Canara	52.97	5.88	3455.92
ICICI	52.36	4.97	2468.61
Axis	41.53	5.28	2784.4
HDFC	43.02	8.54	7294.79
DCB	50.39	4.3	1845.68
IndusInd	53.41	3	902.37
CITI	51.91	1.84	336.75
SCB	49.4	3.51	1232.49
HSBC	41.72	2.94	863.75
Deutsche	26.55	4.55	2069.2
DBS	34.66	15.3	23401.03

Source- calculated by the researcher

Advances to Total Assets of 15 banks are considered from 2009 to 2013 in this table and mean, standard deviation and coefficient of variation is calculated.

Banks	Mean	Standard Deviation	Coefficient of Variation in %
SBI	61.26	4.08	1664.79
PNB	63.03	1.63	265.64
BOB	62.22	2.03	411.28
BOI	62.91	1.58	248.48
Canara	61.67	2.11	445.3
ICICI	53.84	2.85	812.35
Axis	57.23	1.97	387.51
HDFC	55.59	4.35	1895.64
DCB	57.08	2.59	670.88
IndusInd	58.15	2.21	487.78

Banks	Mean	Standard Deviation	Coefficient of Variation in %
CITI	39.28	3.51	1229.89
SCB	45.7	4.25	1808.32
HSBC	31.79	4.61	2126.5
Deutsche	44.34	7.74	5985.47
DBS	28.36	6.16	3798.2

Source- calculated by the researcher

The banks have been ranked on the basis of Advances to Total Assets Ratio, on the basis of mean values of both the periods. The higher the Advances to Total Assets Ratio better it is for the bank. The higher the Advances to Total Assets Ratio, higher the rank is given to the bank.

Table IV: Ranking of banks on Advances to Total Assets in period 1 and 2

Rank	Period 1	Period 2
1	BOI	PNB
2	IndusInd	BOI
3	Canara	BOB
4	ICICI	Canara
5	CITI	SBI
6	DCB	IndusInd
7	PNB	Axis
8	SCB	DCB
9	BOB	HDFC
10	SBI	ICICI
11	HDFC	SCB
12	HSBC	Deutsche
13	Axis	CITI
14	DBS	HSBC
15	Deutsche	DBS

There has been mixed performance on this parameter. It can be observed that nationalized banks have performed better in period 2, as all selected five banks are ranked on the top. AXIS has improved it ranking from 13th to 7th level. BOI has been 1st

and 2nd respectively in two time periods. PNB has improved to rank 1st in period 2 from rank 7th in period 1. BOI has the lowest standard deviation and coefficient of co variation in both the periods, reflecting stability in maintaining Advances to Total Assets Ratio. DBS has the highest standard deviation and coefficient of co variation in both the periods highlighting the weakness of this bank in term of sustainability of the performance. Foreign sector banks have been ranked at the lowest levels in both periods which indicate relative lower performance of these banks in disbursing advances as a percentage of total assets.

Analysis of the above data is done in two ways

1. Ranking of banks according to capital adequacy parameter
2. Standard two sample T test

Ranking of banks according to capital adequacy parameter

The bank is data is analyzed for two time periods.

A) The high growth years of 2002 to 2008
B) The recessionary phase from 2009 to 2013.

The following tables clearly distinguish the difference in ranking of individual banks between two periods of time.

Table 9: Ranking of Selected Banks on Capital Adequacy parameter (2002-08)

Bank	**CAR**	**ATOTA**	**TI**	**TII**	**Rank**
SBI	12.87	48.69	8.62	4.26	3
PNB	12.93	51.93	8.49	4.44	1
BOB	12.93	50.77	8.69	4.24	4
BOI	11.82	58.27	7.18	4.64	10
Canara	12.65	55.22	7.49	5.16	2
ICICI	12.04	54.23	8.19	3.86	10
Axis	11.86	44.40	7.60	4.26	14
HDFC	12.17	46.18	9.09	3.08	13
DCB	11.43	50.34	7.93	3.50	12

Bank	CAR	ATOTA	TI	TII	Rank
IndusInd	11.92	53.47	7.85	4.07	5
CITI	11.26	50.71	9.65	1.61	10
SCB	10.48	49.01	7.73	2.75	15
HSBC	13.16	41.47	11.10	2.06	8
Deutsche	14.40	26.86	12.08	2.32	7
DBS	30.88	31.55	27.11	3.77	6

Source- calculated by the researcher

Table 10: Ranking of Selected Banks on Capital Adequacy parameter (2009-13)

Bank	CAR	ATOTA	TI	TII	Rank
SBI	13.28	61.96	9.18	4.10	10
PNB	13.19	63.63	9.11	4.08	6
BOB	14.18	62.78	9.73	4.45	3
BOI	12.22	62.79	8.50	3.72	12
Canara	13.81	62.12	9.51	4.31	4
ICICI	18.35	53.33	12.89	5.46	2
Axis	14.56	57.78	10.31	4.25	7.5
HDFC	16.53	57.18	11.75	4.78	1
DCB	14.08	57.77	12.19	1.89	12
IndusInd	14.55	58.78	10.92	3.63	7.5
CITI	16.12	37.98	15.23	0.89	5
SCB	11.98	45.76	8.89	3.08	15
HSBC	16.90	30.26	15.59	1.31	9
Deutsche	14.99	45.96	14.27	0.72	14
DBS	15.00	28.82	9.96	5.04	14

Source- calculated by the researcher

Table V: Capital Adequacy Parameters' ranking snapshots

Bank	**Period 1**	**Period 2**
SBI	3	10
PNB	1	6
BOB	4	3
BOI	10	12
Canara	2	4
ICICI	10	2
Axis	14	7.5
HDFC	13	1
DCB	12	12
IndusInd	5	7.5
CITI	10	5
SCB	15	15
HSBC	8	9
Deutsche	7	14
DBS	6	14

Public sector banks which were ranked higher in the growth period have lost their ranking to private sector banks. SBI has declined to 10^{th} position from the position of 3. Punjab national bank has declined to 6^{th} position from the position of No1. The same is true for Bank of India and Canara bank. Bank of Baroda could improve its ranking by one position. There has been no significant change in the ranking of foreign sector banks.

Standard two sample T test

The parameters mentioned for Capital adequacy are divided in two time periods

A) The high growth years of 2002 to 2008
B) The recessionary phase from 2009 to 2013.

The mean values are compared on standard two sample T test with 95 % confidence interval with the null hypothesis of there has been no significant difference between two time periods.

The following table lists the p values at 95% confidence interval for the given parameters

Table 11: P Values of Two Sample T test of selected Banks of Capital Adequacy parameter

Banks	CAR	TI	TII	ATOTA
SBI	0.4255	0.2098	0.7478	0.0228
PNB	0.6742	0.3053	0.6674	0.0028
BOB	0.0136	0.1424	0.7471	0.0057
BOI	0.4204	0.0004	0.03	0.0228
CANARA	0.07	0.0035	0.2739	0.0208
ICICI	0.0001	0.0009	0.0185	0.6643
AXIS	0.0131	0.0141	0.991	0.0023
HDFC	0	0.0011	0.0103	0.0012
DCB	0.023	0.0042	0.0325	0.0066
IndusInd	0.004	0.0254	0.6222	0.0075
CITI Bank	0.0001	0.0002	0.1407	0
SCB	0.0015	0.0608	0.507	0.241
HSBC	0.0281	0.001	0.2336	0.0002
DEUTSCHE	0.6268	0.0951	0.0715	0.0007
DBS	0.0359	0.0342	0.5035	0.7132

Source- calculated by the researcher

The p- values are mentioned above prove that

There has been significant change in Capital Adequacy Ratio maintained by all banks except for SBI, PNB, BOI, Canara, and Deutsche bank. The Tier I capital has been different in two time periods except for SBI, PNB and BOB. Advances to total assets ratio has been significantly different except for ICICI, SCB and DBS.

5.2 Assets Quality

Assets Quality – the quality of bank's assets can be measured by indicators like- Gross Non Performing Assets to Total Advances ratio, Net Non-Performing Assets to Total Advances ratio, Net Non-Performing Assets to total assets ratio, Secured Advances to Total Advances ratio. The lower level of GNPAs and NPAs are better for the banks as it does not affect profitability of a bank. Higher level of Secured Advances to Total Advances can reduce the risk of a bank.

Assets Quality parameter includes following ratios

5.2.1 - Gross Non-Performing Assets to Advances Ratio

5.2.2 - Net Non-Performing Ratio to Advances Ratio

5.2.3- Net Non-Performing Ratio to Total Assets

5.2.4 – Secured Advances to Total Advances

5.2.1- Gross Non-Performing Assets to Advances Ratio- the Gross NPAs to Advances ratio indicates as to what is the percentage of total advances which are turning into non-performing asset.

Table 12: Gross Non-Performing Assets to Advances Ratio of Selected Banks 2002-2013 (Mean, SD and CV)

Gross Non- Performing Assets to Advances of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean	Standard Deviation	Coefficient of Variation in %
SBI	5.11	2.83	801.89
PNB	6.03	3.8	1442.47
BOB	6.19	4.16	1731.47
BOI	4.84	2.75	757.83
Canara	3.38	2.22	490.64
ICICI	3.5	3.2	1022.03
Axis	1.82	0.86	73.78
HDFC	1.45	0.35	12.07
DCB	9.29	4.51	2035.38

Bank	Mean	Standard Deviation	Coefficient of Variation in %
IndusInd	3.01	0.82	66.48
CITI	1.63	0.4	15.76
SCB	2.42	0.24	5.66
HSBC	2.75	1.55	240.83
Deutsche	0.72	0.98	96.96
DBS	2.17	5.82	3390.41

Source- calculated by the researcher

Gross Non-Performing Assets to Advances of 15 banks is considered from 2009 to 2013 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean	Standard Deviation	Coefficient of Variation in %
SBI	3.64	0.87	74.91
PNB	2.57	1.03	106.33
BOB	1.65	0.43	18.87
BOI	2.4	0.62	38.42
Canara	1.7	0.45	20.46
ICICI	4.12	0.77	59.56
Axis	1.1	0.15	2.25
HDFC	1.32	0.4	15.65
DCB	5.68	3.17	1003.21
IndusInd	1.49	0.8	64.73
CITI	2.76	1.05	110.8
SCB	3.67	1.84	339.78
HSBC	3.76	2.19	477.52
Deutsche	1.41	0.82	67.55
DBS	1.72	1.35	181.34

Source- calculated by the researcher

The banks have been ranked on the basis of Gross Non-Performing Assets to Advances Ratio, on the basis of mean values of both the periods. The lower the Gross Non-

Performing Assets to Advances Ratio better it is for the bank. The lower the Gross Non-Performing Assets to Advances Ratio, higher the rank is given to the bank.

Table VI: Ranking of banks on Advances to Total Assets in period 1 and 2

Rank	**Period 1**	**Period 2**
1	Deutsche	Axis
2	HDFC	HDFC
3	CITI	Deutsche
4	Axis	IndusInd
5	DBS	BOB
6	SCB	Canara
7	HSBC	DBS
8	IndusInd	BOI
9	Canara	PNB
10	ICICI	CITI
11	BOI	SBI
12	SBI	SCB
13	PNB	HSBC
14	BOB	ICICI
15	DCB	DCB

It can be observed that AXIS bank has improved its ranking from 4^{th} to 1^{st} in period 2. HDFC has maintained its rank at 2 in both the periods. It is observed that SBI has been ranked low at 12^{th} and 11^{th} rank respectively. DCB is a laggard in this parameter in both the periods. ICICI has gone down in ranking significantly from 10^{th} to 14^{th} rank in period 2. All foreign sector banks (Deutsche, CITI, HSBC, SCB, and DBS) could not maintain their ranking and are ranked lower in period 2. SCB has lowest standard deviation and coefficient of co variation in period 1, and AXIS in period 2. DBS and DCB have the highest standard deviation and coefficient of co variation in two periods respectively.

5.2.2 Net Non-Performing Ratio to Advances Ratio- Gross NPA – (Balance in Interest Suspense account + DICGC/ECGC claims received and held pending adjustment + Part payment received and kept in suspense account + Total provisions held) to total advances

Table 13: Net Non-Performing Assets to Advances Ratio of Selected Banks 2002-2013 (Mean SD and CV)

Net Non-Performing Assets to Advances of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	**Mean**	**Standard Deviation**	**Coefficient of Variation in %**
SBI	3.26	1.59	251.74
PNB	1.87	2.13	453.28
BOB	3.06	2.33	540.94
BOI	3.56	2.13	452.21
Canara	2.37	1.26	158.24
ICICI	0.95	0.91	82.96
Axis	1.67	1.02	104.99
HDFC	0.35	0.14	1.82
DCB	2.12	2.81	790.04
IndusInd	3.50	1.68	282.31
CITI	0.99	0.33	10.95
SCB	0.89	0.55	30.55
HSBC	0.91	0.69	47.91
Deutsche	0.06	0.15	2.28
DBS	1.65	4.04	1633.5

Source- calculated by the researcher

Net Non –Performing Assets to Advances of 15 banks is considered from 2009 to 2013 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean	Standard Deviation	Coefficient of Variation in %
SBI	1.8	0.16	2.55
PNB	1.01	0.79	62.76
BOB	0.55	0.37	13.65
BOI	1.13	0.63	39.99
Canara	1.29	0.48	22.98
ICICI	1.4	0.62	38.94
Axis	0.36	0.06	0.36
HDFC	0.33	0.18	3.38
DCB	1.65	1.45	210.74
IndusInd	0.79	0.8	63.27
CITI	1.6	0.66	42.97
SCB	1.07	0.51	25.97
HSBC	1.03	0.73	53.31
Deutsche	0.39	0.35	12.24
DBS	0.81	0.83	68.93

Source- calculated by the researcher

The banks have been ranked on the basis of Net Non -Performing Ratio to Advances Ratio, on the basis of mean values of both the periods. The lower the Net Non-Performing Ratio to Advances Ratio better it is for the bank. The lower the Net Non-Performing Ratio to Advances Ratio, higher the rank is given to the bank.

Table VII: Ranking of banks on Net Non -Performing Ratio to Advances Ratio in period 1 and 2

Rank	Period 1	Period 2
1	Deutsche	HDFC
2	HDFC	Axis
3	SCB	Deutsche
4	HSBC	BOB
5	ICICI	IndusInd
6	CITI	DBS

Rank	Period 1	Period 2
7	DBS	PNB
8	Axis	HSBC
9	PNB	SCB
10	DCB	BOI
11	Canara	Canara
12	BOB	ICICI
13	SBI	CITI
14	IndusInd	DCB
15	BOI	SBI

It can be observed that AXIS has improved to rank 2 in period 2 compared to rank 8 in period 1. HDFC has topped the ranking in period 2. All foreign sector banks (Deutsche, CITI, HSBC, SCB, and DBS) could not maintain their ranking and are ranked lower in period 2. It can be seen that SBI is ranked 15th in period 2, this is probably because teaser loan policy adopted by the bank in period 2 has been a complete mess. Public sector banks have been ranked lower in both the time periods. HDFC and AXIS have lowest standard deviation and coefficient of co variation in period 1 and period 2 respectively reflecting the ability to keep non- performing assets under control. DBS and DCB are ranked lowest interchangeably in both periods because of highest mean value, standard deviation and coefficient of co variation reflecting inability to control non- performing assets.

5.2.3- Net Non-Performing Assets to Total Assets–Net non-performing assets are considered as a percentage of total assets. It indicates as how much of total assets are under trouble due to non-performing assets.

Table 14: Net Non-Performing Assets to Total Assets of Selected Banks 2002-2013 (Mean, SD and CV)

Net Non-Performing Assets to Total Assets of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean	Standard Deviation	Coefficient of Variation in %
SBI	1.34	0.4	15.95
PNB	0.9	0.99	98.02
BOB	1.41	1.04	107.19
BOI	1.99	1.15	131.6
Canara	1.2	0.53	28.54
ICICI	0.51	0.47	21.64
Axis	0.66	0.35	12.25
HDFC	0.15	0.06	0.35
DCB	1.02	1.33	176.07
IndusInd	1.88	0.94	87.89
CITI	0.51	0.17	2.8
SCB	0.45	0.3	8.91
HSBC	0.38	0.28	7.66
Deutsche	0.02	0.05	0.28
DBS	0.95	2.31	535.82

Source- calculated by the researcher

Net Non-Performing Assets to Total Assets of 15 banks is considered from 2009 to 2013 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean	Standard Deviation	Coefficient of Variation in %
SBI	1.11	0.16	2.52
PNB	0.64	0.51	26.41
BOB	0.34	0.22	4.76
BOI	0.72	0.41	16.63
Canara	0.79	0.27	7.33
ICICI	0.75	0.34	11.69
Axis	0.21	0.03	0.08
HDFC	0.18	0.09	0.84
DCB	0.93	0.8	63.83

Bank	Mean	Standard Deviation	Coefficient of Variation in %
IndusInd	0.45	0.43	18.83
CITI	0.63	0.25	6.1
SCB	0.49	0.25	6.32
HSBC	0.3	0.18	3.08
Deutsche	0.16	0.14	1.86
DBS	0.24	0.29	8.32

Source- calculated by the researcher

The banks have been ranked on the basis of Net Non-Performing Assets to Total Assets, on the basis of mean values of both the periods. The lower the Net Non-Performing Assets to Total Assets better it is for the bank. The lower the Net Non-Performing Assets to Total Assets, higher the rank is given to the bank.

Table VIII: Ranking of banks on Net Non-Performing Assets to Total Assets in period 1 and 2

Rank	Period 1	Period 2
1	Deutsche	Deutsche
2	HDFC	HDFC
3	HSBC	Axis
4	SCB	DBS
5	ICICI	HSBC
6	CITI	BOB
7	Axis	IndusInd
8	PNB	SCB
9	DBS	CITI
10	DCB	PNB
11	Canara	BOI
12	SBI	ICICI
13	BOB	Canara
14	IndusInd	DCB
15	BOI	SBI

Deutsche is ranked 1, followed by HDFC ranked 2 in both the periods. Private sector and public sector banks are ranked higher interchangeably in both periods. Like the previous parameter public sector banks are at the bottom on ranking with SBI ranked 15^{th} in period 2. IndusInd has improved rank of 14^{th} in period1 to rank 7^{th} in period 2. BOB also improved ranking impressively from 13^{th} in period 1 to 6^{th} in period 2. ICICI on the other hand performed dismally with ranking of 5^{th} in period 1 to rank 12^{th} in period 2.

5.2.4 - Secured Advances to Total Advances– it is the ratio of that loan which is granted against the collateral or security. The security or the collateral can be liquidated by the bank in case if the borrower fails to repay the loan in stipulated terms.

Ratio of secured advances to total advances = (Advances secured by tangible assets + Advances covered by bank or Govt. guarantees) / Advances.

Table 15: Secured Advances to Total Advances of Selected Banks 2002-2013 (Mean SD and CV)

Secured Advances to Total Advances of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean	Standard Deviation	Coefficient of Variation in %
SBI	80.97	5.11	2607.81
PNB	89.09	4.78	2287.19
BOB	84.52	4.53	2055.19
BOI	81.18	1.61	260.65
Canara	81.82	4.76	2265.49
ICICI	89.28	7.36	5417.35
Axis	86.92	3.51	1232.50
HDFC	80.15	9.17	8414.98
DCB	77.02	10.38	10768.20
IndusInd	89.40	1.71	293.17
CITI	58.65	5.44	2962.64
SCB	63.18	6.21	3852.20

Bank	Mean	Standard Deviation	Coefficient of Variation in %
HSBC	67.81	7.66	5872.87
Deutsche	46.70	16.52	27285.34
DBS	70.65	31.52	99360.58

Source- calculated by the researcher

Secured Advances to Total Advances of 15 banks is considered from 2009 to 2013 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean	Standard Deviation	Coefficient of Variation in %
SBI	79.01	3.27	1071.06
PNB	88.34	3.41	1161.48
BOB	79.24	5.2	2705.85
BOI	78.92	3.54	1254.96
Canara	74.1	5.99	3590.72
ICICI	79.05	5.3	2809.16
Axis	84.32	1.94	376.91
HDFC	74.57	2.53	640.07
DCB	81.87	10.63	11309.03
IndusInd	89.87	3.09	956.19
CITI	44.85	7.65	5856.44
SCB	58.47	4.34	1887.66
HSBC	57.55	2.63	691.84
Deutsche	30.57	7.9	6235.53
DBS	60.61	6.74	4544.6

Source- calculated by the researcher

The banks have been ranked on the basis of Secured Advances to Total Advances, on the basis of mean values of both the periods. The higher the Secured Advances to Total Advances better it is for the bank. The higher the Secured Advances to Total Advances, higher the rank is given to the bank.

Table IX: Ranking of banks on Net Non-Performing Assets to Total Assets in period 1 and 2

Rank	Period 1	Period 2
1	IndusInd	IndusInd
2	ICICI	PNB
3	PNB	Axis
4	Axis	DCB
5	BOB	BOB
6	Canara	ICICI
7	BOI	SBI
8	SBI	BOI
9	HDFC	HDFC
10	DCB	Canara
11	DBS	DBS
12	HSBC	SCB
13	SCB	HSBC
14	CITI	CITI
15	Deutsche	Deutsche

IndusInd is ranked 1 in both the periods. Deutsche is ranked lowest at 15th in both the periods. In this parameter public sector banks have been ranked higher since their loan processes and mortgage requirements are higher and stricter. BOB and AXIS have the lowest standard deviation and coefficient of co variation in two time periods respectively, reflecting the ability to secure more mortgages in overall advances distributed by these banks. DBS, Deutsche, DCB have the highest standard deviation and coefficient of co variation which shows that loans have been distributed without strict adherence to asking for mortgages against the loans. It is surprising to find that foreign sector banks are lowest in ranks on secured advances to total advances, though non- performing an asset which is a function of high secured loans to total assets. Theoretically, it can be assumed that lower the secured assets more should be non-performing assets. This correlation is not found in the comparison of these to parameters.

Ranking of banks according to Assets Quality parameter

The bank is data is analyzed for two time periods.

A) The high growth years of 2002 to 2008
B) The recessionary phase from 2009 to 2013.

The following tables clearly distinguish the difference in ranking of individual banks between two periods of time.

Table 16: Ranking of Selected Banks on Asset Quality Parameter (2002-08)

Bank	**GNPATOAD**	**NPATOAD**	**NPATTA**	**SATA**	**Rank**
SBI	5.63	2.62	1.18	78.68	13
PNB	6.49	1.10	0.55	86.91	5
BOB	6.50	2.19	1.00	82.00	12
BOI	5.12	2.64	1.49	80.43	14
Canara	3.60	1.86	0.98	80.68	10
ICICI	4.06	1.21	0.65	85.93	7
Axis	1.96	1.16	0.48	87.52	1.5
HDFC	1.69	0.35	0.16	76.57	1.5
DCB	9.55	2.22	1.08	76.80	15
IndusInd	3.52	2.78	1.49	90.07	11
CITI	1.97	1.13	0.57	55.19	8
SCB	2.78	1.00	0.50	63.18	6
HSBC	3.13	0.63	0.26	63.84	4
Deutsche	0.83	0.04	0.01	41.97	3
DBS	2.21	1.66	0.95	64.38	9

Source- calculated by the researcher

Table 17: Ranking of Selected Banks on Asset Quality Parameter (2009-13)

Bank	GNPATOAD	NPATOAD	NPATTA	SATA	Rank
SBI	3.76	1.81	1.12	80.19	13.5
PNB	2.53	1.08	0.69	89.37	6
BOB	1.60	0.56	0.35	80.33	4
BOI	2.54	1.26	0.79	79.32	8.5
Canara	1.77	1.38	0.85	73.31	10.5
ICICI	4.27	1.36	0.73	79.48	12
Axis	1.15	0.35	0.20	84.42	1
HDFC	1.30	0.30	0.17	75.47	3
DCB	6.50	1.85	1.04	84.02	15
IndusInd	1.18	0.50	0.29	89.31	2
CITI	2.89	1.67	0.64	45.01	13.5
SCB	3.97	1.07	0.49	59.09	8.5
HSBC	4.04	1.12	0.32	58.48	10.5
Deutsche	1.55	0.42	0.18	30.62	5
DBS	2.02	0.96	0.29	61.93	7

Source- calculated by the researcher

Table X: Assets Quality Parameters' ranking snapshots

Bank	Period 1	Period 2
SBI	13	13.5
PNB	5	6
BOB	12	4
BOI	14	8.5
Canara	10	10.5
ICICI	7	12
Axis	1.5	1
HDFC	1.5	3
DCB	15	15
IndusInd	11	2

Bank	Period 1	Period 2
CITI	8	13.5
SCB	6	8.5
HSBC	4	10.5
Deutsche	3	5
DBS	9	7

The above ranking proves that there has been a difference in the performance of selected banks between the two periods of time. The ranking of public sector banks increased in the second period as the non-performing assets position improved for these banks. Ranking of BOB increased from 12^{th} position to 6^{th} position. The ranking of BOI improved from 14^{th} to 8^{th} position. The private sector banks suffered significantly and assets quality has worsened except in the case of AXIS. The performance of foreign sector banks witnessed decline in assets quality as their ranking has also gone down in the second period compared to high growth period.

Standard two sample T test

The parameters mentioned for Assets Quality are divided in two time periods

A) The high growth years of 2002 to 2008
B) The recessionary phase from 2009 to 2013.

The mean values are compared on standard two sample T test with 95 % confidence interval with the null hypothesis of there has been no significant difference between two time periods.

The following table lists the p values at 95% confidence interval for the given parameters

Table 18: P Values of Two Sample T test of selected Banks of Asset Quality Parameter

Banks	GNPATOAD	NPATOAD	NPATTA	SATA
SBI	0.1922	0.1571	0.6864	0.5413
PNB	0.0552	0.9779	0.6915	0.2433
BOB	0.0353	0.1285	0.1502	0.6216
BOI	0.0915	0.1803	0.2166	0.5687
CANARA	0.1145	0.3988	0.614	0.0533
ICICI	0.8818	0.7361	0.7504	0.1581
AXIS	0.0923	0.0204	0.0143	0.0423
HDFC	0.1285	0.6546	0.8716	0.77
DCB	0.299	0.7911	0.9641	0.2822
IndusInd	0.0001	0.0002	0.0003	0.6382
CITI Bank	0.086	0.0984	0.5723	0.0589
SCB	0.1632	0.8161	0.9627	0.2534
HSBC	0.4465	0.1741	0.5098	0.1903
DEUTSCHE	0.1988	0.0373	0.0224	0.202
DBS	0.942	0.7149	0.5465	0.8642

Source- calculated by the researcher

The p- values mentioned above show that there has been significant difference in the performance of PNB, BOB, AXIS, IndusInd and Deutsche bank on the parameter of assets quality.

5.3 Management Efficiency

Management Efficiency – the management efficiency can be measured by Business per employee, profit per employee, return on net worth, and cost of deposits. The higher level of Business per employee and profit per employee show efficiency of management to optimally utilize its manpower. The lower cost of deposits better it is for a bank.

Management Efficiency parameter includes following ratios

5.3.1 – Business per Employee

5.3.2 – Profit per Employee

5.3.3 – Credit Deposit Ratio

5.3.4 – Cost of Deposit

5.3.5 – Return on Advances

5.3.1 Business per Employee- Business (defined as deposits plus advances) per employee

The higher the ratio reflects the ability of the bank to optimize the human resource of a bank.

Table 19: Business per Employee of Selected Banks 2002-2013 (Mean, SD and CV)

Business per Employee of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	**Mean(Rs in lacs)**	**Standard Deviation**	**Coefficient of Variation in %**
SBI	245.65	70.39	495414.9
PNB	267.77	89.84	807129
BOB	329.13	127.53	1626322
BOI	321.24	104.33	1088435
Canara	350.67	125.6	1577449
ICICI	904.75	222.67	4958185
AXIS	928.17	82.7	683936.7
HDFC	780	95.62	914280
DCB	426.55	40.57	164591.2
IndusInd	1132.94	263.87	6962529
CITI	1536.97	141.87	2012717
SCB	828.25	53.39	285079.3
HSBC	795.71	165.52	2739832
Deutsche	1124.82	252.76	6388588
DBS	1156.3	355.07	12607232

Source- calculated by the researcher

Business per Employee of 15 banks is considered from 2009 to 2013 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean(Rs in lacs)	Standard Deviation	Coefficient of Variation in %
SBI	682.17	173.86	3022577
PNB	879.83	268.8	7225577
BOB	1164.83	366.92	13463097
BOI	1120.33	349.63	12224267
Canara	1060.67	327.23	10707987
ICICI	850.83	185.05	3424297
AXIS	1190.83	116.16	1349257
HDFC	599.83	110.34	1217537
DCB	504.5	97.38	948270
IndusInd	867.83	97.35	947616.7
CITI	1911	144.58	2090200
SCB	1241.5	340.7	11607910
HSBC	1312.5	375.44	14095270
Deutsche	1935	405.67	16456960
DBS	2480.17	851.61	72524017

Source- calculated by the researcher

The banks have been ranked on the basis of Business per Employee, on the basis of mean values of both the periods. The higher the Business per Employee better it is for the bank. The higher the Business per Employee, higher the rank is given to the bank.

Table XI: Ranking of banks on Business per Employee in period 1 and 2

Rank	Period 1	Period 2
1	CITI	DBS
2	DBS	Deutsche
3	IndusInd	CITI
4	Deutsche	HSBC
5	AXIS	SCB
6	ICICI	AXIS
7	SCB	BOB
8	HSBC	BOI

Rank	Period 1	Period 2
9	HDFC	Canara
10	DCB	PNB
11	Canara	IndusInd
12	BOB	ICICI
13	BOI	SBI
14	PNB	HDFC
15	SBI	DCB

It is observed that CITI and DBS are ranked highest in term of mean value but standard deviation and coefficient of co variation is equally high in case of both banks. It is a reflection of inability to perform in a sustainable manner. Public sector banks which were ranked lowest during period 1 have significantly improved on the performance and are ranked highest during period 2.

Foreign sector banks adopt information technology at the highest level and are concentrated only in urban areas of India. This gives them an upper edge over other banks in this parameter. The social objectives of employment generation is a cause of relatively lower performance of public sector banks as these banks have been overstaffed for long time. The market dynamics have changed the policy of employment generation in recent years. This has reflected into the performance in period 2.

5.3.2 Profit per Employee- the net profit of a bank to the no of employees

The profit generating capacity of human resource of a bank is calculated through this parameter.

Table 20: Profit per Employee of Selected Banks 2002-2013 (Mean, SD and CV)

Profit per Employee of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean(Rs in lacs)	Standard Deviation	Coefficient of Variation in %
SBI	245.65	70.39	495414.9
PNB	267.77	89.84	807129
BOB	329.13	127.53	1626322
BOI	321.24	104.33	1088435
Canara	350.67	125.6	1577449
ICICI	904.75	222.67	4958185
AXIS	928.17	82.7	683936.7
HDFC	780	95.62	914280
DCB	426.55	40.57	164591.2
IndusInd	1132.94	263.87	6962529
CITI	1536.97	141.87	2012717
SCB	828.25	53.39	285079.3
HSBC	795.71	165.52	2739832
Deutsche	1124.82	252.76	6388588
DBS	1156.3	355.07	12607232

Source- calculated by the researcher

Profit per Employee of 15 banks is considered from 2009 to 2013 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean(Rs in lacs)	Standard Deviation	Coefficient of Variation in %
SBI	682.17	173.86	3022577
PNB	880.37	268.53	7211090
BOB	1164.83	366.92	13463097
BOI	1120.33	349.63	12224267
Canara	1060.93	327.14	10701865
ICICI	850.83	185.05	3424297
AXIS	1190.83	116.16	1349257
HDFC	599.83	110.34	1217537
DCB	504.5	97.38	948270
IndusInd	868.02	97.58	952262

Bank	Mean(Rs in lacs)	Standard Deviation	Coefficient of Variation in %
CITI	1911.45	144.29	2081924
SCB	1242.1	340.79	11613939
HSBC	1313.19	375.58	14106240
Deutsche	1935.49	405.63	16453853
DBS	2480.63	851.62	72525610

Source- calculated by the researcher

The banks have been ranked on the basis of Profit per Employee, on the basis of mean values of both the periods. The higher the Profit per Employee better it is for the bank. The higher the Profit per Employee, higher the rank is given to the bank.

Table XII: Ranking of banks on Profit per Employee in period 1 and 2

Rank	Period 1	Period 2
1	CITI	DBS
2	DBS	Deutsche
3	IndusInd	CITI
4	Deutsche	HSBC
5	AXIS	SCB
6	ICICI	AXIS
7	SCB	BOB
8	HSBC	BOI
9	HDFC	Canara
10	DCB	PNB
11	Canara	IndusInd
12	BOB	ICICI
13	BOI	SBI
14	PNB	HDFC
15	SBI	DCB

DBS has been ranked highest in term of mean value but it also has highest standard deviation and coefficient of co variation. The period 2 has been impressive in case of

DBS, since its profit per employee has shown dramatic increase over five years. DCB has lost the rank of 10th to 15th rank in period 2. This shows that this bank is unable to use its human resource effectively. ICICI is ranked 12th in period 2 which is much lower than rank 6th in period 1. HDFC has slipped to 14th rank in period 2 from 9th in period 1. Deutsche, Canara, SCB, PNB, HSBC, BOB, BOI, and SBI have improved their ranking in period 2.

5.3.3 Credit Deposit Ratio- total advances distributed by the bank to total deposits

This parameter indicates the ability of the bank to convert deposit money in to credit money.

Table 21: Credit Deposit Ratio of Selected Banks 2002-2013 (Mean, SD and CV)

Credit Deposit Ratio of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean	Standard Deviation	Coefficient of Variation in %
SBI	57.04	13.27	17619.85
PNB	58.39	6.37	4058.69
BOB	56.8	7.05	4963.65
BOI	67.7	3.12	974.06
Canara	60.43	7.2	5182.83
ICICI	102.24	23.49	55186.32
AXIS	49.69	8.03	6451.18
HDFC	58.57	11.79	13905.8
DCB	59.19	5.77	3327.77
IndusInd	65.3	3.42	1168.06
CITI	79.85	7.18	5154.04
SCB	89.91	18.05	32570.29
HSBC	65.79	5.01	2505.29
Deutsche	73.61	9.04	8177.69
DBS	91.31	63.3	400752.1

Source- calculated by the researcher

Credit Deposit Ratio of 15 banks is considered from 2009 to 2013 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean	Standard Deviation	Coefficient of Variation in %
SBI	80.06	4.79	2289.86
PNB	75.67	2.66	707.22
BOB	72.73	2.51	628.81
BOI	74.93	2.36	556.48
Canara	71.14	2.08	433.09
ICICI	96.07	4.25	1806.71
AXIS	73.63	4.04	1633.36
HDFC	74.03	6.76	4573.3
DCB	74.7	5.97	3565.82
IndusInd	76.05	6.01	3612.1
CITI	75.07	5.61	3150.03
SCB	89.52	5.56	3090.69
HSBC	56.47	9.73	9474.3
Deutsche	82.5	18.25	33302.53
DBS	73.85	26.26	68965.34

Source- calculated by the researcher

The banks have been ranked on the basis of Credit Deposit Ratio, on the basis of mean values of both the periods. The higher Credit Deposit Ratio is better for the bank. The higher the Credit Deposit Ratio, higher the rank is given to the bank

Table XIII: Ranking of banks on Credit Deposit Ratio in period 1 and 2

Rank	Period 1	Period 2
1	ICICI	ICICI
2	DBS	SCB
3	SCB	Deutsche
4	CITI	SBI
5	Deutsche	IndusInd
6	BOI	PNB
7	HSBC	CITI
8	IndusInd	BOI

Rank	Period 1	Period 2
9	Canara	DCB
10	DCB	HDFC
11	HDFC	DBS
12	PNB	AXIS
13	SBI	BOB
14	BOB	Canara
15	AXIS	HSBC

ICICI is ranked 1st in both periods. SCB, Deutsche, IndusInd, DCB, HDFC, PNB, SBI, BOB and Axis have improved their rankings in period 2. DBS, CITI, BOI, Canara have lost their higher ranking in period 2 compared to period 1. The biggest loser in this parameter is HSBC which is ranked 15th in period 2 compared to rank 7th in period 1. Public sector banks have lower standard deviation and coefficient of co variation reflecting the consistency. DBS has the highest standard deviation and coefficient of co variation which shows the lack of consistency in distributing credit out of their deposits.

5.3.4. Cost of Deposit– Cost of deposit is computed as the ratio of interest paid on deposits to average of opening and closing balances of deposits of the respective years.

Interest paid on deposits/ total deposits

Table 22: Cost of Deposit of Selected Banks 2002-2013 (Mean SD and CV)

Cost of Deposit of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean	Standard Deviation	Coefficient of Variation in %
SBI	5.86	1.25	156.43
PNB	5.07	1.09	118.65
BOB	5.03	1.03	106.35
BOI	4.76	0.78	60.7
Canara	5.49	0.99	97.21
ICICI	5.21	0.91	82.19

Bank	Mean	Standard Deviation	Coefficient of Variation in %
AXIS	5.6	1.63	265.2
HDFC	4.42	1.16	133.58
DCB	5.97	1.13	127.69
IndusInd	5.63	0.67	45.48
CITI	4.27	1.35	182.87
SCB	4.39	1.47	215.11
HSBC	3.91	1.36	185.8
Deutsche	2.09	0.95	89.63
DBS	3.64	1.82	332.98

Source- calculated by the researcher

Cost of Deposit of 15 banks is considered from 2009 to 2013 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean	Standard Deviation	Coefficient of Variation in %
SBI	5.62	0.36	13.21
PNB	5.74	0.66	44.08
BOB	4.99	0.43	18.71
BOI	5.39	0.48	23.21
Canara	6.52	0.76	57.99
ICICI	6.06	0.9	81.62
AXIS	5.41	0.83	68.49
HDFC	5.35	0.88	77.95
DCB	6.68	0.73	53.26
IndusInd	7.34	0.94	88
CITI	3.57	0.55	29.79
SCB	4.39	0.84	70.6
HSBC	4.08	0.73	53.89
Deutsche	1.89	0.52	27.54
DBS	4.63	1.54	237.04

Source- calculated by the researcher

The banks have been ranked on the basis of Cost of Deposit, on the basis of mean values of both the periods. The lower Cost of Deposit is better for the bank. The lower the Cost of Deposit, higher the rank is given to the bank

Table XIV: Ranking of banks on Cost of Deposit in period 1 and 2

Rank	**Period 1**	**Period 2**
1	Deutsche	Deutsche
2	DBS	CITI
3	HSBC	HSBC
4	CITI	SCB
5	SCB	DBS
6	HDFC	BOB
7	BOI	HDFC
8	BOB	BOI
9	PNB	AXIS
10	ICICI	SBI
11	Canara	PNB
12	AXIS	ICICI
13	IndusInd	Canara
14	SBI	DCB
15	DCB	IndusInd

Deutsche is ranked no 1 in both time periods with the lowest cost of deposits. HSBC is ranked 3rd in both time periods. CITI and SCB have improved their ranking in period 2. All the public sector banks (SBI, PNB, BOB, BOI, and Canara) have the second best ranking in term of cost of deposits. Private sector banks (ICICI, HDFC, AXIS, DCB, and IndusInd) compete with the public sector banks which have the notion of safety attached to them. This is the reason for highest cost of deposits for private sector banks as they provide higher interest on deposits to attract more depositors. DCB and IndusInd have the lowest rank since these banks provide highest interest rate on the deposits.

5.3.5. Return on Advances

This ratio indicates how productively advances are diversified in varies sector of the economy to earn highest returns on the advances. The higher the ratio better is the ability of the management to deploy advances.

Interest earned on advances and bills/ total advances

Table 23: Return on Advances of Selected Banks 2002-2013 (Mean, SD and CV)

Return on Advances of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	**Mean**	**Standard Deviation**	**Coefficient of Variation in %**
SBI	8.15	0.82	67.3
PNB	9.03	1.1	119.99
BOB	8.29	1.03	106.99
BOI	8.15	0.89	79.46
Canara	8.82	0.99	98.44
ICICI	8.7	3.13	978.43
AXIS	9.45	1.5	225.82
HDFC	9.01	1.44	205.93
DCB	9.15	1.05	110.05
IndusInd	9.48	0.82	67.77
CITI	10.46	1.34	178.85
SCB	10.95	2.14	457.64
HSBC	9.21	1.06	111.9
Deutsche	7.37	2.13	454.2
DBS	8.44	4.09	1670.04

Source- calculated by the researcher

Return on Advances of 15 banks is considered from 2009 to 2013 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean	Standard Deviation	Coefficient of Variation in %
SBI	9.29	0.55	30.62
PNB	10.19	0.48	22.85
BOB	8.46	0.43	18.86
BOI	8.84	0.62	37.85
Canara	9.82	0.71	50
ICICI	9.54	0.93	85.62
AXIS	9.62	0.91	83.31
HDFC	12.13	1.61	258.57
DCB	11.75	1.2	144.68
IndusInd	12.7	1.02	104.91
CITI	10.53	1.33	177.09
SCB	11.03	0.86	73.58
HSBC	10.73	1.85	341.19
Deutsche	10.91	2.09	438.81
DBS	8.11	1.2	143.59

Source- calculated by the researcher

The banks have been ranked on the basis of Return on Advances, on the basis of mean values of both the periods. The higher the Return on Advances better it is for the bank. The higher the Return on Advances, higher the rank is given to the bank

Table XV: Ranking of banks on Return on Advances in period 1 and 2

Rank	Period 1	Period 2
1	SCB	IndusInd
2	CITI	HDFC
3	IndusInd	DCB
4	AXIS	SCB
5	HSBC	Deutsche
6	DCB	HSBC
7	PNB	CITI
8	HDFC	PNB

Rank	Period 1	Period 2
9	Canara	Canara
10	ICICI	AXIS
11	DBS	ICICI
12	BOB	SBI
13	SBI	BOI
14	BOI	BOB
15	Deutsche	DBS

SCB and IndusInd are ranked 1st respectively in period 1 and 2. CITI, AXIS, HSBC, PNB, ICICI, DBS, BOB, have failed to retain their ranking in period 2. DCB, HDFC, SBI, BOI, and Deutsche have improved on their ranking in period 2. Deutsche has dramatically improved its ranking from 15th in period 1 to the rank of 5th in period 2. Public sector banks (SBI, PNB, BOB, BOI, and Canara) have the lowest standard deviation and coefficient of co variation reflecting the consistency. DBC and Deutsche have the highest standard deviation and coefficient of co variation respectively in two time periods which shows the inability to maintain high level of return on assets.

The overall rankings

Ranking of banks according to Assets Quality parameter

The bank is data is analyzed for two time periods.

A) The high growth years of 2002 to 2008
B) The recessionary phase from 2009 to 2013.

The following tables clearly distinguish the difference in ranking of individual banks between two periods of time.

Mean values are calculated for the mentioned parameters for 2002-2008 period

Table 24: Ranking of Selected Banks on Management Efficiency Parameter (2002-08)

Bank	BE	PE	CRDR	COD	RA	Rank
SBI	292.81	2.27	62.52	5.52	8.13	14.5
PNB	323.89	2.45	61.43	4.83	8.87	12
BOB	410.34	2.41	59.42	4.81	8.09	13
BOI	393.45	2.41	69.61	4.64	8.14	10
Canara	416.43	2.94	63.41	5.43	8.71	11
ICICI	991.67	10.50	93.19	5.46	10.01	4
AXIS	965.00	8.00	53.78	5.11	9.32	9
HDFC	734.67	7.80	62.62	4.24	9.30	7.5
DCB	428.38	-1.97	60.15	5.86	9.47	14.5
IndusInd	1045.40	6.90	65.44	5.90	10.02	7.5
CITI	1569.80	25.19	81.27	3.94	10.27	1
SCB	830.98	17.40	84.15	4.19	10.43	2
HSBC	865.14	10.47	66.92	3.62	9.57	5
Deutsche	1229.91	32.66	71.76	1.81	7.45	3
DBS	1186.06	15.90	69.17	3.00	7.75	6

Source- calculated by the researcher

Mean values are calculated for the mentioned parameters for 2009-2013 period

Table 25: Ranking of Selected Banks on Management Efficiency Parameter (2009-13)

Bank	BE	PE	CRDR	COD	RA	Rank
SBI	727.40	4.96	80.56	5.63	9.28	14
PNB	955.53	7.57	76.44	5.81	10.30	5.5
BOB	1255.80	9.41	73.24	4.92	8.38	8
BOI	1214.00	6.18	74.79	5.43	8.74	12
Canara	1151.23	7.44	71.45	6.48	9.86	13
ICICI	819.40	11.00	96.82	5.82	9.30	11
AXIS	1205.60	13.00	74.73	5.46	9.58	7
HDFC	618.60	7.13	76.25	5.39	12.04	9

Bank	BE	PE	CRDR	COD	RA	Rank
DCB	514.60	-0.20	76.24	6.64	11.55	15
IndusInd	829.09	7.20	77.82	7.28	12.85	10
CITI	1940.98	35.61	73.44	3.41	10.33	3.5
SCB	1327.04	28.12	89.40	4.34	11.06	1
HSBC	1373.36	25.22	53.71	4.00	10.43	5.5
Deutsche	1999.24	44.54	85.97	1.84	11.03	2
DBS	2693.44	47.03	79.34	5.00	7.89	3.5

Source- calculated by the researcher

Table XVI: Ranking of banks on Management Efficiency Parameters' ranking snapshots

Bank	Period 1	Period 2
SBI	14.5	14
PNB	12	5.5
BOB	13	8
BOI	10	12
Canara	11	13
ICICI	4	11
AXIS	9	7
HDFC	7.5	9
DCB	14.5	15
IndusInd	7.5	10
CITI	1	3.5
SCB	2	1
HSBC	5	5.5
Deutsche	3	2
DBS	6	3.5

The ranking show that there has been significant improvement in PNB, BOB whereas BOI and Canara could not maintain their ranking. The foreign sector banks have maintained their lead in management efficiency parameters during both periods of time.

Standard two sample T test

The parameters mentioned for Management Efficiency are divided in two time periods

A) The high growth years of 2002 to 2008
B) The recessionary phase from 2009 to 2013.

The mean values are compared on standard two sample T test with 95 % confidence interval with the null hypothesis of there has been no significant difference between two time periods.

The following table lists the p values at 95% confidence interval for the given parameters

Table 26: P Values of Two Sample T test of selected Banks of management Efficiency Parameter

Bank	BE	PE	CRDR	COD	RA
SBI	0.0003	0.0006	0.0234	0.8082	0.0275
PNB	0.0002	0	0.0025	0.0493	0.0085
BOB	0.0004	0.0001	0.0078	0.7666	0.4472
BOI	0.0002	0.0009	0.0334	0.0475	0.2349
CANARA	0.0003	0.0002	0.0283	0.0739	0.0411
ICICI	0.075	0.5885	0.4305	0.5814	0.3201
AXIS	0.0076	0.0002	0.0018	0.5866	0.7365
HDFC	0.1829	0.6117	0.0036	0.0695	0.0396
DCB	0.0966	0.5732	0.0017	0.1927	0.051
IndusInd	0.0085	0.911	0.0007	0.0589	0.0027
CITI	0.0036	0.1192	0.0545	0.2792	0.9391
SCB	0.0031	0.0194	0.2113	0.8426	0.4515
HSBC	0.0153	0.0222	0.0083	0.4686	0.4408
DEUTSCHE	0.0066	0.2932	0.1273	0.9182	0.0294
DBS	0.0019	0.0489	0.6791	0.027	0.9305

Source- calculated by the researcher

Management Efficiency parameters, with t test, have proved that there has been difference in the performance of selected banks during growth years and recessionary years.

5.4 Earnings capacity

Earnings Quality – the earnings quality is of a paramount importance to a bank. It can be measured by interest income to total assets, net interest margin to total assets, operating profit to total assets, return on assets, and return on equity. The above mentioned ratios are seen to be good the higher these are.

Earning capacity parameter includes following ratios

5.4.1 - Interest Income to Total Assets

5.4.2 – Net Interest Margin to Total Assets

5.4.3 – Operating Profit to Total Assets

5.4.4 – Return on Assets

5.4.5 – Return on Equity

5.4.1. Interest Income to Total Assets– This is one of the major components of income for a bank. The financial intermediation is a basic role of a bank.

Table 27: Interest Income to Total Assets of Selected Banks 2002-2013 (Mean, SD and CV)

Interest Income to Total Assets of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean	Standard Deviation	Coefficient of Variation in %
SBI	7.97	0.66	42.99
PNB	8.23	1.12	125.88
BOB	7.65	0.79	62.09
BOI	7.45	0.78	60.57
Canara	7.92	0.81	66.11
ICICI	6.83	1.85	342.99
Axis	7.58	1.21	145.32
HDFC	7.55	0.81	66.2
DCB	7.52	1.18	138.56

Bank	Mean	Standard Deviation	Coefficient of Variation in %
IndusInd	7.52	0.27	7.51
CITI	8.11	0.8	64.42
SCB	8.33	1.38	190.88
HSBC	7.1	0.98	95.1
Deutsche	5.68	1.55	241.04
DBS	6.9	1.94	374.9

Source- calculated by the researcher

Interest Income to Total Assets of 15 banks is considered from 2009 to 2013 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean	Standard Deviation	Coefficient of Variation in %
SBI	7.66	0.54	28.8
PNB	8.35	0.48	22.7
BOB	7.11	0.32	10.33
BOI	7.54	0.42	17.72
Canara	8.25	0.47	22.02
ICICI	7.56	0.6	36.25
Axis	7.89	0.68	46.49
HDFC	8.94	0.91	82.19
DCB	8.65	0.75	55.76
IndusInd	9.35	0.94	87.69
CITI	6.78	0.74	54.42
SCB	6.85	0.55	29.96
HSBC	6.51	0.85	72.73
Deutsche	7.19	0.9	80.43
DBS	6.52	1.24	153.82

Source- calculated by the researcher

The banks have been ranked on the basis of Interest Income to Total Assets, on the basis of mean values of both the periods. The higher the Interest Income to Total Assets

better it is for the bank. The higher the Interest Income to Total Assets, higher the rank is given to the bank

Table XVII: Ranking of banks on the basis of Interest Income to Total Assets in period 1 and 2

Rank	Period 1	Period 2
1	SCB	IndusInd
2	PNB	HDFC
3	CITI	DCB
4	SBI	PNB
5	Canara	Canara
6	BOB	Axis
7	Axis	SBI
8	HDFC	ICICI
9	DCB	BOI
10	IndusInd	Deutsche
11	BOI	BOB
12	HSBC	SCB
13	DBS	CITI
14	ICICI	DBS
15	Deutsche	HSBC

SCB and IndusInd have ranked no 1 respectively during two periods of time. Deutsche and HSBC are rank 15th respectively in period 2. Canara maintained its rank at 5th in both the periods of time. AXIS, HDFC, DCB, IndusInd, BOI, ICICI, and Deutsche have improved on the ranking in period 2. SCB has the dramatic decline in ranking from 1st in period 1 to 12th in period 2 reflecting very bad performance in period 2. PNB, CITI, SBI, HSBC and DBS have declined in their ranking during period 2. IndusInd and BOB have the lowest standard deviation and coefficient of co variation reflecting stability in interest income. DBS has again performed the worst by having highest standard deviation and coefficient of co variation reflecting the fluctuating performance. Public

sector banks as a group have the lowest standard deviation and coefficient of co variation which has been a hallmark of their performance in many parameters.

5.4.2. Net Interest Margin to Total Assets

Net interest margin = Net Interest Income / Total Assets

Table 28: Net Interest Margin to Total Assets of Selected Banks 2002-2013 (Mean, SD and CV)

Net Interest Margin to Total Assets of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean	Standard Deviation	Coefficient of Variation in %
SBI	2.98	0.23	5.25
PNB	3.61	0.22	5.05
BOB	3.03	0.19	3.79
BOI	2.68	0.14	1.89
Canara	2.85	0.15	2.3
ICICI	1.73	0.51	26.28
Axis	2.24	0.4	16.34
HDFC	3.72	0.53	28.54
DCB	1.95	0.45	20.11
IndusInd	2.02	0.5	24.99
CITI	4.59	0.5	24.93
SCB	4.46	0.29	8.69
HSBC	3.62	0.83	68.77
Deutsche	2.31	1.2	144.75
DBS	3.45	0.63	39.57

Source- calculated by the researcher

Net Interest Margin to Total Assets of 15 banks is considered from 2009 to 2013 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean	Standard Deviation	Coefficient of Variation in %
SBI	2.8	0.38	14.76
PNB	3.2	0.15	2.39
BOB	2.48	0.17	2.94
BOI	2.43	0.22	4.99
Canara	2.25	0.22	4.62
ICICI	2.3	0.26	6.63
Axis	3	0.12	1.36
HDFC	4.33	0.28	8.04
DCB	2.74	0.21	4.32
IndusInd	2.68	0.89	79.39
CITI	4.26	0.4	15.76
SCB	4	0.22	5.01
HSBC	3.92	0.4	16.24
Deutsche	5.23	0.72	52.56
DBS	2.85	0.49	23.89

Source- calculated by the researcher

The banks have been ranked on the basis of Net Interest Margin to Total Assets, on the basis of mean values of both the periods. The higher the Net Interest Margin to Total Assets better it is for the bank. The higher the Net Interest Margin to Total Assets, higher the rank is given to the bank

Table XVIII: Ranking of banks on the basis of Net Interest Margin to Total Assets in period 1 and 2

Rank	Period 1	Period 2
1	CITI	Deutsche
2	SCB	HDFC
3	HDFC	CITI
4	HSBC	SCB
5	PNB	HSBC
6	DBS	PNB

Rank	Period 1	Period 2
7	BOB	Axis
8	SBI	DBS
9	Canara	SBI
10	BOI	DCB
11	Deutsche	IndusInd
12	Axis	BOB
13	IndusInd	BOI
14	DCB	ICICI
15	ICICI	Canara

CITI and Deutsche are ranked no 1 respectively in two periods. ICICI and Canara are ranked lowest at 15th rank in two time periods. HDFC, Deutsche, AXIS, IndusInd, DCB and ICICI have improved on their ranking during period 2. CITI, SCB, HSBC, PNB, DBS, BOB, SBI, Canara, and BOI could not perform as good as period 1. Foreign sector banks as group have been ranked highest on this parameter. BOI and AXIS have the lowest standard deviation and coefficient of co variation reflecting stability. Deutsche and IndusInd have the highest standard deviation and coefficient of co variation reflecting inability to maintain the performance in term of Interest Income to Total Assets ratio.

5.4.3. Operating Profit to Total Assets

Operating profit is defined as total earnings less total expenses, excluding provisions and contingencies. The operating profit is compared in a ratio with the total assets.

Ratio of operating profits to total assets = Operating profit / Total assets.

Table 29: Operating Profit to Total Assets of Selected Banks 2002-2013 (Mean, SD and CV)

Operating Profit to Total Assets of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	**Mean**	**Standard Deviation**	**Coefficient of Variation in %**
SBI	2.2	0.3	8.77
PNB	2.5	0.5	24.78
BOB	2.27	0.49	23.66
BOI	2.15	0.53	27.81
Canara	2.44	0.42	17.7
ICICI	1.87	0.52	27.33
Axis	2.52	0.56	31.45
HDFC	2.94	0.29	8.59
DCB	0.9	1.08	116.14
IndusInd	2.35	1.1	120.7
CITI	3.99	0.3	9.19
SCB	4.25	0.68	46.62
HSBC	3.21	0.78	60.6
Deutsche	4.23	1.96	383.11
DBS	2.68	1.01	101.16

Source- calculated by the researcher

Operating Profit to Total Assets of 15 banks is considered from 2009 to 2013 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	**Mean**	**Standard Deviation**	**Coefficient of Variation in %**
SBI	2.14	0.21	4.59
PNB	2.51	0.19	3.75
BOB	2	0.17	2.84
BOI	2.04	0.39	15.05
Canara	1.83	0.24	5.58
ICICI	2.39	0.18	3.21
Axis	2.89	0.26	6.68
HDFC	3.15	0.16	2.45

Bank	Mean	Standard Deviation	Coefficient of Variation in %
DCB	1.2	0.3	9.25
IndusInd	2.12	0.78	60.93
CITI	3.93	1.21	146.5
SCB	4.26	0.3	9.25
HSBC	3.82	0.72	52.43
Deutsche	4.67	0.49	24.43
DBS	2.43	1.15	131.61

Source- calculated by the researcher

The banks have been ranked on the basis of Operating Profit to Total Assets, on the basis of mean values of both the periods. The higher the Operating Profit to Total Assets better it is for the bank. The higher the Operating Profit to Total Assets, higher the rank is given to the bank.

Table XIX: Ranking of banks on the basis of Operating Profit to Total Assets in period 1 and 2

Rank	Period 1	Period 2
1	SCB	Deutsche
2	Deutsche	SCB
3	CITI	CITI
4	HSBC	HSBC
5	HDFC	HDFC
6	DBS	Axis
7	Axis	PNB
8	PNB	DBS
9	Canara	ICICI
10	IndusInd	SBI
11	BOB	IndusInd
12	SBI	BOI
13	BOI	BOB
14	ICICI	Canara

Rank	Period 1	Period 2
15	DCB	DCB

SCB and Deutsche have been ranked 1st and 2nd interchangeably during two periods of time. DCB is yet again ranked 15th in both periods. CITI has maintained its ranking at 3rdlevel. HSBC and HDFC are at 4th and 5th rank respectively in both the periods. AXIS, PNB, SBI, BOI and ICICI have improved their ranking in period 2. DBS, Canara, IndusInd, BOB have declined in ranking during period 2. HDFC has the lowest standard deviation and coefficient of co variation in both the periods strongly reflecting its ability to consistent performance in term of using its assets to generate operating profit. Deutsche and CITI have the highest standard deviation and coefficient of co variation respectively in two periods of time showing the fluctuating performance.

5.4.4. Return on Assets

Return on assets for a bank is obtained as weighted average of return on assets of individual bank, weights being the proportion of total assets of the bank as percentage to total assets of a bank

Return on Assets (ROA)[1] is a profitability ratio which indicates the net profit (net income) generated on total assets. It is computed by dividing net income by average total assets. Formula- (Profit after tax/Av. Total assets)*100

Table 30: Return on Assets of Selected Banks 2002-2013 (Mean, SD and CV)

Return on Assets of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean	Standard Deviation	Coefficient of Variation in %
SBI	0.87	0.1	0.99
PNB	1.01	0.13	1.65
BOB	0.89	0.19	3.73
BOI	0.86	0.32	10.23
Canara	1.12	0.14	2.05
ICICI	1.18	0.31	9.4
Axis	1.17	0.16	2.53

[1] *http://www.rbi.org.in/scripts/Glossary.aspx*

Bank	Mean	Standard Deviation	Coefficient of Variation in %
HDFC	1.44	0.07	0.49
DCB	-0.42	1.83	333.61
IndusInd	0.84	0.6	36.5
CITI	3.12	0.36	13.25
SCB	2.33	0.6	35.97
HSBC	1.2	0.42	17.64
Deutsche	1.89	1.03	106.97
DBS	0.93	1.39	193.75

Source- calculated by the researcher

Return on Assets of 15 banks is considered from 2009 to 2013 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean	Standard Deviation	Coefficient of Variation in %
SBI	0.91	0.12	1.37
PNB	1.25	0.17	2.8
BOB	1.11	0.18	3.36
BOI	0.94	0.35	12.06
Canara	1.07	0.25	6.05
ICICI	1.3	0.27	7.32
Axis	1.57	0.19	3.54
HDFC	1.56	0.24	5.94
DCB	-0.01	1.02	103.18
IndusInd	1.12	0.54	29.57
CITI	1.74	0.51	25.88
SCB	2.57	0.6	36.36
HSBC	1.61	0.39	15.37
Deutsche	2.09	0.57	31.98
DBS	1.43	0.88	78.03

Source- calculated by the researcher

The banks have been ranked on the basis of Return on Assets, on the basis of mean values of both the periods. The higher the Return on Assets better it is for the bank. The higher the Return on Assets, higher the rank is given to the bank

Table XX: Ranking of banks on the basis of Return on Assets in period 1 and 2

Rank	**Period 1**	**Period 2**
1	CITI	SCB
2	SCB	Deutsche
3	Deutsche	CITI
4	HDFC	HSBC
5	HSBC	Axis
6	ICICI	HDFC
7	Axis	DBS
8	Canara	ICICI
9	PNB	PNB
10	DBS	IndusInd
11	BOB	BOB
12	SBI	Canara
13	BOI	BOI
14	IndusInd	SBI
15	DCB	DCB

CITI and SCB are ranked no 1 respectively in two time periods. DCB is again ranked at 15^{th} level in both the time periods. SCB, Deutsche, HSBC, AXIS, DBS, and IndusInd have improved on their ranking during period 2. CITI, HDFC, ICICI, and Canara declined on the ranking of return on assets during period 2. PNB, BOB, and BOI have maintained their ranks of 9^{th}, 11^{th} and 13^{th} during both the periods. HDFC and SBI have the lowest standard deviation and coefficient of co variation respectively in period 1 and 2. DCB yet again has the highest standard deviation and coefficient of co variation in both periods reflecting how fluctuating its performance has been during the entire period of analysis. Foreign sector banks as a group has the highest ranking in this parameter.

5.4.5. Return on Equity

Return on Equity = Net Profit / (Capital + Reserves and Surplus)

Net profit= Profit before tax – provision for tax

Capital – Tier I and Tier II capital of a banks

Reserves and Surplus -That portion of a company's profits not paid out as dividends to shareholders. They are also known as un-distributable reserves and are ploughed back into the business.

Return on Equity (ROE)[2] is a ratio relating net profit (net income) to shareholders' equity. Here the equity refers to share capital reserves and surplus of the bank. Formula- Profit after tax/ (Total equity + Total equity at the end of previous year)/2}*100

Table 31: Return on Equity of Selected Banks 2002-2013 (Mean, SD and CV)

Return on Equity of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean	Standard Deviation	Coefficient of Variation in %
SBI	17.94	1.72	297.36
PNB	19.94	3.66	1338.65
BOB	15.27	3.53	1243.35
BOI	19.22	7.19	5166.7
Canara	22.48	4.64	2151.43
ICICI	15.2	5.12	2620.55
Axis	23.25	4.56	2079.29
HDFC	19.26	1.25	156.8
DCB	-13.5	34.2	116986.6
IndusInd	16.54	12.75	16256.49
CITI	20.03	2.48	614.39
SCB	27.73	7.96	6339.29
HSBC	12.12	3.22	1038.31
Deutsche	17.01	8.78	7702.63
DBS	5.35	7.02	4929.8

[2] *http://www.rbi.org.in/scripts/Glossary.aspx*

Source- calculated by the researcher

Return on Equity of 15 banks is considered from 2009 to 2013 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	**Mean**	**Standard Deviation**	**Coefficient of Variation in %**
SBI	15.4	1.6	254.73
PNB	20.53	3.26	1061.94
BOB	19.05	3.63	1318.84
BOI	17.33	5.83	3401.84
Canara	17.73	4.42	1953.83
ICICI	10.22	2.13	453.56
Axis	19.01	0.89	79.95
HDFC	17.83	1.48	220.25
DCB	0.41	11.17	12468.3
IndusInd	14.44	5.1	2605.47
CITI	14.84	6.18	3824.93
SCB	18.54	3.81	1450.42
HSBC	12.49	3.11	965.89
Deutsche	11.88	2.16	465.4
DBS	12.78	5.83	3394.16

Source- calculated by the researcher

The banks have been ranked on the basis of Return on Equity, on the basis of mean values of both the periods. The higher the Return on Equity better it is for the bank. The higher the Return on Equity, higher the rank is given to the bank.

Table XXI: Ranking of banks on the basis of Return on Equity in period 1 and 2

Rank	**Period 1**	**Period 2**
1	SCB	PNB
2	Axis	BOB
3	Canara	Axis
4	CITI	SCB
5	PNB	HDFC

Rank	Period 1	Period 2
6	HDFC	Canara
7	BOI	BOI
8	SBI	SBI
9	Deutsche	CITI
10	IndusInd	IndusInd
11	BOB	DBS
12	ICICI	HSBC
13	HSBC	Deutsche
14	DBS	ICICI
15	DCB	DCB

This parameter is one of the most frequently used measures to assess the performance of an organization. SCB and PNB are ranked 1st respectively in period 1 and 2. DCB is ranked 15th in both periods. PNB, HDFC, BOB, HSBC, and DBS have improved their ranking during period 2. AXIS, Canara, CITI, Deutsche, and ICICI have declined in ranking during period 2. BOB has improved the most from the rank of 11th in period 1 to rank 2nd in period 2. HDFC and AXIS have the lowest standard deviation and coefficient of co variation showing the consistency in their performance. DCB has the highest standard deviation and coefficient of co variation showcasing its fluctuating performance yet again.

Ranking of banks according to Earnings Capacity parameter

The bank is data is analyzed for two time periods.

A) The high growth years of 2002 to 2008
B) The recessionary phase from 2009 to 2013.

The following tables clearly distinguish the difference in ranking of individual banks between two periods of time.

Mean values are calculated for the mentioned parameters for 2002-2008 period

Table 32: Ranking of Selected Banks on Earnings Quality Parameter (2002-08)

Bank	IITA	NIMTA	OPTA	ROA	ROE	Rank
SBI	7.74	2.96	2.24	0.92	17.91	9
PNB	7.92	3.56	2.51	1.08	19.84	3.5
BOB	7.39	2.96	2.25	0.90	15.17	11.5
BOI	7.29	2.65	2.17	0.93	20.21	10
Canara	7.76	2.76	2.33	1.10	21.05	5
ICICI	7.63	1.89	2.08	1.26	16.05	11.5
Axis	7.30	2.45	2.38	1.22	21.30	6
HDFC	7.60	3.96	3.04	1.41	18.75	3.5
DCB	7.44	2.03	0.76	-0.50	-14.00	15
IndusInd	7.69	1.96	2.05	0.82	16.06	13
CITI	7.87	4.74	4.17	2.90	20.24	2
SCB	7.80	4.39	4.18	2.49	25.77	1
HSBC	6.93	3.90	3.50	1.36	12.45	7
Deutsche	5.45	2.39	4.19	1.77	16.01	8
DBS	6.87	3.42	2.32	0.73	3.84	14

Source- calculated by the researcher

Mean values are calculated for the mentioned parameters for 2009-2013 period

Table 33: Ranking of Selected Banks on Earnings Quality Parameter (2009-13)

Bank	IITA	NIMTA	OPTA	ROA	ROE	Rank
SBI	7.67	2.83	2.16	0.88	15.12	10.5
PNB	8.44	3.23	2.57	1.27	21.03	5
BOB	7.07	2.49	2.04	1.15	19.94	9
BOI	7.51	2.39	1.98	0.88	15.91	14
Canara	8.26	2.29	1.85	1.10	18.27	12
ICICI	7.42	2.36	2.44	1.33	9.94	13
Axis	7.94	3.03	2.98	1.63	19.29	3.5
HDFC	8.93	4.26	3.11	1.61	17.85	1

Bank	IITA	NIMTA	OPTA	ROA	ROE	Rank
DCB	8.63	2.75	1.10	-0.10	-1.09	15
IndusInd	9.52	2.94	2.37	1.28	16.08	7
CITI	6.55	4.14	3.68	1.64	13.29	6
SCB	6.74	3.97	4.20	2.45	17.43	2
HSBC	6.29	3.79	3.68	1.57	11.72	8
Deutsche	7.26	5.41	4.79	2.19	11.78	3.5
DBS	6.15	2.78	2.60	1.55	14.16	10.5

Source- calculated by the researcher

Table XXI: Ranking of banks on the basis Earnings Quality Parameter

Bank	Period 1	Period 2
SBI	9	10.5
PNB	3.5	5
BOB	11.5	9
BOI	10	14
Canara	5	12
ICICI	11.5	13
Axis	6	3.5
HDFC	3.5	1
DCB	15	15
IndusInd	13	7
CITI	2	6
SCB	1	2
HSBC	7	8
Deutsche	8	3.5
DBS	14	10.5

The ranking shows that foreign sector banks are performing better than competitors. DCB has been a laggard in both the periods. HDFC and AXIS have improved on their performance. ICICI bank has declined in the ranking. Public sector banks have more or less performed in a similar manner in both the periods.

Standard two sample T test

The parameters mentioned for Management Efficiency are divided in two time periods

A) The high growth years of 2002 to 2008
B) The recessionary phase from 2009 to 2013.

The mean values are compared on standard two sample T test with 95 % confidence interval with the null hypothesis of there has been no significant difference between two time periods.

The following table lists the p values at 95% confidence interval for the given parameters

Table 34: P Values of Two Sample T test of selected Banks of Earnings Quality Parameter

Bank	IITA	NIMTA	OPTA	ROA	ROE
SBI	0.8254	0.5288	0.6052	0.5249	0.0238
PNB	0.2491	0.06	0.8124	0.0312	0.5953
BOB	0.2673	0.0166	0.4002	0.0442	0.0463
BOI	0.4845	0.0316	0.5333	0.7937	0.3083
CANARA	0.1655	0.0332	0.0972	0.9799	0.3968
ICICI	0.6501	0.0289	0.0087	0.6128	0.0093
AXIS	0.2201	0.0031	0.0162	0.0001	0.289
HDFC	0.0478	0.3158	0.6505	0.0827	0.3106
DCB	0.0692	0.0226	0.4108	0.6757	0.4398
IndusInd	0.0024	0.0277	0.6114	0.1998	0.9966
CITI	0.0026	0.0208	0.3836	0.0015	0.0216
SCB	0.0456	0.0375	0.9339	0.9208	0.0347
HSBC	0.1768	0.7917	0.7266	0.4379	0.7213
DEUTSCHE	0.0229	0.0013	0.5231	0.4376	0.3336
DBS	0.4595	0.104	0.668	0.2713	0.0106

Source- calculated by the researcher

The T test in case of earnings capacity has shown that there has been no significant difference in the performance of banks during two time periods. The exception is that of

Net Interest Margin to Total Assets Ratio which showed that there is a significant difference in the performance. HDFC, IndusInd, CITI, SCB and Deutsche bank have significant difference in the performance on the parameter of Interest Income to Total Assets ratio. Return on Equity is significantly different in case of SBI, BOB, ICICI, CITI, SCB and DBS bank. Return on Assets is different in two periods for PNB, BOB, AXIS and CITI bank.

5.5 Liquidity

Liquidity – the faith in the banking system of the depositors is very important. The negative correlation between liquidity and profitability is well known in the banking sector. Bank has to keep adequate liquidity and achieve maximum profitability. Cash deposit ratio and time deposits to total deposits are the parameters to assess the liquidity in a bank.Liquidity parameters includes following ratios

5.5.1 – Cash Deposit Ratio

5.5.2 – Current Account and Savings Account to Total Deposits Ratio

5.5.3 – Term Deposits to Total Deposits

5.5.1. Cash-Deposit Ratio = (Cash in hand + Balances with RBI) / Deposits

The CD ratio maintained at an appropriate level ensures the liquidity in a bank. Depositor's faith in the banking system depends on the timely payments of depositor's money.

Table 35: Cash-Deposit Ratio of Selected Banks 2002-2013 (Mean, SD and CV)

Cash-Deposit Ratio of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean	Standard Deviation	Coefficient of Variation in %
SBI	5.89	1.39	194.17
PNB	10.31	4.56	2080.47
BOB	4.27	0.78	60.89
BOI	5.69	0.49	23.53
Canara	7.73	2.46	603.47

Bank	Mean	Standard Deviation	Coefficient of Variation in %
ICICI	7.25	1.83	334.42
Axis	10.25	4.14	1715.36
HDFC	7.56	1.17	137.76
DCB	6.56	0.68	45.72
IndusInd	6.56	2.79	778.09
CITI	9.96	3.78	1430.32
SCB	6	1.21	146.55
HSBC	6.68	1.87	349.35
Deutsche	11.07	3.5	1227.71
DBS	3.81	1.15	131.34

Source- calculated by the researcher

Cash-Deposit Ratio of 15 banks is considered from 2009 to 2013 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean	Standard Deviation	Coefficient of Variation in %
SBI	7.58	2.03	413.25
PNB	6.95	1.84	337.88
BOB	5.38	1.3	168.93
BOI	6.18	1.33	177.26
Canara	6.34	1.59	253.9
ICICI	9.58	2.71	733.27
Axis	6.86	1.33	175.78
HDFC	9.04	3.05	928.74
DCB	6.9	2.24	499.74
IndusInd	6.88	1.03	106.22
CITI	8.18	1.86	346.66
SCB	7.41	2.78	775.48
HSBC	8.37	1.84	337.55
Deutsche	13.34	4.06	1651
DBS	6.21	1.1	121.19

Source- calculated by the researcher

The banks have been ranked on the basis of Cash-Deposit Ratio, on the basis of mean values of both the periods. The higher Cash-Deposit Ratio considered as better for the bank. The higher the Cash-Deposit Ratio, higher the rank is given to the bank.

Table XXIII: Ranking of banks on Cash-Deposit Ratio parameter in period 1 and 2

Rank	**Period 1**	**Period 2**
1	Deutsche	Deutsche
2	PNB	ICICI
3	Axis	HDFC
4	CITI	HSBC
5	Canara	CITI
6	HDFC	SBI
7	ICICI	SCB
8	HSBC	PNB
9	IndusInd	DCB
10	DCB	IndusInd
11	SCB	Axis
12	SBI	Canara
13	BOI	DBS
14	BOB	BOI
15	DBS	BOB

Deutsche is ranked 1st in both the time periods. DBS and BOB have the lowest rank of 15th respectively in two periods. HDFC, ICICI, HSBC, DCB, SCB, SBI and DBS have improved on their ranking in period 2. PNB, AXIS, CITI, Canara, IndusInd, and BOI have declined in their ranking in period 2. BOI and IndusInd have the lowest standard deviation and coefficient of co variation showing the consistency in their performance. PNB and Deutsche have the highest standard deviation and coefficient of co variation showing the inconsistent performance in maintaining cash deposit ratio.

5.5.2. Current Account and Saving Account Deposit to Total Deposits Ratio

CASA percentage, as it is famously called, reduces the overall cost of deposits and also maintains high liquidity in a bank. The higher the ratio is considered as good for the bank from lowering the cost and maintaining the liquidity.

Table 36: CASA percentage of Selected Banks 2002-2013 (Mean, SD and CV)

CASA Percentage of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	**Mean**	**Standard Deviation**	**Coefficient of Variation in %**
SBI	41.98	5.04	2542.03
PNB	46.43	1.52	231.88
BOB	35.11	2.08	433.04
BOI	33.53	1.19	142.7
Canara	33.52	1.1	120.06
ICICI	20.59	3.71	1379.74
Axis	32.57	10.17	10334.92
HDFC	52.02	8.2	6730.39
DCB	22.39	6.63	4398.84
IndusInd	12.47	1.51	226.9
CITI	45.53	11.53	13302.98
SCB	43.02	5.05	2547.18
HSBC	43.12	9.21	8487.45
Deutsche	63.26	9.29	8637.42
DBS	4.14	3.19	1016.05

Source- calculated by the researcher

CASA Percentage of 15 banks is considered from 2009 to 2013 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean	Standard Deviation	Coefficient of Variation in %
SBI	45.82	2.68	716.51
PNB	39.27	2.56	653.16
BOB	28.56	2.12	450.55
BOI	27.15	1.9	362.45
Canara	27.91	3.02	912.45
ICICI	37.81	8.2	6728.47
Axis	43.76	2.25	505.35
HDFC	49.9	3.8	1446.42
DCB	30.86	4.42	1958.01
IndusInd	23.73	5.3	2806.68
CITI	51.89	3.08	947.8
SCB	43.17	3.75	1409.07
HSBC	46.6	2.91	847.86
Deutsche	62.19	9.1	8288.77
DBS	5.88	1.95	381.63

Source- calculated by the researcher

The banks have been ranked on the basis of CASA percentage, on the basis of mean values of both the periods. The higher the CASA percentage better it is for the bank. The higher the CASA percentage, higher the rank is given to the bank.

Table XXIV: Ranking of banks encase percentage parameter in period 1 and 2

Rank	Period 1	Period 2
1	Deutsche	Deutsche
2	HDFC	CITI
3	PNB	HDFC
4	CITI	HSBC
5	HSBC	SBI
6	SCB	Axis
7	SBI	SCB
8	BOB	PNB

Rank	Period 1	Period 2
9	BOI	ICICI
10	Canara	DCB
11	Axis	BOB
12	DCB	Canara
13	ICICI	BOI
14	IndusInd	IndusInd
15	DBS	DBS

Deutsche is ranked 1st in both the periods. DBS is ranked 15th in both the periods. CITI, HSBC, SBI, AXIS, DCB, and ICICI have improved their ranking in period 2. HDFC, PNB, SCB, BOI, and Canara have declined in their ranking in period 2. IndusInd has been on the 14th rank in both the periods reflecting poor performance. Canara and BOI have the lowest standard deviation and coefficient of co variation showing the stability in their performance. CITI and Deutsche have the highest standard deviation and coefficient of co variation showing inability to perform consistently.

5.5.3. Term Deposits to Total Deposits

Term deposits are those deposits which have maturity of more than three years. The term deposits' money is safe for long term lending. The bank need not worry about the depositor's demand for this money till the maturity. The percentage of term deposits in total deposits of a bank plays a crucial role in maintaining the liquidity in a bank.

Table 37: Term Deposits to Total Deposits of Selected Banks 2002-2013 (Mean SD and CV)

Term Deposits to Total Deposits of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean	Standard Deviation	Coefficient of Variation in %
SBI	58.02	5.04	2542.03
PNB	53.58	1.52	231.88
BOB	64.89	2.08	433.04

Bank	Mean	Standard Deviation	Coefficient of Variation in %
BOI	66.48	1.19	142.7
Canara	66.48	1.1	120.06
ICICI	79.41	3.71	1379.74
Axis	67.43	10.17	10334.92
HDFC	47.98	8.2	6730.39
DCB	77.62	6.63	4398.84
IndusInd	87.54	1.51	226.9
CITI	54.47	11.53	13302.98
SCB	56.98	5.05	2547.18
HSBC	56.88	9.21	8487.45
Deutsche	36.75	9.29	8637.42
DBS	95.86	3.19	1016.05

Source- calculated by the researcher

Term Deposits to Total Deposits of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean	Standard Deviation	Coefficient of Variation in %
SBI	49.62	5.29	2797.39
PNB	45.33	10.89	11852.04
BOB	41.62	21.73	47206.83
BOI	41.36	23.25	54047.83
Canara	40.73	22.17	49146.42
ICICI	52.88	15.35	23552.61
Axis	47.49	6.64	4414.85
HDFC	50.28	3.79	1438.06
DCB	45.76	20.93	43786.12
IndusInd	45.42	28.83	83099.39
CITI	52.94	1.84	340.06
SCB	46.35	7.35	5406.96
HSBC	50.79	4.65	2162.89

Bank	Mean	Standard Deviation	Coefficient of Variation in %
Deutsche	48.94	16.12	25971.27
DBS	36.35	46	211565.6

Source- calculated by the researcher

The banks have been ranked on the basis of Term Deposits to Total Deposits, on the basis of mean values of both the periods. The higher the Term Deposits to Total Deposits better it is for the bank. The higher the Term Deposits to Total Deposits, higher the rank is given to the bank.

Table XXV: Ranking of banks on Term Deposits to Total Deposits parameter in period 1 and 2

Rank	Period 1	Period 2
1	DBS	CITI
2	IndusInd	ICICI
3	ICICI	HSBC
4	DCB	HDFC
5	Axis	SBI
6	Canara	Deutsche
7	BOI	Axis
8	BOB	SCB
9	SBI	DCB
10	SCB	IndusInd
11	HSBC	PNB
12	CITI	BOB
13	PNB	BOI
14	HDFC	Canara
15	Deutsche	DBS

DBS and CITI are ranked 1st respectively in two periods. Deutsche and DBS have ranked 15th respectively in period 1 and 2. ICICI, SBI, SCB, HSBC, CITI, PNB, HDFC, and Deutsche have improved on their ranking in period 2. DBS, IndusInd, DCB, AXIS, Canara, BOI, and BOB have declined in their ranking during period 2. Canara and CITI

have the lowest standard deviation and coefficient of co variation respectively during period 1 and 2. It shows the consistency in performance. CITI and DBS have the highest standard deviation and coefficient of co variation in performance.

Ranking of banks according to Liquidity parameter

The bank is data is analyzed for two time periods.

A) The high growth years of 2002 to 2008
B) The recessionary phase from 2009 to 2013.

The following tables clearly distinguish the difference in ranking of individual banks between two periods of time.

Mean values are calculated for the mentioned parameters for 2002-2008 period

Table 38: Ranking of Selected Banks on Liquidity Parameter (2002-08)

Bank	**CDR**	**CASA-%**	**TDTD**	**Rank**
SBI	6.14	43.73	56.27	12
PNB	10.51	46.20	53.80	2
BOB	4.60	34.82	65.18	14
BOI	5.98	33.02	66.98	13
Canara	7.12	33.13	66.87	9
ICICI	8.33	22.22	77.78	6
Axis	10.11	37.44	62.56	4
HDFC	8.49	54.33	45.67	5
DCB	7.21	23.86	76.14	8
IndusInd	6.88	12.92	87.08	10
CITI	10.38	48.67	51.33	3
SCB	6.72	44.64	55.37	11
HSBC	7.75	45.71	54.29	7
Deutsche	13.10	66.18	33.82	1
DBS	3.75	4.22	95.78	15

Source- calculated by the researcher

Mean values are calculated for the mentioned parameters for 2009-2013 period

Table 39: Ranking of Selected Banks on Liquidity Parameter (2009-13)

Bank	CDR	CASA-%	TDTD	Rank
SBI	7.17	45.59	48.93	5.5
PNB	6.50	38.53	42.99	9
BOB	5.22	28.02	36.19	12
BOI	5.85	26.46	35.76	14.5
Canara	5.87	27.20	35.18	13
ICICI	9.09	40.16	48.68	5.5
Axis	6.56	43.38	46.12	7
HDFC	8.35	48.98	51.24	3
DCB	6.06	32.17	39.77	10.5
IndusInd	6.65	25.34	37.64	10.5
CITI	7.79	52.39	53.40	2
SCB	6.39	42.33	45.10	8
HSBC	7.73	46.69	50.17	4
Deutsche	12.42	60.73	52.62	1
DBS	6.48	6.43	24.24	14.5

Source- calculated by the researcher

Table XXVI: Ranking of banks on Liquidity Parameter

Bank	Period 1	Period 2
SBI	12	5.5
PNB	2	9
BOB	14	12
BOI	13	14.5
Canara	9	13
ICICI	6	5.5
Axis	4	7
HDFC	5	3
DCB	8	10.5

Bank	Period 1	Period 2
IndusInd	10	10.5
CITI	3	2
SCB	11	8
HSBC	7	4
Deutsche	1	1
DBS	15	14.5

The ranking on liquidity parameter indicates that public sector banks have mixed performance. SBI and BOB have improved whereas BOB, BOI and Canara declined. In case of private sector banks except for HDFC all banks have shown declining trend in their ranking. Foreign sector banks have all improved on their ranking with Deutsche bank being ranked No. 1 throughout the period of analysis.

Standard two sample T test

The parameters mentioned for Management Efficiency are divided in two time periods

A) The high growth years of 2002 to 2008
B) The recessionary phase from 2009 to 2013.

The mean values are compared on standard two sample T test with 95% confidence interval with the null hypothesis of there has been no significant difference between two time periods.

The following table lists the p values at 95% confidence interval for the given parameters

Table 40: P Values of Two Sample T test of selected Banks of Liquidity Parameter.

Bank	CDR	CASA %	TDTD
SBI	0.402	0.4519	0.0398
PNB	0.0915	0.0001	0.0322
BOB	0.4278	0.0008	0.0049
BOI	0.8439	0	0.0051
CANARA	0.1344	0.0012	0.0031
ICICI	0.6373	0.0003	0.0004
AXIS	0.1031	0.1283	0.004
HDFC	0.9321	0.114	0.1001
DCB	0.2733	0.0189	0.0007
IndusInd	0.8665	0.0001	0.0007
CITI Bank	0.1783	0.4005	0.6229
SCB	0.823	0.3774	0.0202
HSBC	0.9875	0.7775	0.292
DEUTSCHE	0.7581	0.3147	0.0241
DBS	0.0018	0.189	0.0015

Source- calculated by the researcher

The calculated p- values at 95% confidence interval show that performance of almost all the banks is significantly different in case of Term Deposits to Total Deposits ratio. The CASA % has also been significantly different except for AXIS, HDFC and all selected foreign sector banks. All banks have performed similar in both the time periods as far as Cash Deposit Ratio is concern.

Chapter 6

Data Presentation -Principle Component Analysis

Following financial parameters are considered for factor analysis

Table 41: Financial parameters considered for Factor Analysis

No.	Financial parameters considered for Factor Analysis
1	Deposits
2	Advances
3	Profit
4	Interest Income
5	Other Income
6	Cash-deposit ratio
7	Credit-deposit ratio
8	Investment-deposit ratio
9	(Credit+Investment)-deposit ratio
10	Ratio of deposits to total liabilities
11	Ratio of term deposits to total deposits
12	Ratio of priority sector advances to total advances
13	Ratio of term loan to total advances
14	Ratio of secured advances to total advances
15	Ratio of investments in non-approved securities to total investments
16	Ratio of interest income to total assets
17	Ratio of net interest margin to total assets
18	Ratio of non-interest income to total assets
19	Ratio of intermediation cost to total assets
20	Ratio of wage bills to intermediation cost
21	Ratio of wage bills to total expense
22	Ratio of wage bills to total income
23	Ratio of burden to total assets

No.	Financial parameters considered for Factor Analysis
24	Ratio of burden to interest income
25	Ratio of operating profits to total assets
26	Return on assets
27	Return on equity
28	Cost of deposits
29	Cost of borrowings
30	Cost of funds
31	Return on advances
32	Return on investments
33	Return on advances adjusted to cost of funds
34	Return on investments adjusted to cost of funds
35	Business per employee (in Rs.lakh)
36	Profit per employee (in Rs.lakh)
37	Capital adequacy ratio
38	Capital adequacy ratio - Tier I
39	Ratio of net NPA to net advances
40	GNPA to Advances ratio
41	NET NPAs to Advances ratio
42	Net Interest to Total Assets
43	Net Profit Margin
44	Return on Net Worth
45	Profit to Total Funds ratio
46	Profit to Total Assets
47	Advances to Total Assets ratio
48	NET NPAs to Total Assets
49	CASA percentage
50	Total funds
51	Total income
52	Gross NPAs

No.	Financial parameters considered for Factor Analysis
53	Net NPAs
54	Net Worth
55	Total assets

The principle component analysis has been calculated on all the parameters mentioned above enlisted the parameters as

Table 42: Factor Analysis result on Financial Parameters

Parameters		FA1	**Method**	Principal	**Rotation**	Varimax	**No of factors**	15.000	**SS**
		Factor1	**Factor2**	**Factor3**	**Factor4**	**Factor5**	**Factor 6**	**Factor7**	**Factor8**
Deposits	**D**	0.972							0.123
Advances	**A**	0.980							0.110
Profit	**P**	0.950							
Interest Income	**II**	0.990							
Other Income	**OI**	0.948							
Cash-deposit ratio	**CDR**		0.175		0.469		-0.102	-0.119	
Credit-deposit ratio	**CRDR**	0.124	0.183			-0.154			

Parameters		FA1	**Method**	Principal	**Rotation**	Varimax	**No of factors**	15.000	**SS**
Investment-deposit ratio	**IDR**	-0.208		-0.173			-0.204		-0.857
(Credit+Investment)-deposit ratio	**CIDR**		0.144	-0.131			-0.125		-0.567
Ratio of deposits to total liabilities	**DTL**	0.140	-0.205	0.274	-0.250		0.183		0.474
Ratio of term deposits to total deposits	**TDPD**	-0.203			-0.178	-0.198		0.214	
Ratio of priority sector advances to total advances	**PATA**		-0.139			0.466	0.197	-0.140	
Ratio of term loan to total advances	**TLTA**	0.101	-0.171	0.169		-0.589	0.273	-0.131	0.126
Ratio of secured advances to total advances	**SATA**	0.142	-0.189	0.308	-0.545	-0.231		0.168	
Ratio of investments in non-approved securities to	**NASTI**					-0.175		-0.127	-0.521

total investments									
Ratio of interest income to total assets	**IITA**			0.924			0.144		0.127
Ratio of net interest margin to total assets	**NIMTA**		0.470		0.535	0.133	0.389		
Ratio of non-interest income to total assets	**NIITA**	-0.208	0.268		0.634	-0.129	-0.661		
Ratio of intermediation cost to total assets	**ICTA**	-0.229			0.927				
Ratio of wage bills to intermediation cost	**WBIC**	0.316			-0.272	0.806		0.114	0.169
Ratio of wage bills to total expense	**WBTE**		0.110	-0.299	0.389	0.795	0.159		
Ratio of wage bills to total income	**WBIT**		-0.140	-0.194	0.283	0.852	0.233		0.119
Ratio of burden to	**BTA**		-0.37	0.127		0.221	0.873		

total assets			0						
Ratio of burden to interest income	**BII**		-0.326			0.160	0.888		
Ratio of operating profits to total assets	**OPTA**	-0.126	0.687		0.436		-0.311		
Return on assets	**ROA**		0.861		0.219	-0.102		-0.154	
Return on equity	**ROE**		0.879	0.133	-0.133			-0.119	
Cost of deposits	**COD**	0.176	-0.226	0.716	-0.405	-0.164			
Cost of borrowings	**COB**	-0.119		0.109		0.121			
Cost of funds	**COF**		-0.234	0.800	-0.295		-0.152		
Return on advances	**RA**		0.150	0.803	0.278	-0.172			
Return on investments	**RI**	-0.120	0.274	0.248	-0.113			0.173	

Return on advances adjusted to cost of funds	**RACF**	-0.113	0.325	0.258	0.505	-0.182	0.173		
Return on investments adjusted to cost of funds	**RICF**	-0.161	0.425	-0.378	0.121		0.132	0.115	
Business per employee (in Rs.lakh)	**BE**		0.170	-0.159		-0.134		-0.150	-0.168
Profit per employee (in Rs.lakh)	**PE**	-0.140	0.493	-0.140	0.171		-0.202		-0.314
Capital adequacy ratio	**CAR**			-0.138	-0.146			-0.143	
Capital adequacy ratio - Tier I	**TI**			-0.136				-0.118	
Ratio of net NPA to net advances	**NPANA**		-0.100				-0.340	0.455	
GNPA to Advances ratio	**GNPATOAD**		-0.383	0.111		0.139		0.620	
NET NPAs to Advances ratio	**NPATOAD**		-0.180	0.118				0.943	
Net Interest to Total Assets	**NIITOTA**			0.854			0.107	0.285	0.166

Net Profit Margin	**NPM**		0.917	-0.149				-0.203	-0.114
Return on Net Worth	**RONW**		0.874	0.110	-0.151			-0.124	
Profit to Total Funds ratio	**PTOTF**		0.876		0.251		-0.132	-0.109	
Profit to Total Assets	**PTOTA**		0.925		0.185		-0.156	-0.134	
Advances to Total Assets ratio	**ATOTA**	0.353		0.259	-0.213		0.247		0.620
NET NPAs to Total Assets	**NPATTA**		-0.177	0.120	-0.128			0.935	0.153
CASA percentage	**CASA..**	0.159	0.248	-0.161	0.778	0.103			
Total funds	**T.Fund**	0.984							
Total income	**T.Income**	0.991							
Gross NPAs	**GNPA**	0.934						0.140	
Net NPAs	**NNPA**	0.927						0.182	
Net Worth	**NW**	0.944							

Total assets	**T.Assets**	0.990							

Source- calculated by the researcher

The principle factor analysis has been applied on the parameters of financial performance of banks and following factors are considered for the analysis.

Principle Factor Analysis is done on following parameters

No.	Principle Factors
6.1	Deposits
6.2	Advances
6.3	Profit
6.4	Interest Income
6.5	Other Income
6.6	Total funds
6.7	Total income
6.8	Gross NPAs
6.9	Net NPAs
6.10	Net Worth
6.11	Total assets

The analysis on these parameters is as follows

6.1 Deposits

The deposits include all types of deposits that individuals and institutions can maintain with banks. (These deposits typically include current deposits, saving deposits, recurring deposits and term deposits and all other deposits of institutions)

Table 43: Deposits generated of Selected Banks 2002-2013 (Mean, SD and CV)

Deposits of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean (Rs in Cr)	Standard Deviation	Coefficient of Variation
SBI	344652.50	60883.34	3706780776
PNB	98427.33	28247.39	797914818.7
BOB	83520.50	23220.31	539182930.7
BOI	81300.67	22440.82	503590607.1
Canara	96408.33	29224.46	854068823.9
ICICI	107295.50	76505.35	5853068728
Axis	30136.17	17315.78	299836125.4
HDFC	38481.33	19757.09	390342722.3
DCB	3876.17	509.0789	259161.3667
IndusInd	12327.17	3651.696	13334886.57
CITI	23453.50	8254.774	68141297.9
SCB	21725.00	9248.96	85543252.8
HSBC	19700.83	8684.66	75423319.37
Deutsche	3645.17	1851.888	3429490.167
DBS	1088.50	1432.565	2052243.5

Source- calculated by the researcher

Deposits of 15 banks is considered from 2009 to 2013 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean (Rs in Cr)	Standard Deviation	Coefficient of Variation
SBI	877318.50	234930.30	55192247244
PNB	284932.00	91723.62	8413222939
BOB	291647.33	121632.39	14794438580
BOI	261403.33	86818.22	7537402848
Canara	258660.00	79999.70	6399952538
ICICI	239751.67	32083.28	1029337162
Axis	168042.50	63342.27	4012243379
HDFC	193753.67	71364.73	5092925104
DCB	5969.33	1353.32	1831467.87
IndusInd	33116.67	13330.11	177691827.5

Bank	Mean (Rs in Cr)	Standard Deviation	Coefficient of Variation
CITI	56696.33	7788.04	60653498.27
SCB	51896.67	11204.71	125545453.1
HSBC	53455.33	6486.04	42068691.87
Deutsche	15812.50	2664.69	7100553.5
DBS	8921.83	4237.72	17958258.97

Source- calculated by the researcher

The banks have been ranked on the basis of Deposits, on the basis of mean values of both the periods. The higher Deposits are better for the bank. The higher the Deposits, higher the rank is given to the bank

Rank	Period 1	Period 2
1	SBI	SBI
2	ICICI	BOB
3	PNB	PNB
4	Canara	BOI
5	BOB	Canara
6	BOI	HDFC
7	HDFC	Axis
8	Axis	ICICI
9	CITI	IndusInd
10	SCB	SCB
11	HSBC	CITI
12	IndusInd	HSBC
13	DCB	DBS
14	Deutsche	Deutsche
15	DBS	DCB

SBI is ranked no 1 in both periods since it is the largest bank in India, its capacity to generate deposits is doubtless. DBS and DCB are ranked 15th in two periods respectively. ICICI has lost its rank of 2nd in period 1 to the rank of 8th in period 2. PNB has been ranked 3rd in both the periods. BOB, BOI, HDFC, AXIS, IndusInd, and DBS

have improved their ranking in period 2 reflecting better performance of these banks. ICICI, Canara, CITI, HSBC, and DCB have lost their ranking in period 2 from period 1. DCB has the lowest standard deviation and coefficient of co variation in both the periods. ICICI has highest standard deviation and coefficient of co variation reflecting fast increase in deposits in period 1. ICICI failed in maintaining the momentum in increase of deposits because depositors lost faith in the bank post financial crisis on 2008. SBI has highest standard deviation and coefficient of co variation reflecting fast increase in deposits in period 2.

6.2 Advances

These include all types of loans that a bank grants to individuals and institutions.

Table 44: Advances disbursed of Selected Banks 2002-2013 (Mean, SD and CV)

Advances of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	**Mean (Rs in Cr)**	**Standard Deviation**	**Coefficient of Variation**
SBI	205060.17	85322.58	7279943047
PNB	58909.67	23483.33	551466944.7
BOB	48590.83	19744.24	389834951
BOI	55406.50	17401.38	302808181.1
Canara	60065.17	24889.32	619478181.4
ICICI	99306.83	59694.47	3563429992
Axis	16114.17	11924.01	142181918.2
HDFC	23981.00	15071.12	227138516.4
DCB	2311.50	280.33	78587.5
IndusInd	7936.17	2263.18	5121977.77
CITI	19116.67	8187.38	67033189.47
SCB	18729.50	7648.69	58502478.7
HSBC	13040.17	5976.35	35716710.57
Deutsche	2610.33	1203.76	1449040.27
DBS	536.83	446.86	199682.57

Source- calculated by the researcher

Advances of 15 banks is considered from 2009 to 2013 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean (Rs in Cr)	Standard Deviation	Coefficient of Variation
SBI	710183.17	227942.86	51957946933
PNB	217568.17	76481.75	5849458413
BOB	211537.67	85601.87	7327680163
BOI	196028.67	66613.58	4437368511
Canara	183454.17	54186.53	2936179766
ICICI	230912.00	37177.04	1382132574
Axis	125781.50	53038.13	2813042818
HDFC	147210.33	64587.89	4171595038
DCB	4492.00	1247.96	1557402
IndusInd	25777.33	12052.01	145250835.5
CITI	42447.50	5891.38	34708333.5
SCB	46519.33	11017.77	121391159.9
HSBC	29937.67	4860.24	23621930.27
Deutsche	13315.67	4962.72	24628609.87
DBS	7221.17	5096.46	25973918.57

Source- calculated by the researcher

The banks have been ranked on the basis of Advances, on the basis of mean values of both the periods. The higher the Advances better it is for the bank. The higher the Advances, higher the rank is given to the bank

Rank	Period 1	Period 2
1	SBI	SBI
2	ICICI	ICICI
3	Canara	PNB
4	PNB	BOB
5	BOI	BOI
6	BOB	Canara
7	HDFC	HDFC

Rank	Period 1	Period 2
8	CITI	Axis
9	SCB	SCB
10	Axis	CITI
11	HSBC	HSBC
12	IndusInd	IndusInd
13	Deutsche	Deutsche
14	DCB	DBS
15	DBS	DCB

SBI is ranked no 1 in both periods since it is the largest bank in India, its capacity to disburse advances is doubtless. DBS and DCB are ranked 15th in two periods respectively. ICICI has been ranked 2nd in both the time periods. PNB, BOB, and AXIS have improved their ranking in period 2. Canara, CITI, and DCB have declined in their ranking in period 2. BOI, HDFC, SCB, HSBC, IndusInd and Deutsche have maintained their ranking of 5th, 7th, 9th, 11th, 12th, and 13th in two periods respectively. DCB has the lowest standard deviation and coefficient of co variation in both the periods. SBI has highest standard deviation and coefficient of co variation in both the periods. This reflects that SBI is able to disburse advances at a very fast pace compared to other banks. Public sector banks as a group have performed well in both the periods.

6.3 Profit

Profit before tax – provision for tax

Table 45: Profit Earned of Selected Banks 2002-2013 (Mean, SD and CV)

Profit of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean (Rs in Cr)	Standard Deviation	Coefficient of Variation
SBI	3744	840	704943
PNB	1150	386	149119
BOB	802	179	32160

Bank	Mean (Rs in Cr)	Standard Deviation	Coefficient of Variation
BOI	755	298	88960
Canara	1162	257	66217
ICICI	1793	1006	1012514
Axis	347	195	38142
HDFC	645	317	100641
DCB	-26	80	6423
IndusInd	119	94	8764
CITI	582	209	43846
SCB	788	336	112861
HSBC	404	257	66033
Deutsche	164	71	5094
DBS	18	28	811

Source- calculated by the researcher

Profit of 15 banks is considered from 2009 to 2013 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean (Rs in Cr)	Standard Deviation	Coefficient of Variation
SBI	9849	2639	6961759.5
PNB	3851	1099	1208653.5
BOB	3408	1401	1962401.8
BOI	2445	480	229928.97
Canara	2806	877	768887.6
ICICI	5313	1780	3168274.7
Axis	3035	1536	2359066.2
HDFC	3767	1922	3694116.2
DCB	8	76	5745.07
IndusInd	502	384	147770.97
CITI	1817	636	404005.77
SCB	2082	462	213239.77
HSBC	1457	454	206393.77

Bank	Mean (Rs in Cr)	Standard Deviation	Coefficient of Variation
Deutsche	625	258	66575.87
DBS	224	104	10889.6

Source- calculated by the researcher

The banks have been ranked on the basis of Profit, on the basis of mean values of both the periods. The higher the Profit better it is for the bank. The higher the Profit, higher the rank is given to the bank.

Rank	Period 1	Period 2
1	SBI	SBI
2	ICICI	ICICI
3	Canara	PNB
4	PNB	HDFC
5	BOB	BOB
6	SCB	Axis
7	BOI	Canara
8	HDFC	BOI
9	CITI	SCB
10	HSBC	CITI
11	Axis	HSBC
12	Deutsche	Deutsche
13	IndusInd	IndusInd
14	DBS	DBS
15	DCB	DCB

SBI is ranked no 1 in both periods since it is the largest bank in India, its capacity to generate Profit is doubtless. DCB are ranked 15th in both the periods. PNB, HDFC, and AXIS have improved their ranking in period 2. Canara, SCB, BOI, CITI, and HSBC have declined in their ranking in period 2. ICICI, BOB, Deutsche, IndusInd, DBS and DCB have maintained their ranking during both the periods at 2nd, 5th, 12th, 13th, 14th, and 15threspectively. Public sector banks were ranked highest in period 1, but private sector banks like HDFC and AXIS have arrived at top positions other than ICICI which has been on rank 2nd in both the periods.

6.4 Interest Income

It is the interest income that a bank earns from granting advances to individuals and institutions.

Table 46: Interest Income of Selected Banks 2002-2013 (Mean, SD and CV)

Interest Income of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean (Rs in Cr)	Standard Deviation	Coefficient of Variation
SBI	33178.50	3751.49	14073677.1
PNB	8582.33	1751.45	3067576.27
BOB	6824.00	1238.71	1534399.6
BOI	6593.17	1361.82	1854564.17
Canara	7962.17	1856.83	3447817.37
ICICI	11118.33	6913.66	47798661.5
Axis	2267.50	1268.82	1609910.7
HDFC	3453.83	1945.80	3786122.57
DCB	335.67	37.78	1427.07
IndusInd	1043.50	297.42	88458.3
CITI	2636.50	949.54	901628.3
SCB	2674.33	810.13	656303.87
HSBC	1978.83	795.62	633011.77
Deutsche	507.83	250.92	62962.97
DBS	113.17	139.99	19596.97

Source- calculated by the researcher

Interest Income of 15 banks is considered from 2009 to 2013 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean (Rs in Cr)	Standard Deviation	Coefficient of Variation
SBI	81883.83	26701.12	712949770.2
PNB	26692.33	10639.76	113204530.3
BOB	21726.17	9079.86	82443901.77
BOI	21453.17	7489.03	56085616.97

Bank	Mean (Rs in Cr)	Standard Deviation	Coefficient of Variation
Canara	22989.67	7930.04	62885541.07
ICICI	31196.33	5328.13	28388955.87
Axis	15634.83	7583.11	57503490.97
HDFC	20914.33	9052.78	81952857.07
DCB	638.83	162.48	26398.57
IndusInd	3804.33	1985.58	3942539.07
CITI	6970.83	1162.28	1350894.17
SCB	6596.50	1597.34	2551505.9
HSBC	5826.50	830.75	690139.5
Deutsche	1980.83	482.72	233015.77
DBS	1290.33	741.57	549923.07

Source- calculated by the researcher

The banks have been ranked on the basis of Interest Income, on the basis of mean values of both the periods. The higher Interest Income is better for the bank. The higher the Interest Income, higher the rank is given to the bank

Rank	Period 1	Period 2
1	SBI	SBI
2	ICICI	ICICI
3	PNB	PNB
4	Canara	Canara
5	BOB	BOB
6	BOI	BOI
7	HDFC	HDFC
8	SCB	Axis
9	CITI	CITI
10	Axis	SCB
11	HSBC	HSBC
12	IndusInd	IndusInd
13	Deutsche	Deutsche

Rank	Period 1	Period 2
14	DCB	DBS
15	DBS	DCB

This is the only parameter where almost all the banks have maintained their rankings in both the periods. SBI, ICICI, PNB, Canara, BOB, HDFC, CITI, HSBC, IndusInd, and Deutsche maintained their rankings in both the periods as 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 9th, 11th, 12th, and 13threspectively. AXIS and DBS have improved their rankings in period 2. SCB and DCB have declined in their rankings in period 2.

6.5 Non-Interest Income

It is the fees/ commissions and agency based services income earned by the bank by providing services other than primary services provided by the bank.

Table 47: Non-Interest Income of Selected Banks 2002-2013 (Mean, SD and CV)

Non–Interest Income of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean (Rs in Cr)	Standard Deviation	Coefficient of Variation
SBI	6300.67	1318.72	1739019.87
PNB	1340.67	355.09	126090.27
BOB	1275.33	243.13	59113.07
BOI	1406.67	294.00	86435.07
Canara	1549.17	235.20	55319.37
ICICI	3521.17	1842.00	3392965.77
Axis	587.00	241.41	58279.6
HDFC	761.50	460.94	212467.5
DCB	82.83	14.61	213.37
IndusInd	251.33	53.00	2809.47
CITI	963.00	213.03	45382
SCB	784.33	342.58	117364.27
HSBC	720.33	293.02	85859.47
Deutsche	467.50	165.91	27525.1
DBS	16.00	33.89	1148.4

Source- calculated by the researcher

Non-Interest Income of 15 banks is considered from 2009 to 2013 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean (Rs in Cr)	Standard Deviation	Coefficient of Variation
SBI	13760.33	2758.75	7610704.27
PNB	3450.17	832.38	692861.77
BOB	2912.67	559.33	312849.87
BOI	2918.50	584.87	342067.5
Canara	2711.83	369.41	136466.57
ICICI	7730.83	755.10	570172.57
Axis	4206.50	1717.64	2950287.5
HDFC	4421.17	1662.47	2763822.57
DCB	121.83	25.90	670.97
IndusInd	732.17	393.40	154760.97
CITI	2159.33	785.86	617573.07
SCB	2753.67	299.60	89763.07
HSBC	2110.33	348.82	121672.27
Deutsche	920.17	111.26	12379.77
DBS	159.67	130.67	17073.87

Source- calculated by the researcher

The banks have been ranked on the basis of other Income, on the basis of mean values of both the periods. The higher other Income is better for the bank. The higher the other Income, higher the rank is given to the bank.

Rank	Period 1	Period 2
1	SBI	SBI
2	ICICI	ICICI
3	Canara	HDFC
4	BOI	Axis
5	PNB	PNB
6	BOB	BOI

Rank	Period 1	Period 2
7	CITI	BOB
8	SCB	SCB
9	HDFC	Canara
10	HSBC	CITI
11	Axis	HSBC
12	Deutsche	Deutsche
13	IndusInd	IndusInd
14	DCB	DBS
15	DBS	DCB

SBI is ranked 1st in both the periods. DBS and DCB are ranked 15th in period 1 and 2 respectively. ICICI is ranked 2nd in both the periods. HDFC, AXIS, and DBS have improved their rankings during the period 2. Canara, BOI, BOB, CITI, HSBC, and DCB have declined in their rankings during period 2. PNB, SCB, Deutsche, and IndusInd maintained their rankings during both the periods at 5th, 8th, 12th and 13th respectively. Private sector banks as a group have improved significantly during period 2. DCB has the lowest standard deviation and coefficient of co variation in both the periods. ICICI has the highest standard deviation and coefficient of co variation in period 1 reflecting highest growth in this parameter. SBI has the highest standard deviation and coefficient of co variation in period 2 reflecting highest growth in this parameter.

6.6 Total Funds

Total funds are deposits and borrowing that a bank does to do its operations.

Table 48: Total funds of Selected Banks 2002-2013 (Mean SD and CV)

Total funds of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean (Rs in Cr)	Standard Deviation	Coefficient of Variation
SBI	364916.67	72893.18	5313415881
PNB	100708.83	29670.44	880334833.8
BOB	85149.83	23763.72	564714405
BOI	86361.83	23595.34	556740017.8
Canara	97100.50	29312.29	859210076.3
ICICI	146892.33	80436.95	6470103163
Axis	32160.67	18962.96	359593848.7
HDFC	41327.50	20040.76	401631915.5
DCB	4044.50	539.73	291308.3
IndusInd	13184.00	3627.93	13161909.2
CITI	29549.33	11986.76	143682454.7
SCB	28532.83	8802.57	77485311.77
HSBC	23135.17	9256.62	85685098.17
Deutsche	8075.17	3511.54	12330878.57
DBS	1370.17	1613.71	2604062.57

Source- calculated by the researcher

Total funds of 15 banks is considered from 2009 to 2013 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean (Rs in Cr)	Standard Deviation	Coefficient of Variation
SBI	981352.83	278340.16	77473246033
PNB	307857.83	106994.90	11447907770
BOB	307542.67	130826.96	17115694408
BOI	282829.83	97760.67	9557147831
Canara	270007.00	86399.27	7464834565
ICICI	343467.17	60668.84	3680708154
Axis	190920.33	77940.42	6074709345
HDFC	208933.67	82458.30	6799370339
DCB	6766.33	1773.11	3143913.067

Bank	Mean (Rs in Cr)	Standard Deviation	Coefficient of Variation
IndusInd	38375.17	16634.88	276719308.2
CITI	77263.50	15980.77	255385135.1
SCB	62546.00	15024.37	225731565.6
HSBC	62729.67	8938.10	79889695.47
Deutsche	20418.17	4223.48	17837795.77
DBS	17951.33	10226.43	104579917.9

Source- calculated by the researcher

The banks have been ranked on the basis of Total funds, on the basis of mean values of both the periods. The higher Total funds are better for the bank. The higher the Total funds, higher the rank is given to the bank

Rank	Period 1	Period 2
1	SBI	SBI
2	ICICI	ICICI
3	PNB	PNB
4	Canara	BOB
5	BOI	BOI
6	BOB	Canara
7	HDFC	HDFC
8	Axis	Axis
9	CITI	CITI
10	SCB	HSBC
11	HSBC	SCB
12	IndusInd	IndusInd
13	Deutsche	Deutsche
14	DCB	DBS
15	DBS	DCB

SBI is ranked no 1 in both the periods. DBS and DCB are ranked 15^{th} in period 1 and period 2 respectively. ICICI, PNB, BOI, HDFC, AXIS, CITI, IndusIndand Deutsche have maintained their ranking in both the periods at 2^{nd}, 3^{rd}, 5^{th}, 7^{th}, 8^{th}, 9^{th}, 12^{th} and 13^{th}

level respectively. BOB, HSBC, and DBS have improved their rankings in period 2. Canara, SCB and DCB declined in their rankings in period 2. DCB has the lowest standard deviation and coefficient of co variation in both the periods. ICICI has the highest standard deviation and coefficient of co variation in period 1 reflecting highest growth in this parameter. SBI has the highest standard deviation and coefficient of co variation in period 2 reflecting highest growth in this parameter.

6.7 Total Income

It is a sum of interest/discount earned, commission, exchange, brokerage and other operating income.

Table 49: Total Income of Selected Banks 2002-2013 (Mean, SD and CV)

Total Income of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean (Rs in Cr)	Standard Deviation	Coefficient of Variation
SBI	39479.17	4155.95	17271904.97
PNB	9923.00	1712.26	2931819.6
BOB	8099.33	1209.30	1462395.87
BOI	8046.17	1422.08	2022316.17
Canara	9309.17	1928.07	3717464.97
ICICI	13939.33	9095.63	82730525.07
Axis	3811.00	2465.45	6078426.4
HDFC	5021.50	2715.73	7375208.7
DCB	1656.17	3042.46	9256551.77
IndusInd	2384.00	2703.10	7306722.8
CITI	4382.67	2051.78	4209797.87
SCB	4232.67	2108.69	4446583.07
HSBC	3657.00	2310.45	5338168
Deutsche	2135.33	2830.90	8014013.87
DBS	1434.67	3154.94	9953670.27

Source- calculated by the researcher

Total Income of 15 banks is considered from 2009 to 2013 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean (Rs in Cr)	Standard Deviation	Coefficient of Variation
SBI	95644.17	28802.32	829573561.8
PNB	30142.50	11382.70	129565873.1
BOB	24638.83	9606.47	92284242.57
BOI	24371.67	8009.56	64153073.47
Canara	25701.50	8252.62	68105757.1
ICICI	38927.00	5794.50	33576192.4
Axis	19841.33	9249.16	85547029.47
HDFC	25335.33	10697.70	114440865.9
DCB	760.67	160.69	25821.87
IndusInd	4536.50	2377.67	5653292.3
CITI Bank	9130.17	1293.25	1672490.17
SCB	9350.17	1727.43	2984025.37
HSBC	7936.83	911.98	831705.37
Deutsche	2901.00	459.80	211416.8
DBS	1450.00	781.91	611388.8

Source- calculated by the researcher

The banks have been ranked on the basis of Total Income, on the basis of mean values of both the periods. The higher Total Income is better for the bank. The higher the Total Income, higher the rank is given to the bank

Rank	Period 1	Period 2
1	SBI	SBI
2	ICICI	ICICI
3	PNB	PNB
4	Canara	Canara
5	BOB	HDFC
6	BOI	BOB
7	HDFC	BOI
8	CITI	Axis
9	SCB	SCB

Rank	Period 1	Period 2
10	Axis	CITI
11	HSBC	HSBC
12	IndusInd	IndusInd
13	Deutsche	Deutsche
14	DCB	DBS
15	DBS	DCB

SBI is ranked no 1 in both the periods. DBS and DCB have the lowest rank of 15th in period 1 and period 2 respectively. ICICI, PNB, Canara, SCB, HSBC, IndusInd and Deutsche have maintained their rankings in both periods at 2nd, 3rd, 4th, 9th, 11th, 12th and 13th level respectively. HDFC, AXIS and DBS have improved on their rankings in period 2. BOB, BOI, CITI, DCB have declined in their rankings during period 2. BOB and DCB have the lowest standard deviation and coefficient of co variation in period 1 and period 2 respectively. ICICI has the highest standard deviation and coefficient of co variation in period 1 reflecting highest growth in this parameter. SBI has the highest standard deviation and coefficient of co variation in period 2 reflecting highest growth in this parameter.

6.8 Gross Non-Performing Assets

It is an asset, including a leased asset, becomes non - performing when it ceases to generate income for the bank.

Table 50: Gross Non-Performing Assets of Selected Banks 2002-2013 (Mean, SD and CV)

Gross Non- Performing Assets of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean (Rs in Cr)	Standard Deviation	Coefficient of Variation
SBI	9833.50	1530.44	2342244.7
PNB	3319.83	804.71	647553.2
BOB	2658.17	927.34	859953.7

Bank	Mean (Rs in Cr)	Standard Deviation	Coefficient of Variation
BOI	2545.17	754.05	568585.7
Canara	1875.83	635.37	403690
ICICI	2865.33	1126.50	1269006.3
Axis	267.50	76.12	5794
HDFC	367.33	152.77	23340.2
DCB	206.67	70.88	5023.5
IndusInd	242.50	37.48	1405
CITI	321.50	100.51	10101.7
SCB	490.67	151.60	22981.2
HSBC	328.83	45.85	2102.3
Deutsche	14.67	13.97	195.3
DBS	4.17	11.18	125

Source- calculated by the researcher

Gross Non-Performing Assets of 15 banks is considered from 2009 to 2013 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean (Rs in Cr)	Standard Deviation	Coefficient of Variation
SBI	27358.33	15062.44	226877205.1
PNB	5977.17	4269.56	18229108.97
BOB	3636.83	2336.35	5458541.77
BOI	4978.67	2705.59	7320219.07
Canara	3258.67	1712.96	2934249.07
ICICI	9304.00	869.43	755915.2
Axis	1417.83	673.67	453829.37
HDFC	1789.50	483.77	234033.5
DCB	234.33	92.47	8551.47
IndusInd	328.50	84.53	7144.7
CITI	1152.17	401.63	161305.37
SCB	1852.33	1337.10	1787824.67
HSBC	1045.83	457.23	209063.77

Bank	Mean (Rs in Cr)	Standard Deviation	Coefficient of Variation
Deutsche	171.17	73.77	5442.57
DBS	165.67	216.19	46738.67

Source- calculated by the researcher

The banks have been ranked on the basis of Gross Non-Performing Assets, on the basis of mean values of both the periods. The lower Gross Non-Performing Assets is better for the bank. The lower the Gross Non-Performing Assets, higher the rank is given to the bank

Rank	Period 1	Period 2
1	DBS	DBS
2	Deutsche	Deutsche
3	DCB	DCB
4	IndusInd	IndusInd
5	Axis	HSBC
6	CITI	CITI
7	HSBC	Axis
8	HDFC	HDFC
9	SCB	SCB
10	Canara	Canara
11	BOI	BOB
12	BOB	BOI
13	ICICI	PNB
14	PNB	ICICI
15	SBI	SBI

DBS is ranked no 1 in both the periods since it has the lowest levels of Gross Non – Performing Assets. SBI has been ranked 15^{th} in both the time periods since it has the highest level of Gross Non – Performing Assets. Public sector banks as a group have been ranked lowest due to high level of Gross Non – Performing Assets. Deutsche, DCB, IndusInd, CITI, HDFC, SCB, Canara, and SBI have maintained their ranking in both the periods of time at 2^{nd}, 3^{rd}, 4^{th}, 6^{th}, 8^{th}, 9^{th}, 10^{th}, and 15^{th} level respectively. HSBC, BOB, and PNB have improved on their rankings during period 2. AXIS and

BOI have declined in their ranking in period 2. DBS and Deutsche have the lowest standard deviation and coefficient of co variation in period 1 and period 2 respectively. SBI has the highest standard deviation and coefficient of co variation reflecting inability to control Gross Non-Performing Assets.

6.9 Net Non-Performing Assets

Gross NPA – (Balance in Interest Suspense account + DICGC/ECGC claims received and held pending adjustment + Part payment received and kept in suspense account + Total provisions held)

Table 51: Net Non -Performing Assets of Selected Banks 2002-2013 (Mean SD and CV)

Net Non-Performing Assets of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean (Rs in Cr)	Standard Deviation	Coefficient of Variation
SBI	5657.50	703.17	494444.3
PNB	806.33	705.45	497665.07
BOB	1168.67	686.80	471697.07
BOI	1680.33	678.55	460432.27
Canara	1174.83	238.07	56675.77
ICICI	995.17	827.01	683947.37
Axis	193.00	52.95	2804
HDFC	86.67	73.50	5402.27
DCB	44.83	58.53	3425.37
IndusInd	252.83	62.15	3862.97
CITI	192.67	96.60	9330.67
SCB	198.50	174.21	30349.1
HSBC	97.67	41.53	1724.67
Deutsche	1.17	2.86	8.17
DBS	3.17	7.76	60.17

Source- calculated by the researcher

Net Non-Performing Assets of 15 banks is considered from 2009 to 2013 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean (Rs in Cr)	Standard Deviation	Coefficient of Variation
SBI	12994.33	5217.20	27219192.67
PNB	2620.83	2710.62	7347438.17
BOB	1344.83	1450.41	2103688.57
BOI	2540.67	2088.53	4361943.07
Canara	2536.00	1584.84	2511712.8
ICICI	3063.50	1056.33	1115829.1
Axis	430.00	155.62	24218.8
HDFC	405.67	126.24	15937.07
DCB	63.33	42.82	1833.87
IndusInd	145.50	80.52	6483.5
CITI	664.33	244.42	59742.67
SCB	494.17	296.19	87730.97
HSBC	282.50	156.99	24646.7
Deutsche	45.17	36.02	1297.37
DBS	80.67	124.46	15490.67

Source- calculated by the researcher

The banks have been ranked on the basis of Net Non-Performing Assets, on the basis of mean values of both the periods. The lower Net Non-Performing Assets is better for the bank. The lower the Net Non-Performing Assets, higher the rank is given to the bank

Rank	Period 1	Period 2
1	Deutsche	Deutsche
2	DBS	DCB
3	DCB	DBS
4	HDFC	IndusInd
5	HSBC	HSBC
6	CITI	HDFC
7	Axis	Axis

Rank	Period 1	Period 2
8	SCB	SCB
9	IndusInd	CITI
10	PNB	BOB
11	ICICI	Canara
12	BOB	BOI
13	Canara	PNB
14	BOI	ICICI
15	SBI	SBI

Deutsche has been ranked no 1 in both the periods. SBI is ranked lowest on 15th in both the time periods. DCB, IndusInd, BOB, Canara, and BOI have improved on their ranking in period 2. DBS, HDFC, CITI, and ICICI have declined in their ranking in period 2. Public sector banks as a group have been ranked lowest in this parameter reflecting their inability to control Net Non- Performing Assets. Deutsche has the lowest standard deviation and coefficient of co variation in both the periods. ICICI has the highest standard deviation and coefficient of co variation in period 1 reflecting highest growth in Net Non – Performing Assets. SBI has the highest standard deviation and coefficient of co variation in period 2 reflecting highest growth in Net Non – Performing Assets.

6.10 Net Worth

It is the total capital of the bank and reserves and surpluses account, which owned by the owners of the bank.

Table 52: Net Worth of Selected Banks 2002-2013 (Mean, SD and CV)

Net Worth of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean (Rs in Cr)	Standard Deviation	Coefficient of Variation
SBI	22612.17	6203.64	38485115.8
PNB	6733.00	2973.79	8843436.4
BOB	5911.17	1928.35	3718546.17
BOI	4290.00	1078.49	1163142.4
Canara	6078.00	2473.48	6118121.2
ICICI	13727.00	7991.95	63871317.6
Axis	1896.83	1157.31	1339363.37
HDFC	3856.83	1830.49	3350682.57
DCB	263.50	71.29	5082.3
IndusInd	786.17	182.21	33200.97
CITI	3469.33	1790.44	3205677.07
SCB	3441.83	1514.44	2293526.17
HSBC	3314.17	1732.17	3000418.17
Deutsche	1157.17	448.73	201358.17
DBS	429.33	386.36	149272.67

Source- calculated by the researcher

Net Worth of 15 banks is considered from 2009 to 2013 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean (Rs in Cr)	Standard Deviation	Coefficient of Variation
SBI	70124.83	18194.53	331041057
PNB	21115.33	7865.85	61871654.27
BOB	19919.50	8426.94	71013263.5
BOI	16747.00	4986.26	24862829.6
Canara	17497.33	5879.15	34564359.47
ICICI	55028.67	7409.27	54897208.67
Axis	18323.67	8959.11	80265585.87
HDFC	23197.83	9297.16	86437135.77
DCB	720.67	170.42	29042.67
IndusInd	3638.67	2366.18	5598823.07

Bank	Mean (Rs in Cr)	Standard Deviation	Coefficient of Variation
CITI	13784.17	2966.70	8801337.37
SCB	12768.00	3732.23	13929514.8
HSBC	12607.17	2558.79	6547399.37
Deutsche	5630.17	1294.31	1675237.77
DBS	1929.83	706.29	498846.17

Source- calculated by the researcher

The banks have been ranked on the basis of Net Worth, on the basis of mean values of both the periods. The higher the Net Worth better it is for the bank. The higher the Net Worth, higher the rank is given to the bank

Rank	Period 1	Period 2
1	SBI	SBI
2	ICICI	ICICI
3	PNB	HDFC
4	Canara	PNB
5	BOB	BOB
6	BOI	Axis
7	HDFC	Canara
8	CITI	BOI
9	SCB	CITI
10	HSBC	SCB
11	Axis	HSBC
12	Deutsche	Deutsche
13	IndusInd	IndusInd
14	DBS	DBS
15	DCB	DCB

SBI is ranked no 1 in both the time periods. DCB is ranked lowest at rank 15th in both the time periods. HDFC and AXIS have improved on their ranking during period 2. PNB, Canara, BOI, CITI, SCB and HSBC have declined in their ranking during period 2. ICICI, BOB, Deutsche, IndusInd and DBS have maintained their ranking in both the time periods at 2nd, 5th, 12th, 13th and 14th level respectively. DCB has the lowest

standard deviation and coefficient of co variation in both the periods. ICICI has the highest standard deviation and coefficient of co variation in period 1 reflecting highest growth in Net Worth. SBI has the highest standard deviation and coefficient of co variation in period 2 reflecting highest growth in Net Worth.

6.11 Total Assets

Table 53: Total Assets of Selected Banks 2002-2013 (Mean SD and CV)

Total assets of 15 banks is considered from 2002 to 2008 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean (Rs in Cr)	Standard Deviation	Coefficient of Variation
SBI	379419.67	83096.32	6904997819
PNB	101529.17	35318.01	1247361572
BOB	84536.67	27959.66	781742490
BOI	83925.33	27603.86	761973155.3
Canara	96806.17	35354.57	1249945379
ICICI	165507.00	99233.13	9847214225
Axis	33209.17	22987.05	528404457.5
HDFC	47043.83	26424.60	698259518.3
DCB	3873.67	700.87	491225.3
IndusInd	13243.50	3918.55	15355001.2
CITI	32782.33	17400.47	302776316.7
SCB	32558.00	14753.73	217672606.3
HSBC	27476.00	13964.15	194997402.2
Deutsche	9099.50	4537.76	20591268.8
DBS	1966.33	2331.61	5436426.8

Source- calculated by the researcher

Total Assets of 15 banks is considered from 2009 to 2013 in this table and mean, standard deviation and coefficient of variation is calculated.

Bank	Mean (Rs in Cr)	Standard Deviation	Coefficient of Variation
SBI	1144147.80	296741.14	88055305984
PNB	342994.00	114097.85	13018318790
BOB	339695.67	139263.35	19394280931
BOI	311267.50	103101.49	10629916855
Canara	297915.67	90961.17	8273933573
ICICI	429098.17	68370.32	4674500551
Axis	217807.67	87515.33	7658933193
HDFC	259082.67	99438.29	9887973277
DCB	7831.17	1965.00	3861216.967
IndusInd	43796.83	19074.69	363843939
CITI	108832.67	17824.49	317712479.5
SCB	101297.83	18604.22	346117119.4
HSBC	94585.83	12049.47	145189613
Deutsche	29298.83	5778.78	33394261.37
DBS	23538.50	12745.10	162437633.5

Source- calculated by the researcher

The banks have been ranked on the basis of Total Assets, on the basis of mean values of both the periods. The higher Total Assets are better for the bank. The higher the Total Assets, higher the rank is given to the bank.

Rank	Period 1	Period 2
1	SBI	SBI
2	ICICI	ICICI
3	PNB	PNB
4	Canara	BOB
5	BOB	BOI
6	BOI	Canara
7	HDFC	HDFC
8	Axis	Axis
9	CITI	CITI

Rank	Period 1	Period 2
10	SCB	SCB
11	HSBC	HSBC
12	IndusInd	IndusInd
13	Deutsche	Deutsche
14	DCB	DBS
15	DBS	DCB

SBI is ranked no 1 in both the periods. DBS and DCB are ranked 15th in period 1 and period 2 respectively. ICICI, PNB, HDFC, AXIS, CITI, SCB, HSBC, IndusInd and Deutsche have maintained their ranking in two periods at 2nd, 3rd, 7th, 8th, 9th, 10th, 11th, 12th and 13th level respectively. BOB, BOI and DBS have improved on their ranking during period 2. Canara and DCB declined in their ranking in period 2. DCB has the lowest standard deviation and coefficient of co variation in both the periods. ICICI has the highest standard deviation and coefficient of co variation in period 1 reflecting highest growth in Total Assets. SBI has the highest standard deviation and coefficient of co variation in period 2 reflecting highest growth in Total Assets.

The mean values of Principle Component Analysis factors compared in two time periods

Table 54: The mean values of Principle Component Analysis factors Public Sector Banks

Bank	SBI	SBI	PNB	PNB	BOB	BOB	BOI	BOI	Canara	
Period	1	2	1	2	1	2	1	2	1	2
Deposit	389126	945301	115483	308627	98558	319570	96371	283681	111415	279577
Advance	254387	768866	73098	237181	60763	232505	67934	212539	72417	198697
Profit	4460	10472	1397	4212	950	3802	1005	2532	1298	3054
Interest Income	36368	88470	9851	29177	7800	23708	7720	23272	9267	24747
Other	7054	14773	1510	3740	1451	3085	1575	3079	1679	2811

Income										
Total Funds	416457	1059797	118604	335048	100727	337859	102069	307959	112261	292690
Total Income	43422	103244	11362	32918	9251	26793	9341	26351	10744	27559
GNPA	11973	30262	3873	6508	2988	3968	2866	5588	2111	3627
NNPA	5759	14108	630	2994	932	1515	1394	2930	1110	2863
Net Worth	28247	74343	8222	22874	7114	21694	5580	17978	7249	18896
Total Assets	504282	1228672	136917	371788	115387	371715	114867	337755	128534	321393

Source- calculated by the researcher Mean values of each parameter for 2003-2008(Period 1) and 2009-2013 (Period 2)

Table 55: The mean values of Principle Component Analysis factors Private Sector Banks

Bank	**ICICI**	**ICICI**	**AXIS**	**AXIS**	**HDFC**	**HDFC**	**DCB**	**DCB**	**IndusInd**	**IndusInd**
Period	1	2	1	2	1	2	1	2	1	2
Deposit	142686	238815	42692	184125	52333	212350	4273	5948	14100	35932
Advance	129070	231971	25165	139005	33416	163967	2613	4576	9139	28373
Profit	2442	5544	503	3427	860	4202	-25	2.412	123	587
Interest Income	15891	31277	3238	17360	4855	23074	366	654	1238	4189
Other Income	4893	7514	816	4688	1086	4848	95	111	270	819
Total Funds	185021	350144	45447	210454	55608	229648	4507	6819	14996	42023
Total Income	20084	38792	5011	22049	6748	27922	1699	765	2597	5008
GNPA	4128	9649	349	1602	518	1966	217	268	307	315

NNPA	1576	2978	203	466	130	427	49	70	240	116
Net Worth	20430	56670	3256	20234	5449	25538	316	736	917	4096
Total Assets	232589	434958	52345	239453	70346	284264	5174	7881	17069	47904

Source- calculated by the researcher Mean values of each parameter for 2003-2008(Period 1) and 2009-2013 (Period 2)

Table 56: The mean values of Principle Component Analysis factors Foreign Sector Banks

Bank	**CITI**	**CITI**	**SCB**	**SCB**	**HSBC**	**HSBC**	**Deutsche**	**Deutsche**	**DBS**	**DBS**
Period	1	2	1	2	1	2	1	2	1	2
Deposit	28600	58810	26685	54875	24747	55622	5524	16224	1915	9687
Advance	23615	43261	22782	49153	16724	29936	3789	14186	891	8192
Profit	828	1819	1004	2157	575	1509	208	672	27	255
Interest Income	3312	7172	3213	6940	2558	5996	673	2088	211	1421
Other Income	1236	2102	1085	2840	993	2109	599	900	8	198
Total Funds	36064	81245	33099	66264	28946	65102	10436	20774	2514	20080
Total Income	5332	9274	5072	9780	4510	8105	2433	2988	1526	1619
GNPA	453	1224	611	2078	445	1115	24	193	5	197
NNPA	263	703	250	524	97	304	3	50	3	96
Net Worth	4738	14670	4583	13647	4518	13436	1755	5897	606	2087
Total Assets	47381	113829	46532	106868	40424	98319	13277	30216	3447	26429

Source- calculated by the researcher Mean values of each parameter for 2003-2008(Period 1) and 2009-2013 (Period 2)

Standard two sample T test

The parameters mentioned for Principle Component are divided in two time periods

A) The high growth years of 2002 to 2008
B) The recessionary phase from 2009 to 2013.

The mean values are compared on standard two sample T test with 95 % confidence interval with the null hypothesis of there has been no significant difference between two time periods.

The following table lists the p values at 95% confidence interval for the given parameters

Table 57: P Values of Two Sample T test of selected Banks of Principle Component Factors

Bank	Deposits	Advances	Profit	Interest Income	Other Income
SBI	0.0001	0.0004	0.0005	0.0006	0
PNB	0.0004	0.0004	0	0.0011	0
BOB	0.0013	0.0006	0.0002	0.0017	0.0001
BOI	0.0004	0.0004	0.001	0.0005	0.0002
CANARA	0.0005	0.0002	0.0002	0.0011	0.0003
ICICI	0.0412	0.0199	0.0074	0.01	0.0324
AXIS	0.0003	0.0004	0.0005	0.0011	0.0001
HDFC	0.0003	0.0004	0.0016	0.0007	0.0003
DCB	0.0557	0.0149	0.5915	0.0079	0.4072
IndusInd	0.0031	0.003	0.0133	0.0053	0.0053
CITI Bank	0.0005	0.0046	0.0243	0.0014	0.0859
SCB	0.0004	0.0009	0.0024	0.0009	0.0004
HSBC	0.0004	0.0148	0.0059	0.001	0.0066
DEUTSCHE	0.0011	0.0018	0.003	0.0006	0.0281
DBS	0.0032	0.0064	0.0001	0.0045	0.0021

Source- calculated by the researcher

Bank	Total Funds	Total Income	Gross NPA	NNPA	Net Worth	Total Assets
SBI	0.0001	0.0003	0.0141	0.0028	0.0004	0.0001
PNB	0.0005	0.0007	0.1918	0.0749	0.0016	0.0005
BOB	0.0012	0.0012	0.3882	0.4177	0.0022	0.0012
BOI	0.0004	0.0004	0.0331	0.1219	0.0003	0.0004
CANARA	0.0004	0.0009	0.0651	0.0209	0.0011	0.0005
ICICI	0.0099	0.0125	0.0002	0.0759	0.0007	0.0099
AXIS	0.0004	0.0011	0.0004	0.0024	0.0013	0.0005
HDFC	0.0004	0.0007	0	0.0023	0.0004	0.0004
DCB	0.0363	0.5116	0.3102	0.4963	0.0036	0.032
IndusInd	0.0027	0.1439	0.8565	0.0005	0.0085	0.0029
CITI Bank	0.0006	0.0105	0.0023	0.0041	0.0001	0.0004
SCB	0.0007	0.0026	0.0264	0.0985	0.0005	0.0001
HSBC	0.0005	0.0143	0.0085	0.0151	0.0001	0.0003
DEUTSCHE	0.0065	0.6674	0.0001	0.0154	0.0005	0.0019
DBS	0.0023	0.9495	0.0631	0.115	0.0015	0.0014

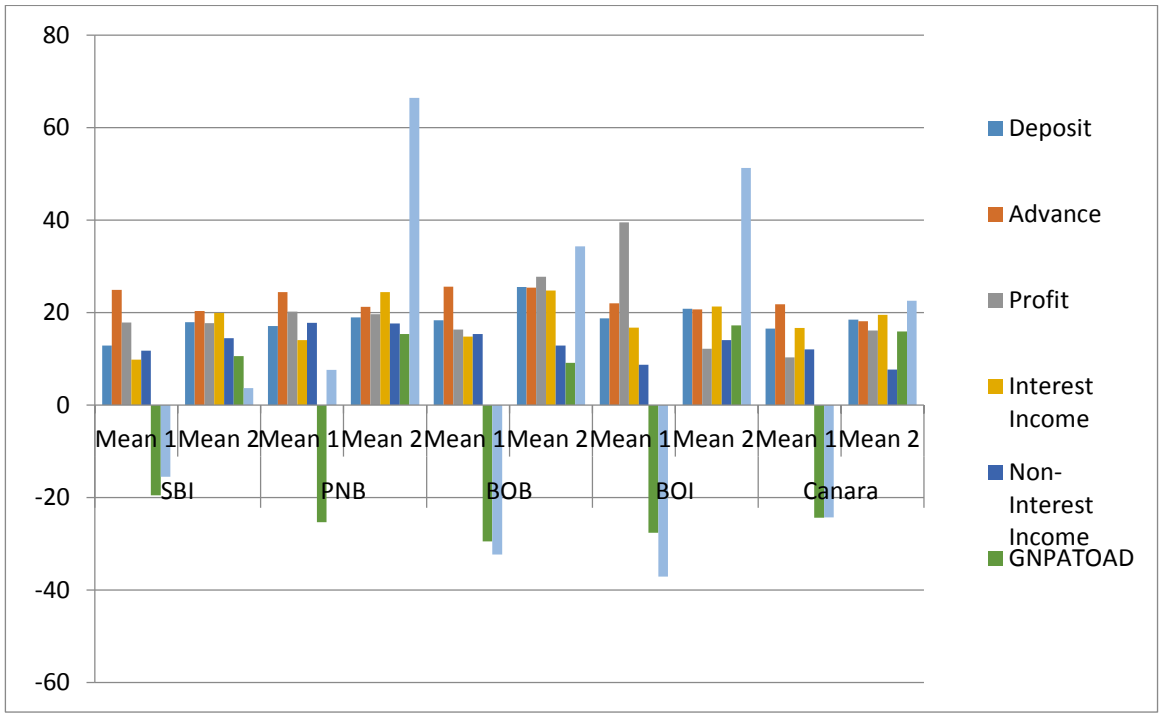
Source- calculated by the researcher

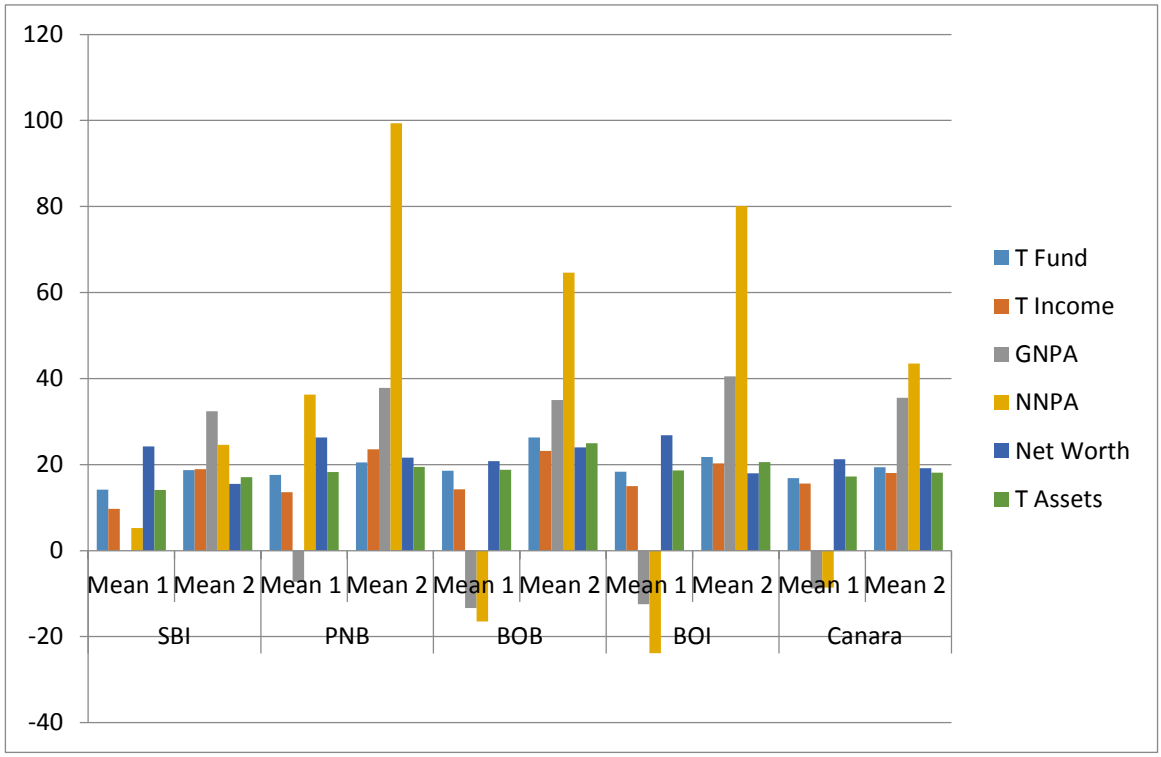
The p- values calculated on principle component reject the null hypothesis. The alternate hypothesis is accepted that there has been a significant difference in major parameters of banks. Except for couple of exceptions the eleven parameters which are considered are showing that the performance of selected commercial banks has been significantly different.

The following graphs represent principle component factors calculated for each year on the basis of high growth and low growth years (2002-08 and 2009-2013).

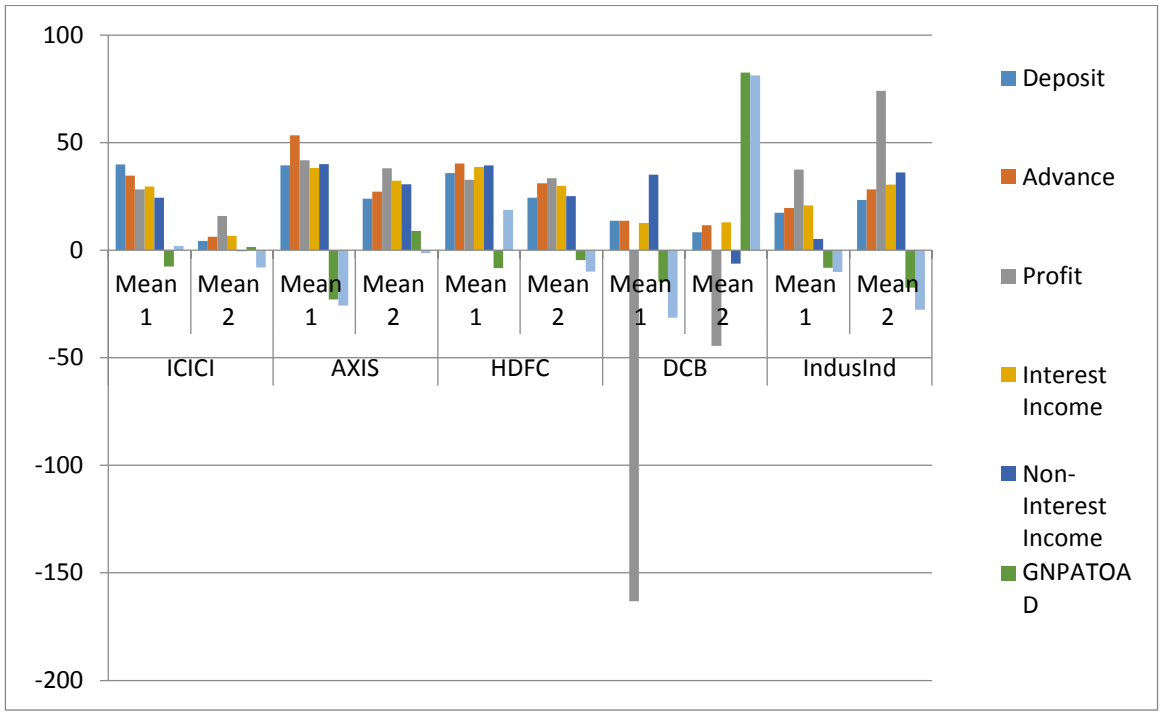
The mean value is calculated by adding the growth rate of each parameter for relevant years. These graphs represent the mean of growth rates for two periods of analysis.

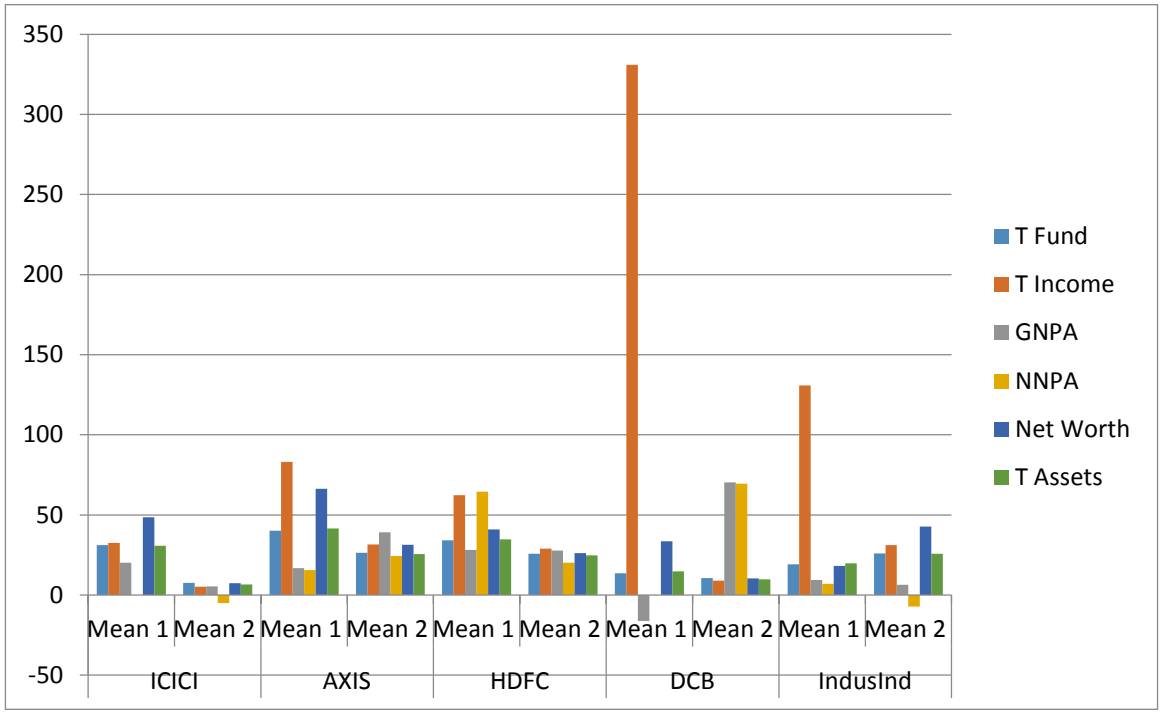
Graph 7: Percentage growth in Mean Values in period 1 and 2 on major parameters of Public Sector Banks



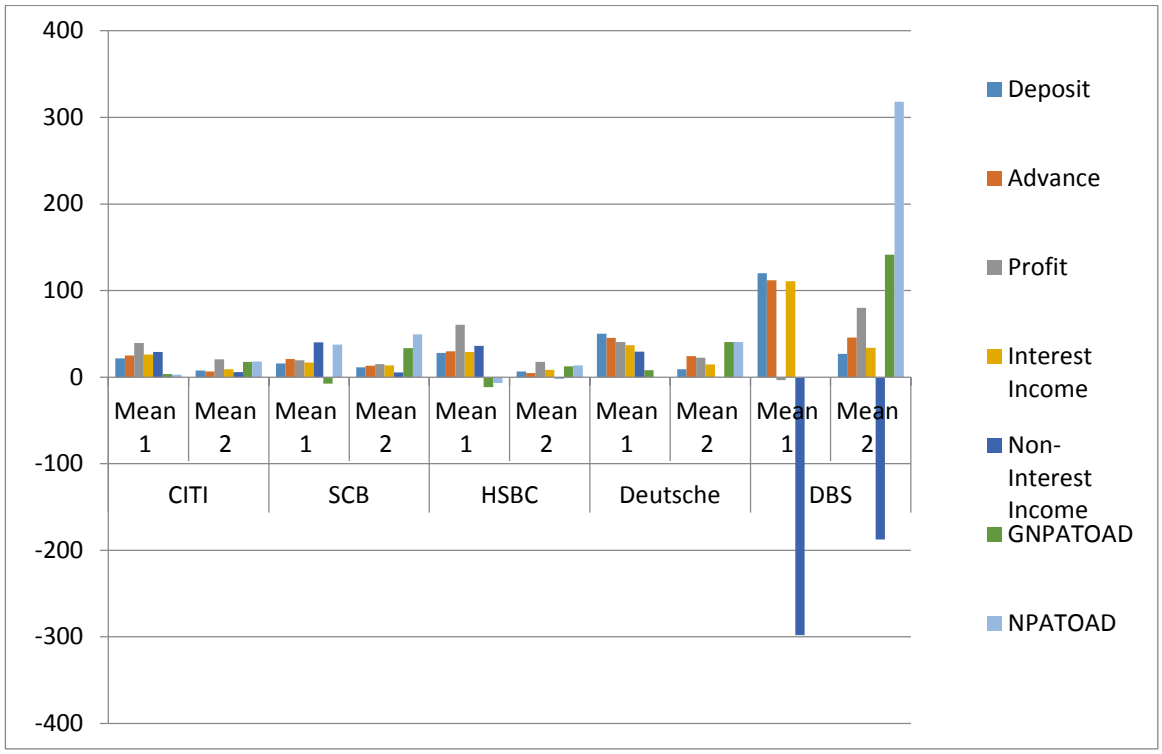


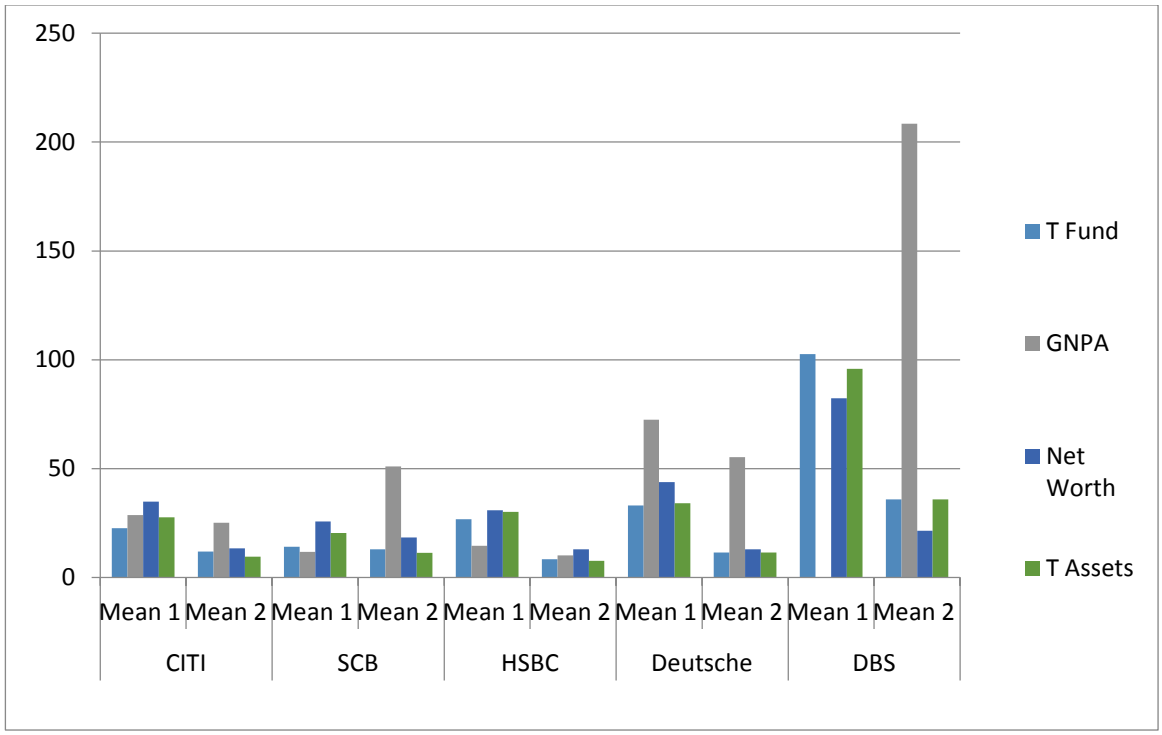
Graph 8: Percentage growth in Mean Values in period 1 and 2 on major parameters of Private sector banks





Graph 9: Percentage growth in Mean Values in period 1 and 2 on major parameters of Foreign sector banks





Source: Calculated by the researcher

Chapter 7

A - Interpretation of performance of individual banks

The analysis of selected 15 banks' financial performance has shown that there has been a difference in the performance of these banks. The public sector banks have largely done well in the second phase of business cycle.

7.1 State Bank of India

Ranking of SBI on various parameters during two periods

Parameters	Period 1	Period 2
Capital Adequacy	3	10
Assets Quality	13	13.5
Management Efficiency	14.5	14
Earnings Capacity	9	10.5
Liquidity	12	5.5
Deposits	1	1
Advances	1	1
Profit	1	1
Interest Income	1	1
Non-Interest Income	1	1
Total Funds	1	1
Total Income	1	1
Gross Non-Performing Assets	15	15
Net Non-Performing Assets	15	15
Net Worth	1	1
Total Assets	1	1

SBI is largest bank in India in term of total assets. The bank is able to maintain its no 1 position in both periods of analysis.

The deposits were growing at an average of 12.87% during 2002-08, have increased at an average of 17.92% during 2009-13. This is a healthy increase given the recessionary trend in overall economy.

SBI has maintained its rank no 1 in advances during both the periods of analysis. The advances grew at an average of 24.91% during 2002-08, a slight decline is observed

during 2009-13 when it has grown at 20.31% reflecting the overall sluggishness in the economy. SBI was also keen on improving the assets quality. The assets quality ranking has not improved for this bank during period 2.

SBI profits were growing at an average of 17.83% during 2002-08, have increased by 17.67% during 2009-13.

The real differentiator can be seen in Interest Income which was growing at an average of 9.82% during 2002-08, has increased quite impressively at an average of 19.89% during 2009-13.

Non –Interest Income has also grown faster at an average of 14.41% during 2009-13, which increased at an average of 11.74% during 2002-2008.

The real challenge is in case of non-performing assets. Gross Non -Performing assets which were declining at an average of (19.54%) during 2002-2008, have reversed the trend and increased at an average of 10.58% during 2009-13.

The increase in NPAs is a worry signal for any bank. Net Non – Performing assets have shown a similar trend. Net – Non Performing Assets which were declining at an average of (15.52%) during 2002-08, have started increasing at an average of 3.68% during 2009-13.

SBI has dramatically gown down in the ranking of capital adequacy. It had a rank of 3rd in period 1, which has gone down to rank 10 in period 2. This is because if its government ownership. Government in not infusing enough capital in public sector banks, and at the same time it does not allow divestment of its stake by reducing ownership.

The assets quality parameter has maintained its ranking at the level of 13th, though it is worth noting that SBI being the largest bank and highest profit making bank in India fails to improve assets quality.

The management efficiency has slightly improved in period 2. It has the rank of 14th, which means that it is among the lowest even in public sector banks.

The earning capacity ranking has gone down due to higher provisions for increasing NPAs.

The liquidity ranking has improved substantially signaling that bank is working towards maintaining higher liquidity.

7.2 Punjab National Bank

Ranking of PNB on various parameters during two periods

Parameters	Period 1	Period 2
Capital Adequacy	1	6
Assets Quality	5	6
Management Efficiency	12	5.5
Earnings Capacity	3.5	5
Liquidity	2	9
Deposits	3	3
Advances	4	3
Profit	4	3
Interest Income	3	3
Non-Interest Income	5	5
Total Funds	3	3
Total Income	3	3
Gross Non-Performing Assets	14	13
Net Non-Performing Assets	10	13
Net Worth	3	4
Total Assets	3	3

PNB has maintained its rank 3 in both periods of the analysis.

Deposits were growing at an average of 17.04% during 2002-08, grew at an average of 18.97% during 2009-2013.

In case of advances PNB has improved its ranking from 4^{th} in period 1 to 3^{rd} in period 2. The average growth in advances has actually gone down from an average of 24.40% during 2002-2008 to 20.18% during 2008-13.

The profit of PNB has marginally declined to average growth of 19.63% during 2008-13 from an average of 20.18% during 2002-08.

The Interest Income which was growing at an average of 14% during 2002-08, has increased quite impressively at an average of 24.41% during 2009-13.

Non –Interest Income has also grown at almost same at an average of 17.59% during 2009-13, which increased at an average of 17.78% during 2002-2008.

Total Income of PNB has shown a healthy growth during period 2. It was increasing at an average of 13.55% during 2002-08, increased at a high growth rate of 23.55% on an average during 2009-13.

The net worth was growing at an average of 26.26% during 2002-08, has declined to an average of 21.61% during 2009-13.

The total assets was growing at an average of 18.29% during 2002-08, has increased quite impressively at an average of 19.47% during 2009-13.

The total Gross Non-Performing Assets which were declining at an average of (7.26%) during 2002-08, dramatically increased at an average of 37.86% during 2009-13.

The increase in NPAs has been a worry for the banks during last five years.

Capital adequacy ranking of PNB was 1^{st} in period 1, which has declined to 6^{th} rank in period 2. This clearly indicates that, PNB being a public sector bank is not able to raise enough capital from market or from government to support its activities.

The Assets quality ranking has also declined by 1 position in period 2.

The Management efficiency has been improving in case of PNB which is evident from its rank improving from 12^{th} in period 1 to rank 5.5 in period 2.

The Earnings capacity has gone down as reflected by ranking decline from rank 3.5 in period 1 to rank 5 in period 2.

The liquidity ranking has taken a hit as a result of lower CASA percentage maintained by the bank.

7.3 Bank of Baroda

Ranking of BOB on various parameters during two periods

Parameters	Period 1	Period 2
Capital Adequacy	4	3
Assets Quality	12	4
Management Efficiency	13	8
Earnings Capacity	11.5	9
Liquidity	14	12
Deposits	5	2
Advances	6	4
Profit	5	5
Interest Income	5	5
Non-Interest Income	6	7
Total Funds	6	4
Total Income	5	6
Gross Non-Performing Assets	12	11
Net Non-Performing Assets	12	10
Net Worth	5	5
Total Assets	5	4

BOB is ranked 4th on the basis of total assets in period 2.

Deposits grew at an average of 18.30% in period 1 and at an average of 25.54% in period 2. This increase in the deposits improved the ranking of BOB from 5th in period 1 to 2nd in period 2.

Advances grew at an average of 25.57% during 2002-08; it remained at same level of 25.39% during 2009-13. Though advances did not increase at higher level during period 2, still BOB rank in terms of advances improved from 6th in period 1 to 4th in period 2.

Profit growth has shown an impressive increase during period 2 at an average of 27.75% from an increase of 16.29% in period 1. This increase in profit is largely due to increase in Interest Income earned by BOB in period 2.

The Interest Income increased at an average of 24.73% during 2009-13 compared to 14.73% during 2002-08. As other public sector banks, increasing non-performing assets have been a concern.

The Non-Interest income grew at an average of 15.33% during 2002-08, has increased at a slow rate of 12.85% per year during 2009-13.

The total income showed a growth of 14.22% during 2002-08; it increased at a high rate of 23.19% per year during 2009-13.

The net worth was growing at an average of 20.79% during 2002-08; it increased at a high rate of 24.02%per year during 2009-13.

The total assets were increasing at an average of 18.81% during 2002-08; it increased at a high rate of 24.98% per year during 2009-13.

Gross Non-Performing Assets which were decreasing at an average of (13.37%) during 2002-08, have increased at a fast rate of 35% per year during 2009-13.

Net Non-Performing Assets were decreasing at an average of (16.49%) per year during 2002-08, have increased at an annual average of 64.61% during 2009-13.

BOB could improve its performance on the parameters of CAMEL during 2009-13 as its ranking improved on each parameter.

Capital adequacy rank has improved from 4^{th} in period 1 to rank 3^{rd} in period 2.

Assets quality has improved significantly during 2009-13. This is reflected in the rank of 4^{th} in period 2, from a rank of 12^{th} in period 1.

Management efficiency ranking has improved from rank 13^{th} in period 1 to rank 8^{th} in period 2.

Earnings capacity ranking has improved from rank 11.5^{th} in period 1 to rank of 9^{th} in period 2.

Liquidity ranking has improved from rank 14^{th} in period 1 to rank of 12^{th} in period 2.

7.4 Bank of India

Ranking of BOI on various parameters during two periods

Parameters	Period 1	Period 2
Capital Adequacy	10	12
Assets Quality	14	8.5
Management Efficiency	10	12
Earnings Capacity	10	14
Liquidity	13	14.5
Deposits	6	4
Advances	5	5
Profit	7	8
Interest Income	6	6
Non-Interest Income	4	6
Total Funds	5	5
Total Income	6	7
Gross Non-Performing Assets	11	12
Net Non-Performing Assets	14	12
Net Worth	6	8
Total Assets	6	5

BOI is ranked 5th in the group of banks analyzed in this study during period 2.

The deposits growth of BOI has improved to 20.82% in period 2 from an average growth of 18.74% per year during 2002-08.

Advances on the other hand marginally declined to an average of 20.67% during 2009-2013 from an average of 21.99% during 2002-08.

Profit of BOI has significantly declined in period 2. It was increasing at an average of 39.49% during 2002-08 has declined to an average of 12.15% during 2009-2013.

The Interest Income which was growing at an average of 16.71% during 2002-08, has increased quite impressively at an average of 21.26% during 2009-13.

The Non-Interest income grew at an average of 8.69% during 2002-08, has increased at a high rate of 14.01% per year during 2009-13.

As it is observed in other public sector banks Gross Non-Performing Assets have increased substantially in case of BOI. Gross Non-Performing Assets were declining at an average of (12.42%) during 2002-08 have increased at an average of 40.50% during 2008-13.

The Net Non-Performing Assets have also increased significantly from a yearly average decline of (23.82%) during 2002-08 have increased at a yearly average of 80.08% during 2009-13. The sharp decline in profit has resulted in reduced growth rate of Net Worth.

Net worth of BOI was increasing at an average of 26.82% during 2002-08 has increased only by an average of 17.94% during 2008-13.

The total income showed a growth of 15.01% during 2002-08; it increased at a high rate of 20.25% per year during 2009-13.

The total assets were growing at an average of 18.65 during 2002-08; increased at an average of 20.59% per year during 2009-13.

The infusion of capital in the bank has been a challenge for public sector banks. The ranking of BOI has declined to 12^{th} position in period 2 as a result from a rank of 10^{th} in period 1.

Assets quality has improved significantly of BOI in period 2. This is reflected by the ranking of BOI which was 14^{th} in period 1; it has improved to rank 8.5 during period 2.

Management efficiency which is achieved by the way of using monetary and human resources optimally has been on the decline, BOI is ranked 12^{th} in period 2 which has declined from rank of 10^{th} in period 1.

Earnings capacity has declined in period 2. BOI has ranked at 14^{th} in period 2 from rank 10^{th} in period 1.

Liquidity ranking is at 14.5^{th} level in period 2 from the rank 13^{th} period 1. It is observed that BOI being a public sector bank, it has mopped up more deposits in period 2, but has failed to perform on all other parameters. The advances to non-performing assets all parameters have shown that BOI has performed at lower levels.

7.5 Canara Bank

Ranking of Canara on various parameters during two periods

Parameters	Period 1	Period 2
Capital Adequacy	2	4
Assets Quality	10	10.5
Management Efficiency	11	13
Earnings Capacity	5	12
Liquidity	9	13
Deposits	4	5
Advances	3	6
Profit	3	7
Interest Income	4	4
Non-Interest Income	3	9
Total Funds	4	6
Total Income	4	4
Gross Non-Performing Assets	10	10
Net Non-Performing Assets	13	11
Net Worth	4	7
Total Assets	4	6

Canara is ranked 6th in term of total assets in period 2. The ranking has gone down compared to rank 4th period 1.

The deposits of Canara increased at an average of 16.53% during 2002-08 which marginally increased to an average of 18.43% during 2009-13.

Advances saw a marginal decline from an average of 21.75% during 2002-08 to an average of 18.08% during 2009-13.

Profits have increased in period 2. Profits were increasing at an annual growth rate of 10.26% during 2002-08 have significantly increased at an annual growth rate of 16.11% during 2009-13.

The Interest income was increasing at an average of 16.64% during 2002-08 has increased by an average of 19.47% during 2009-13.

The Non-Interest income grew at an average of 12% during 2002-08, has increased at a low growth rate of 7.67% per year during 2009-13.

Gross Non-Performing Assets have increased substantially in case of Canara. The Gross Non-Performing Assets were declining at an average of (8.82%) during 2002-08 have started increasing at an average of 35.54% during 2009-13.

The Net Non-Performing Assets showed a similar trend. The Net Non-Performing Assets were declining at an average of (8.59%) during 2002-08 have increased at an average of 43.52% during 2009-13. Canara bank has failed in controlling the non-performing assets.

The Net worth of canara was increasing at an average of 21.24% during 2002-08 has increased by an average of 19.17% during 2008-13. This performance has reduced Canara ranking on the basis of net worth from the rank of 4^{th} in period 1 to rank 7^{th} in period 2.

The total income showed a growth of 15.58% during 2002-08; it increased at a relatively high rate of 18.03% per year during 2009-13.

The total assets were growing at an average of 17.25 during 2002-08; increased at an average of 18.13% per year during 2009-13.

Capital adequacy has gone down relatively in case of Canara of the analyzed banks.

The ranking has gone down to rank 4^{th} in period 2 from the rank of 2^{nd} in period 1.

Assets quality has remained same during two time periods.

Management efficiency has declined which is reflected in the ranking of Canara. It has slipped to rank 13^{th} in period 2 from the rank of 10^{th} in period 1.

Earnings capacity which is reflected by return on equity, returns on assets, interest income to total assets, operating profit to total assets has gone down significantly in case of Canara.

The ranking of this bank has seen deep fall of rank 12^{th} in period 2 from the rank of 5^{th} in period 1.

The Liquidity ranking has also slipped from the rank of 9^{th} in period 1 to rank of 13^{th} in period 2.

The overall performance of canara bank has reduced its performance during low growth years.

7.6 ICICI Bank

Ranking of ICICI on various parameters during two periods

Parameters	Period 1	Period 2
Capital Adequacy	10	2
Assets Quality	7	12
Management Efficiency	4	11
Earnings Capacity	11.5	13
Liquidity	9	13
Deposits	2	8
Advances	2	2
Profit	2	2
Interest Income	2	2
Non-Interest Income	2	2
Total Funds	2	2
Total Income	2	2
Gross Non-Performing Assets	13	14
Net Non-Performing Assets	11	14
Net Worth	2	2
Total Assets	2	2

ICICI has been ranked 2nd in terms of total assets in both the time periods.

The deposits increased at an average of 39.80% during 2002-08; as it was considered as one of the most aggressive banks in India at that time. The financial crisis of 2008 created a lot of uncertainties about Indian banks as well. ICICI faced the major part of this uncertainty, which is reflected in the growth rate of deposits in period 2 of ICICI. Deposits generation is considered as a function of faith of depositors in the said bank. ICICI deposits grew at an average of 4.26% which is one of the lowest for any bank during 2009-13.

The advances of ICICI were increasing at an average of 34.57% during 2002-08 increased at mere 6.17% during 2009-13. This was a conscious effort to address the

non-performing assets and overall image of this bank. ICICI borrowed a lot to maintain its business in the market.

Profit was increasing at an average of 28.20% during 2002-08 increased at an average of 15.95% during 2009-13 which is significantly low. Interest income increased at mere 6.66% during 2009-13 from a high increase of 29.56% on an average annually during 2002-08. This is quite evident from the fact that advances declined shapely during the same period. These conscious efforts have yielded the results; ICICI has been able to control its non-performing assets quite substantially.

The Interest income was increasing at an average of 29.56% during 2002-08 has increased by an average of 6.66% during 2009-13.

The Non-Interest income grew at an average of 24.38% during 2002-08, has declined at a rate of -0.47% per year during 2009-13.

Gross Non-Performing Assets were increasing at a high annual rate of 20.22% during 2002-08; have increased only at 5.44% during 2009-13. This increase during 2009-13 is one of the lowest in the analyzed banks.

The Net worth of canara was increasing at an average of 48.62% during 2002-08 has reduced to a growth of an average of 7.36% during 2008-13.

The total assets were growing at an average of 30.83% during 2002-08; increased at an average of 6.52% per year during 2009-13.

ICICI has raised enough capital from the market during 2009-13 resulting in capital adequacy ranking improved to the rank of 2^{nd} in period 2 from the rank of 10^{th} in period 1. This is the highest improvement in ranks among the analyzed banks.

Assets quality ranking did not improved; in fact it has declined to rank 12^{th} in period 2 from the rank of 7^{th} in period 1. Management efficiency ranking declined to 11^{th} in period 2 from the rank of 4^{th} in period 1. Earnings capacity ranking declined from rank of 11.5^{th} in period 1 to rank 13^{th} in period 2. Liquidity ranking also saw a decline from the rank of 9^{th} in period 1 to the rank of 13^{th} in period 2.

ICICI has been the worst hit bank after financial crisis. The approach of the bank has changed to consolidation during low growth years.

7.7 AXIS Bank

Ranking of AXIS on various parameters during two periods

Parameters	Period 1	Period 2
Capital Adequacy	14	7.5
Assets Quality	1.5	1
Management Efficiency	9	7
Earnings Capacity	6	3.5
Liquidity	4	7
Deposits	8	7
Advances	10	8
Profit	11	6
Interest Income	10	8
Non-Interest Income	11	4
Total Funds	8	8
Total Income	10	8
Gross Non-Performing Assets	5	7
Net Non-Performing Assets	7	7
Net Worth	11	6
Total Assets	8	8

AXIS has been ranked 8th in term of total assets in both periods of the banks analyzed. The relative performance of AXIS during two time periods has been different. The GAGR on many key parameters has gone down during period 2 compared to period 1.

The deposits increased at an average of 39.39% during 2002-08, and at an average of 23.87% during 2009-13.

The advances grew at an average of 53.43% during 2002-08; it has considerable reduced to an average of 27.27% per annum during 2009-13.

The profit of AXIS increased at an average of 41.71% during 2002-08; it has increased at an average of 38.01% during 2009-13.

The interest income increased at an average of 38.24% during 2002-08; it has increased at an average of 32.21% during 2009-13.

The non-interest income increased at an average of 40.06% during 2002-08; it has increased at an average of 30.57% during 2009-13. This decline can be attributed to slowdown in economic growth of the economy.

The Non-Performing assets have been a concern for the entire banking industry.

The Gross Non-Performing Assets were increasing at annual rate of 16.77% during 2002-08; have increased at a high rate of 39.05% during 2009-13.

The Net Non-Performing Assets have shown the similar pattern. The Net Non-Performing Assets were increasing at an average of 15.65% during 2002-08; increased at an average of 24.42% during 2009-13.

The growth rate in net worth has halved to 31.43% during 2009-13 from a high of an average of 66.33% during 2002-08. The growth rate of period 1 was unsustainable in period 2 as all banks faced the relative decline in the performance.

The total assets grew at an average rate of 41.61% during 2002-08; it has increased at arelatively low average of 25.67% during 2009-13.

AXIS bank has performed well on CAMEL parameters.

The capital adequacy ranking has improved from 14^{th} in period 1 to the rank of 7.5^{th} in period 2.

Assets quality has been relatively better in case of AXIS throughout the period of analysis. Its rank from 1.5^{th} in period 1has improved to rank 1 in period 2.

Management efficiency has also improved from rank 9^{th} in period 1 to rank 7^{th} in period 2.

Earnings capacity rank has improved from 6^{th} in period 1 to the rank of 3.5^{th} in period 2.

The parameter of liquidity saw some decline in ranking; it ranked 4^{th} in period 1 which has gone down to rank 7^{th} in period 2.

It has been observed that AXIS has been able to withstand the low growth years panic much better than ICICI. The growth rate of major parameters has gone down but it has still managed to register relatively better performance compared to other private sector banks analyzed in the study.

7.8 HDFC Bank

Ranking of HDFC on various parameters during two periods

Parameters	Period 1	Period 2
Capital Adequacy	13	1
Assets Quality	1.5	3
Management Efficiency	7.5	9
Earnings Capacity	3.5	1
Liquidity	5	3
Deposits	7	6
Advances	7	7
Profit	8	4
Interest Income	7	7
Non-Interest Income	9	3
Total Funds	7	7
Total Income	7	5
Gross Non-Performing Assets	8	8
Net Non-Performing Assets	4	6
Net Worth	7	3
Total Assets	11	11

HDFC has been ranked 11th in term of total assets among all the banks analyzed for the study.

The deposits were growing at an average of 35.78% during 2002-08; it increased at an average of 24.38% during 2009-13. This has to be considered as significant decline given the brand value of HDFC Bank.

The advances were increasing at an average of 40.23% during 2002-08 increased at an average of 31.02% during 2009-13. This decline in advances can be contributed largely to the reduction in deposits.

The profit growth maintained its momentum by increasing at an average of 33.49% during 2009-13 a tad higher than the average annual growth of 32.70% during 2002-08.

The interest income increased at an average of 38.67% during 2002-08; it has increased at an average of 29.88% during 2009-13 showing a significant decline.

The fees and commission based income as reflected by non-interest income earned by a bank has also significantly gown down. The non-interest income was increasing at an average of 39.34%during 2002-08; it has increased at an average of 25.18% during 2009-13 showing a significant decline.

HDFC bank has been able to do better on the parameter of non -performing assets during period 2, from its own performance of period 1.

The Gross Non-Performing Assets were increasing at annual rate of 28.07% during 2002-08; has increased at an average of 27.76% during 2009-13.

The Net Non-Performing Assets were increasing at annual rate of 64.53% during 2002-08 which is phenomenally high; increased only at an average of 27.76% during 2009-13.

The net worth of HDFC increased at an average of 40.95% during 2002-08; increased at an average of 26.23% during 2009-13.

The total assets increased at an average of 34.72% during 2002-08; it has increased at an average of 24.79% during 2009-13 showing a significant decline.

HDFC bank has been known for disclosure of all financial parameters fairly under the current leadership. The disclosure of non-performing assets has prompted the bank to have more capital of its own. It has raised enough capital in period 2.

The ranking of capital adequacy has zoomed from the rank of 13^{th} in period 1 to the rank of 1^{st} in period 2.

Assets quality has declined in period 2 as reflected by the rank of 3^{rd} from the rank of 1.5^{th} in period 1.

The management efficiency parameter rank has gone down from the rank of 7.5^{th} in period 1 to the rank of 9^{th} in period 2.

The earnings capacity has improved from the rank of 3.5^{th} in period 1 to rank 1^{st} in period 2. It has been observed in case of HDFC Bank that financial performance on the basis of efficiency, profitability and cost control has been consistent throughout the period of analysis.

7.9 Development Credit Bank

Ranking of DCB on various parameters during two periods

Parameters	Period 1	Period 2
Capital Adequacy	12	12
Assets Quality	15	15
Management Efficiency	14.5	15
Earnings Capacity	15	15
Liquidity	8	10.5
Deposits	13	15
Advances	14	15
Profit	15	15
Interest Income	14	15
Non-Interest Income	14	15
Total Funds	14	15
Total Income	14	15
Gross Non-Performing Assets	3	3
Net Non-Performing Assets	3	2
Net Worth	15	15
Total Assets	14	15

DCB has been ranked 15th in terms of total assets in all the banks analyzed for the current study.

The deposits were increasing at an average of 13.70% during 2002-08; increased at a mere 8.33% on an average during 2009-13. This percentage growth is the lowest between all the banks considered in this study.

The advances increased at an average of 13.69% during 2002-08; the growth rate came down to the average of 11.59% during 2008-13. The lowest among the banks analyzed.

The profit of this bank has fluctuated from loss of couple of years to meager profits of some other years.

It is imperative to showcase the profit and losses of this bank from year to year. The year 2003 had a profit of 34Cr, 2004 profit of 17Cr, 2005 losses of (162 Cr), 2006

losses of (85 Cr), 2007 profit of 7 Cr, 2008 profit of 38 Cr, 2009 losses of (88 Cr), 2010 losses of (78 Cr), 2011, 2012, and 2013 saw profit of 21 Cr, 55 Cr and 102 Cr respectively.

The interest income increased at an average of 12.58% during 2002-08; ithas increased at an average of 12.87% during 2009-13.

The interest income increased at an average of 12.58% during 2002-08; it has increased at an average of 12.87% during 2009-13. This is the lowest growth rates in both periods among private sector banks analyzed for this study.

The non-interest income increased at an average of 35.15% during 2002-08; it has declined at an average of -6.20% during 2009-13.

The Gross Non-Performing Assets were decreasing at annual rate of (16.13%) during 2002-08; have increased at a high rate of 70.40% during 2009-13. This increase in non-performing assets is a major drag on the profitability and liquidity of the bank.

The net worth increased at an average of 33.61% during 2002-08; it has increased at a slow growth average of 10.48% during 2009-13.

The total assets increased at an average of 14.73% during 2002-08; it has increased at a slow growth average of 9.89% during 2009-13. This is one of the lowest growth rates in all the banks analyzed in this study.

The performance of DCB in absolute parameters has reflected in its CAMEL parameters. DCB has very low ranking on these parameters and have not improved significantly in period 2.

The capital adequacy ranking has been 12^{th} in both periods.

Assets quality has been very poor reflected in the ranking of 15^{th} in both periods.

The management efficiency ranking has declined from the rank of 14.5^{th} in period 1 to the rank of 15^{th} in period 2.

Earnings capacity has been at the lowest as the rank is 15^{th} in both the periods.

Liquidity ranking has gone down from the rank of 8^{th} in period 1 to the rank of 10.5^{th} in period 2.

7.10 IndusInd Bank

Ranking of IndusInd on various parameters during two periods.

Parameters	Period 1	Period 2
Capital Adequacy	5	7.5
Assets Quality	11	2
Management Efficiency	7.5	10
Earnings Capacity	13	7
Liquidity	10	10.5
Deposits	12	9
Advances	12	12
Profit	13	13
Interest Income	12	12
Non-Interest Income	13	13
Total Funds	12	12
Total Income	12	12
Gross Non-Performing Assets	4	4
Net Non-Performing Assets	9	4
Net Worth	13	13
Total Assets	12	12

IndusInd has been ranked 12th in term of total assets in both the periods.

The deposits were increasing at an average of 17.45% during 2002-08; have increased at an average of 23.33% during 2009-13. This increased growth in deposits in period 2 is contrary to all other private sector banks analyzed for the study.

The advances were increasing at an average of 19.54% during 2002-08; have increased at an average of 28.26% during 2009-13. This increased growth in advances in period 2 is contrary to all other private sector banks analyzed for the study.

The profit has shown a significant increase from an average of 37.52% during 2002-08 to an average of 74% increase during 2009-13. This one of the highest jump in growth rate of profit among the private sector banks analyzed for the study.

The interest income increased at an average of 20.81% during 2002-08; it has increased at an average of 30.45% during 2009-13 showing a significant increase.

The non-interest income increased at an average of 5.24% during 2002-08; it has increased at an average of 36.07% during 2009-13 showing a phenomenal increase.

The Gross Non-Performing Assets were increasing at annual rate of 9.38% during 2002-08; has increased at an average of 6.32% during 2009-13.

The Net Non-Performing Assets were increasing at annual rate of 7.06% during 2002-08; declined by an average of (7.10%) during 2009-13.

The net worth was increasing at an average of 18.15% during 2002-08; it has significantly improved to the growth rate of 42.85% per year during 2009-13.

The total assets were increasing at an average of 19.72% during 2002-08; it has improved to the growth rate of 25.86% per year during 2009-13.

It has been a mixed performance of IndusInd on the CAMEL parameters.

The ranking of capital adequacy rank of 5^{th} in period 1 has gone down to the rank of 7.5^{st} in period 2.

Assets quality has significantly improved in period 2 as reflected by the rank of 11^{th} in period1 to the rank of 2^{nd} in period 2.

The management efficiency parameter rank has gone down from the rank of 7.5^{th} in period 1 to the rank of 10^{th} in period 2.

The earnings capacity has improved from the rank of 13^{th} in period 1 to rank 7^{st} in period 2.

The liquidity ranking has remained at the same level in both the periods.

The overall performance of indusInd has been impressive since it is the only bank to have higher growth rate in period 2 on many parameters.

7.11 CITI Bank

Ranking of CITI on various parameters during two periods.

Parameters	Period 1	Period 2
Capital Adequacy	10	5
Assets Quality	8	13.5
Management Efficiency	1	3.5
Earnings Capacity	2	6
Liquidity	3	2
Deposits	9	11
Advances	8	10
Profit	9	10
Interest Income	9	9
Non-Interest Income	7	10
Total Funds	9	9
Total Income	8	10
Gross Non-Performing Assets	6	6
Net Non-Performing Assets	6	9
Net Worth	8	9
Total Assets	9	9

CITI has been ranked 9th on the basis of total assets during the entire period of analysis.

The deposits were growing at an average of 21.54% during 2002-08 could only manage to grow at meager 7.70% per annum during 2009-13. This sudden fall in deposit growth can be attributed to the financial crisis of 2008 and resultant lack of confidence of depositors in case of foreign banks.

The advances grew at an average of 25.14% during 2002-08 managed to increase at an average of 6.62% during 2009-13.

The profit was increasing at a high growth rate of 39.34% per annum during 2002-08; it increased at an average of 20.40% per annum during 2009-13 almost half that of period 1.

The Interest Income increased at an average of 26% during 2002-08; it could increase by an average of 9.08% during 2009-13.

The Non-Interest Income was increasing at an average of 29.01% during 2002-08 reduced to an average growth of 5.63% during 2009-13.

CITI could not control the increasing non -performing assets as other banks could during period 2.

The Gross Non-Performing Assets were increasing at an average of 28.71% during 2002-08 continued to increase at 25.20% per annum during 2009-13.

The Net Non-Performing Assets were increasing at an average of 28.65% during 2002-08 increased at an average of 25.48% during 2009-13.

The increase in Net Worth of the bank has witnessed slow growth in period 2. Net Worth was increasing at an average of 34.87% during 2002-08 could increase at an average of 13.35% during 2009-13.

The total assets were increasing at an average of 27.65% during 2002-08; the growth has significantly reduced to the average of 9.63% during 2009-13.

The capital adequacy ranking has improved to rank 5^{th} in period 2 compared to rank 10^{th} in period 1.

Asset quality ranking deteriorated to the rank of 13.5^{th} in period 2 from the rank of 8^{th} in period 1. This clearly indicates that CITI could not address the issue of non – performing assets.

Management efficiency rank went down to 3.5^{th} in period 2 compared to rank 1^{st} in period 1.

The Earnings capacity rank was 6^{th} in period 2 from the rank 2^{nd} in period 1. The Liquidity rank has improved to rank 2^{nd} in period 2 from the rank 3^{rd} in period 1.

It can be noted that CITI has failed largely on both the parameters i.e. absolute performance and relative performance on CAMEL basis.

7.12 Standard Chartered Bank

Ranking of SCB on various parameters during two periods

Parameters	Period 1	Period 2
Capital Adequacy	15	15
Assets Quality	6	8.5
Management Efficiency	2	1
Earnings Capacity	1	2
Liquidity	11	8
Deposits	10	10
Advances	9	9
Profit	6	9
Interest Income	8	10
Non-Interest Income	8	8
Total Funds	10	11
Total Income	9	9
Gross Non-Performing Assets	9	9
Net Non-Performing Assets	8	8
Net Worth	9	10
Total Assets	10	10

SCB is ranked 10^{th} in term of total assets of all the banks analyzed for the current study.

The deposits were increasing at an average of 15.69% during 2002-08; increased at an average of 11.18% during 2009-13.

The advances were growing at an average of 20.77% during 2002-08 could increase at 13.22% per annum during 2009-13 showing sharp decline.

The profit was increasing at an average of 19.40% during 2002-08; increased at an average of 15% during 2009-13.

The Interest Income increased at an average of 16.93% during 2002-08; increase at an average of 13.52% during 2009-13.

The Non-Interest Income was increasing at an average of 40.70% during 2002-08 reduced to an average growth of 5.39% during 2009-13.

The total income was increasing at an average of 43.09% during 2002-08 reduced to an average growth of 11.02% during 2009-13. The economic slowdown in world economy as well as Indian economy has made a significant impact on the earnings of foreign sector banks working in India.

SCB failed to control the increasing non -performing assets as other banks could during period 2. The Gross Non-Performing Assets were increasing at an average of 11.71% during 2002-08 increased at a high rate of 51.07% per annum during 2009-13.

The Net Non-Performing Assets were increasing at an average of 67.94% during 2002-08 increased at an average of 68.09% during 2009-13. SCB has seen the reverse trend of increasing rate of non-performing assets compared to other banks.

The Net Worth was increasing at an average of 25.68% during 2002-08 could increase at an average of 18.39% during 2009-13.

The total assets were increasing at an average of 20.36% during 2002-08; the growth has significantly reduced to the average of 11.28% during 2009-13.

The capital adequacy rank has been lowest at 15^{th} in both the periods.

The Assets quality ranking deteriorated to the rank of 8.5^{th} in period 2 compared to the rank of 6^{th} in period 1.

The ranking of management efficiency has improved to the rank of 1^{st} in period 2 from the rank of 2^{nd} in period 1.

The Liquidity rank has improved from the rank of 11^{th} in period 1 to the rank of 8^{th} in period 2.

SCB has performed in almost all rankings except for the assets quality as the non-performing assets have been growing at very fast levels.

7.13 Hongkong Shanghai Banking Corporation Bank

Ranking of HSBC on various parameters during two periods.

Parameters	Period 1	Period 2
Capital Adequacy	8	9
Assets Quality	4	10.5
Management Efficiency	5	5.5
Earnings Capacity	7	8
Liquidity	7	4
Deposits	11	12
Advances	11	11
Profit	10	11
Interest Income	11	11
Non-Interest Income	10	11
Total Funds	11	10
Total Income	11	11
Gross Non-Performing Assets	7	8
Net Non-Performing Assets	5	5
Net Worth	10	11
Total Assets	11	11

HSBC has been ranked 11^{th} in total assets during the period of analysis.

The deposits were increasing at an average of 28.06% during 2002-08; increased at a dismal average of 6.39% during 2009-13.

The advances were growing at an average of 29.74% during 2002-08 could increase at 4.82% per annum during 2009-13 showing very sharp decline.

The profit was increasing at, one of the highest average, of 60.49% during 2002-08; increased at an average of 17.45% during 2009-13. The foreign sector banks have been hardest hit in the low growth years.

The Interest Income increased at an average of 29.26% during 2002-08; increase at an average of 8.43% during 2009-13.

The Non Interest Income showed a declining trend in period 2. The Non Interest Income which was increasing at an average of 35.96% during 2002-08; declined in period 2 by (1.64%) during 2009-13.

The total income was increasing at annual rate of 73.58% during 2002-08; has increased at an average of 5.68% during 2009-13. This one of the highest decline in the growth rate of total income among the banks analyzed for the study.

The Gross Non-Performing Assets were increasing at annual rate of 14.52% during 2002-08; have increased at an average of 10.12% during 2009-13.

The Net Non-Performing Assets were increasing at annual rate of 21.26% during 2002-08; increased at an average of 10.41% during 2009-13.

The Net Worth was increasing at an average of 30.84% during 2002-08 could increase at an average of 12.88% during 2009-13.

The total assets were increasing at an average of 30.08% during 2002-08; the growth has significantly reduced to the average of 7.60% during 2009-13.

The capital adequacy rank declined from the rank of 8^{th} in period 1 to the rank of 9^{th} in period 2.

Assets quality deteriorated in case of HSBC, which is reflected in the ranking. The rank was 4^{th} in period 1; declined to rank 10.5^{th} period 2.

The Management Efficiency performance was maintained at the rank of 5^{th} in both the periods.

The Earnings Capacity rank was 7^{th} in period 1; it declined to rank 8^{th} in period 2.

Liquidity rank improved from the rank of 7^{th} in period 1 to the rank of 4^{th} in period 2.

HSBC has failed to perform almost on all the major parameters.

7.14 Deutsche Bank

Ranking of Deutsche on various parameters during two periods

Parameters	Period 1	Period 2
Capital Adequacy	7	14
Assets Quality	3	5
Management Efficiency	3	2
Earnings Capacity	8	3.5
Liquidity	1	1
Deposits	14	14
Advances	13	13
Profit	12	12
Interest Income	13	13
Non-Interest Income	12	12
Total Funds	13	13
Total Income	13	13
Gross Non-Performing Assets	2	2
Net Non-Performing Assets	1	1
Net Worth	12	12
Total Assets	13	13

Deutsche has been ranked 13th in terms of total assets in both the time periods.

The deposits were increasing at an average of 50.04% during 2002-2008; the growth rate decelerated at an average of 8.97% during 2009-13.

The advances grew at an average of 45.18% during 2002-08; it could achieve the annual growth of 24.36% during 2009-13.

The profit grew at an average of 40.42% during 2002-08; its growth rate halved at an average of 22.41% during 2009-13.

The Interest Income was increasing at an average of 36.94% during 2002-08; could achieve the growth of 14.69% during 2009-13.

The Non- Interest Income grew at an average of 29.40% during 2002-08; failed sharply to mere 0.31% during 2009-13.

The total income grew at an average of 218.08% during 2002-08; failed sharply to mere 9.09% during 2009-13.

The Gross Non-Performing Assets were increasing at annual rate of 72.52% during 2002-08; have increased at an average of 55.25% during 2009-13.

The Net Worth of the bank was increasing at an average of 43.84% during 2002-08; could increase at an average of 12.88% during 2009-13.

The total assets were increasing at an average of 34.15% during 2002-08; could increase at an average of 11.40% during 2009-13.

Deutsche could not maintain its performance on recessionary years. All major parameters of financial performance show a major decline in terms of percentage growth.

The capital adequacy ranking has reduced from rank 7^{th} in period 1 to the rank of 14^{th} in period 2.

The assets quality ranking has also reduced from the rank of 3^{rd} in period 1 to the rank of 5^{th} in period 2.

The management efficiency parameter has slightly improved from the rank of 3^{rd} in period 1 to the rank of 2^{nd} in period 2.

The earnings capacity ranking has improved from the low rank of 8^{th} in period 1 to the rank of 3.5^{th} in period 2.

Deutsche has maintained its rank 1^{st} in term of liquidity in both the periods.

7.15 Development Bank of Singapore

Ranking of DBS on various parameters during two periods.

Parameters	Period 1	Period 2
Capital Adequacy	6	14
Assets Quality	9	7
Management Efficiency	6	3.5
Earnings Capacity	14	10.5
Liquidity	15	14.5
Deposits	15	13
Advances	15	14
Profit	14	14
Interest Income	15	14
Non-Interest Income	15	14
Total Funds	15	14
Total Income	15	14
Gross Non-Performing Assets	1	1
Net Non-Performing Assets	2	3
Net Worth	14	14
Total Assets	15	14

DBS has been the ranked lowest at 15^{th} and 14^{th} rank in two periods respectively in terms of total assets.

The deposits grew at an average of 120% during 2002-08; which suddenly came down to 26.93% during 2009-13.

The advances grew at an average of 111.98% during 2002-08; its growth halved at 45.73% during 2009-13.

The profit was decreasing at an average of 3.42% during 2002-08. It is worth noting that DBS is the only bank of all the banks analyzed for the current study, which has its profit shifting to losses more often during 2002-08. The profit grew at an average of 79.90% during 2009-13.

The Interest Income was increasing at an average of 110.80% during 2002-08; could achieve the growth of 33.71% during 2009-13.

The Non- Interest Income has shown very surprising fluctuations in the entire time period of analysis.

DBS is relatively smaller bank it had its Gross Non-Performing Assets in lacs during 2002-08; the Gross Non-Performing Assets have increased at an average of 208.50% during 2009-13. The same case is true with Net Non-Performing assets as well.

The Net Non-Performing assets have increased at an average of 401.05% during 2009-13.

The Net Worth of the bank was increasing at an average of 82.32% during 2002-08; could increase at an average of 21.49% during 2009-13.

The total assets were increasing at an average of 95.87% during 2002-08; could increase at an average of 35.85% during 2009-13.

The capital adequacy parameter ranking has reduced from the rank 6^{th} in period 1 to the rank of 14^{th} in period 2.

The assets quality ranking has improved from the rank of 9^{th} in period 1 to the rank of 7^{th} in period 2.

The rank of management efficiency has improved from the rank of 6^{th} in period 1 to the rank of 3.5^{th} in period 2.

The earnings capacity has improved from the rank of 14^{th} in period 1 to the rank of 10.5^{th} in period 2.

The has performed poorly in case of liquidity parameter which is proven from the rank of 15^{th} in period 1 to the rank of 14.5^{th} in period 2, which is the lowest performance among the banks which are analyzed.

7.17 B – Interpretation of banks on Group Level

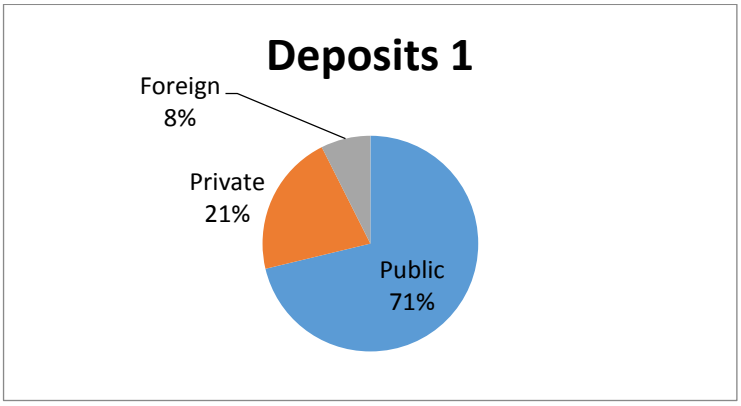
The banks are analyzed on the basis of group level. This study has been analyzing banks on the basis of high growth rate years and low growth years.

The data is presented on high growth years (2002-2008) as period 1

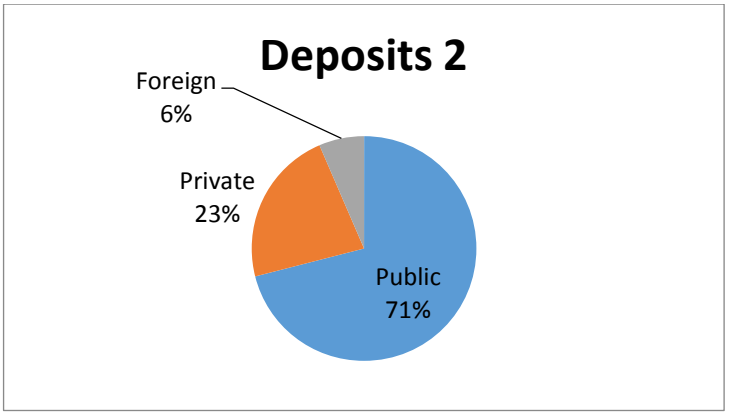
And low growth years (2009-13) as Period 2

7.18 Deposits bank group wise 15 banks as percentage according to group

Graph 10: Bank Group wise Deposits in period 1 (2002-08)



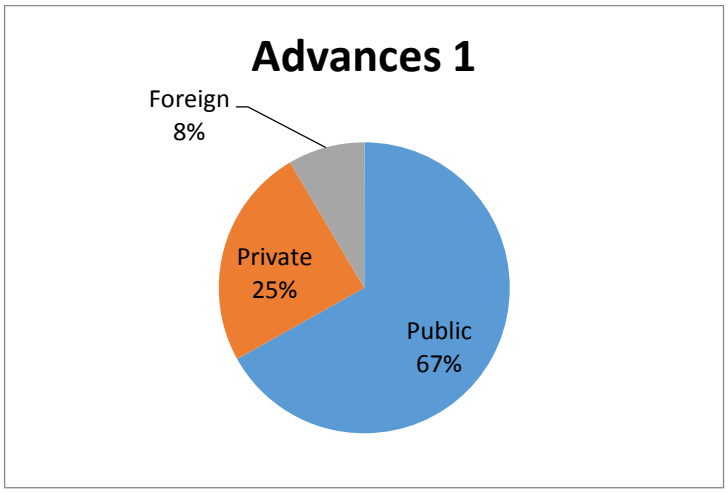
Graph 11: Bank group wise Deposits in period 2 (2009-13)



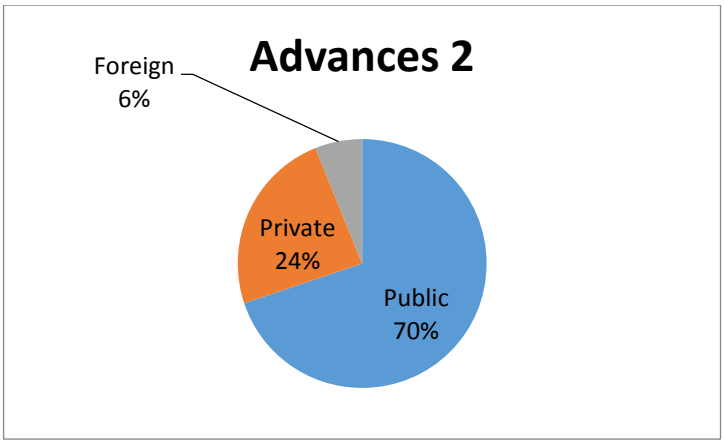
It can be observed that Public sector banks have maintained their leadership in deposit generation at 71% of the total deposits generated by 15 banks analyzed for this study. Private sector banks have increased their share in deposits from 21% to 23% in period 2. Foreign sector banks have lost their relative share in deposits from 8% in period 1 to 6% in period 2.

7.19 Advances disbursed by 15 banks as percentage according to group.

Graph 12: Bank Group wise Advances in period 1 (2002-08)



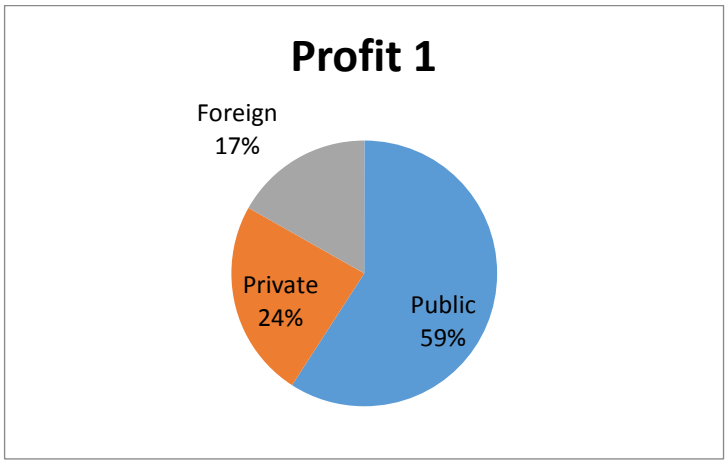
Graph 13: Bank group wise Advances in period 2 (2009-13)



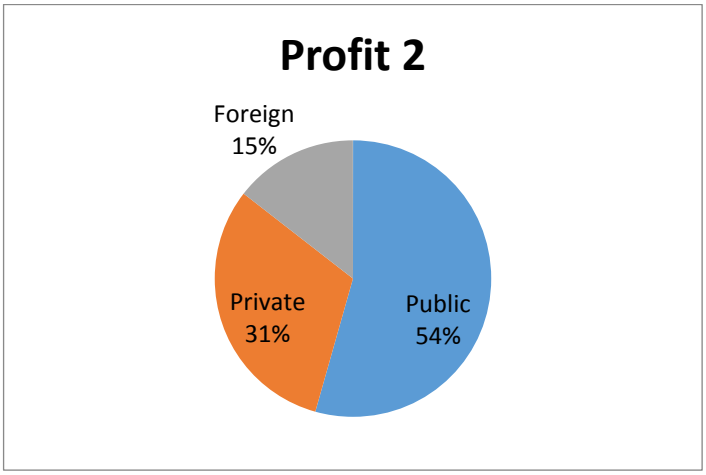
Public sector banks have increased the advances disbursed from 67% in period 1 to 70% in period 2. Private sector banks had 25% share in period 1 in term of advances which gas gone down to 24% in period 2. Foreign sector banks have also lost their relative share of advances from 8% in period 1 to 6% in period 2.

7.20 Profit earned by banks as group

Graph 14: Bank Group wise Profit in period 1 (2002-08)



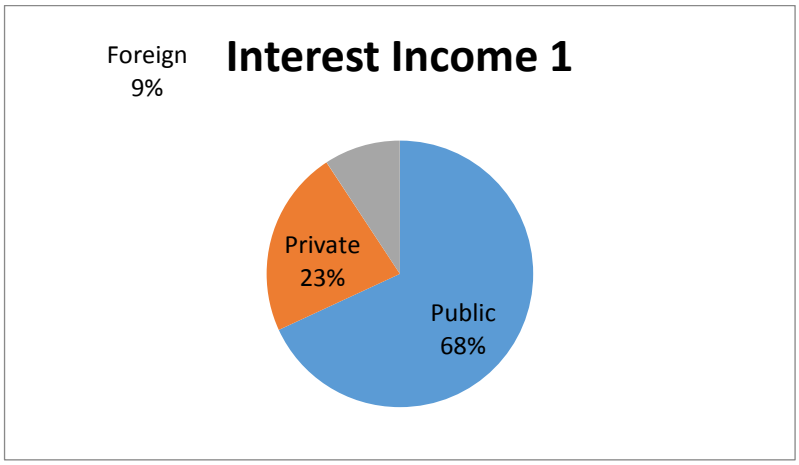
Graph 15: Bank group wise Profit in period 2 (2009-13)



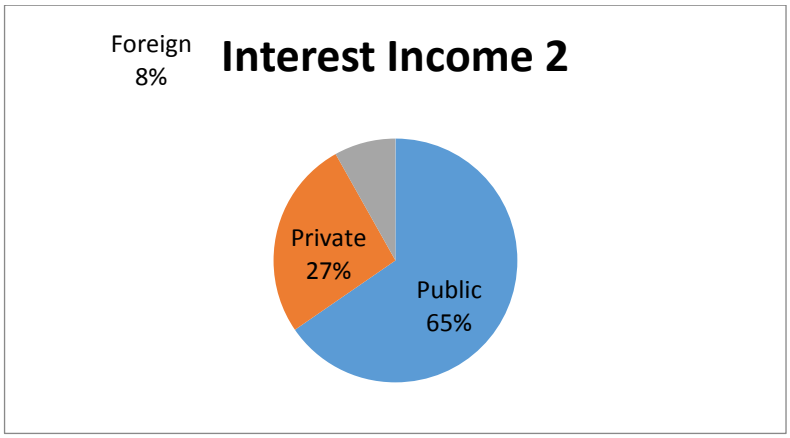
Public sector banks market share in terms of profit earned has reduced from 59% in period 1 to 54% in period 2. Private sector banks have improved on their relative share of profit earned from 24% in period 1 to 31% in period 2. Foreign sector banks have lost relative share of profit from 17% in period 1 to 15% in period 2.

7.21 Interest Income of banks as group

Graph 16: Bank Group wise Interest Income in period 1 (2002-08)



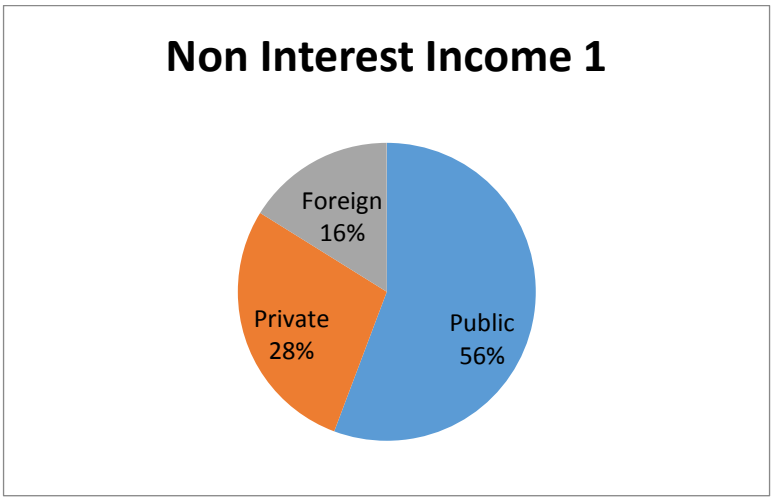
Graph 17: Bank group wise Interest Income in period 2 (2009-13)



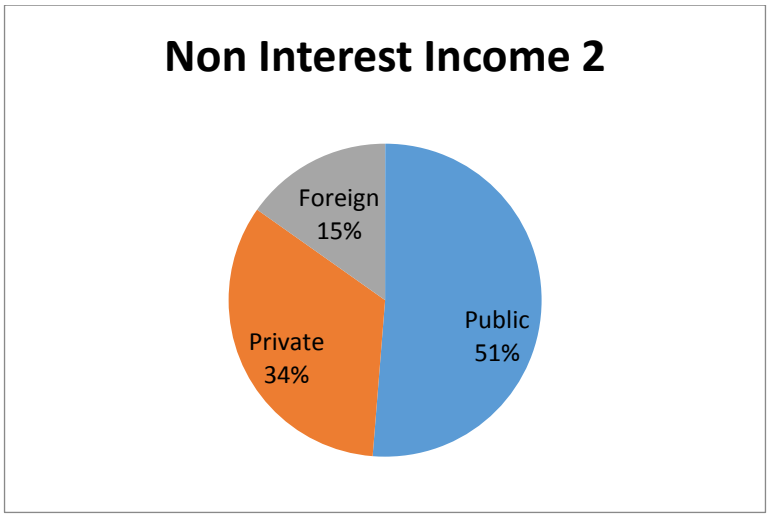
Public sector banks lost their market share of interest income from 68% in period 1 to 65% in period 2. Private sector banks increased their relative share of interest income from 23% in period 1 to 27% in period 2. Foreign sector banks marginally lost their relative share from 9% in period 1 to 8% in period 2.

7.22 Non-Interest Income of banks as group

Graph 18: Bank Group wise Non-Interest Income in period 1 (2002-08)



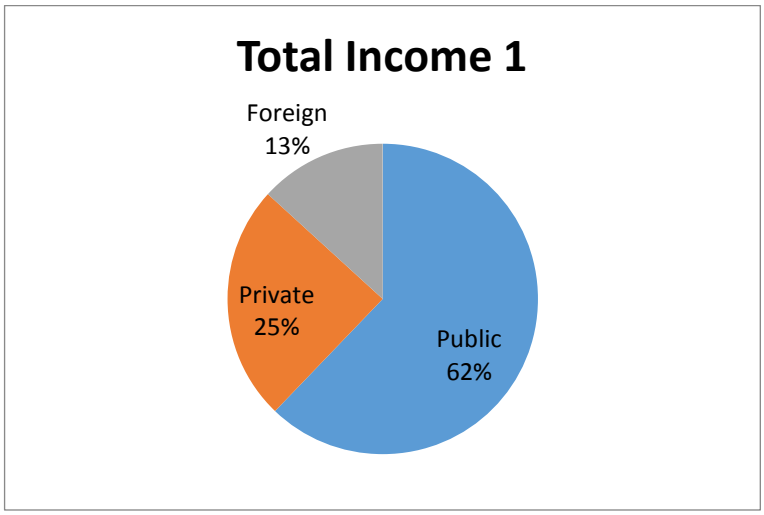
Graph 19: Bank group wise Non-Interest Income in period 2 (2009-13)



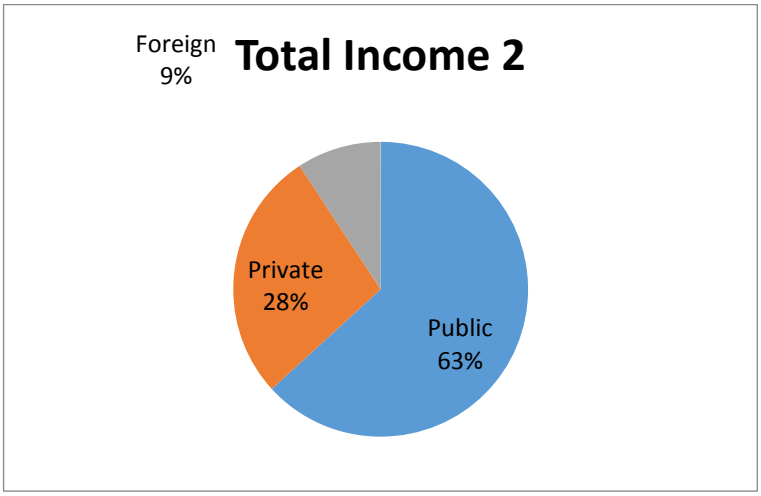
The fees and commission based income as referred to as non-interest income has shown some significant difference between the two time periods. Public sector banks have lost relative share of this income from 56% in period 1 to 51% in period 2. Private sector banks have increased the relative share of non-interest income from 28% in period 1 to 34% in period 2. This shows the aggressive business increase in case of secondary and tertiary business of private banks. Foreign sector banks marginally lost their relative share from 16% in period 1 to 15% in period 2.

7.23 Total income of banks as group

Graph 20: Bank Group wise Total Income in period 1 (2002-08)



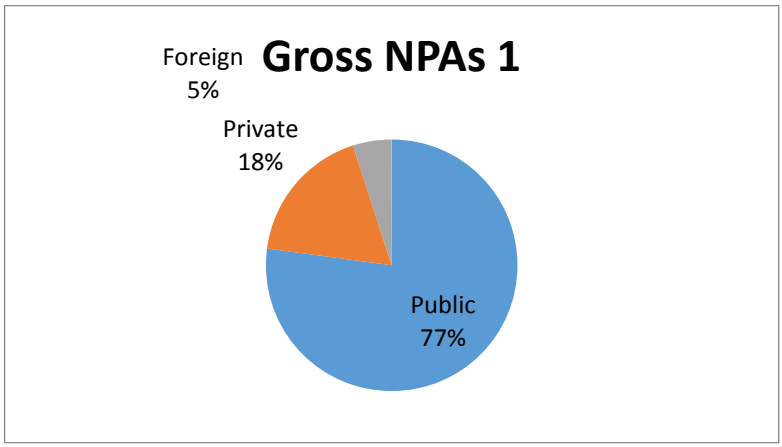
Graph 21: Bank group wise Total Income in period 2 (2009-13)



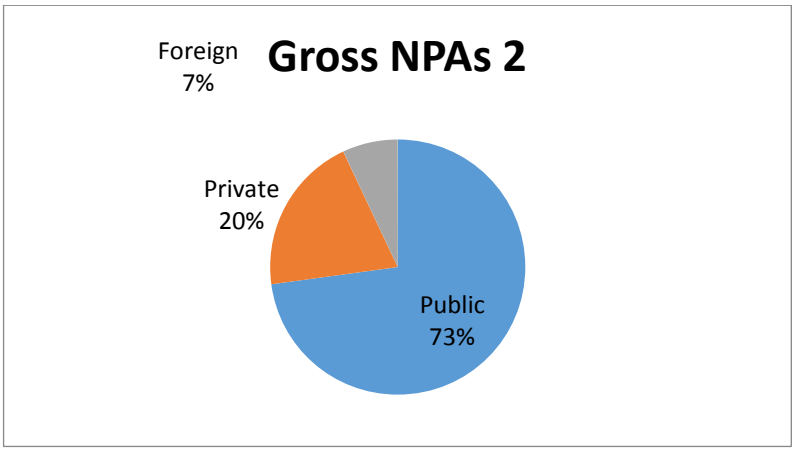
The total income of public sector banks has marginally increased from 62% in period 1 to 63% in period 2. Private sector banks have increased their total income as percentage of three types of banks considered for this study. Private sector banks witnessed total income increasing from 25% in period 1 to 28% in period 2. Foreign sector banks saw highest decline in their total income from 13% in period 1 to 9% in period 2.

7.24 Gross Non-Performing Assets of banks as group

Graph 22: Bank Group wise Gross Non-Performing Assets in period 1 (2002-08)



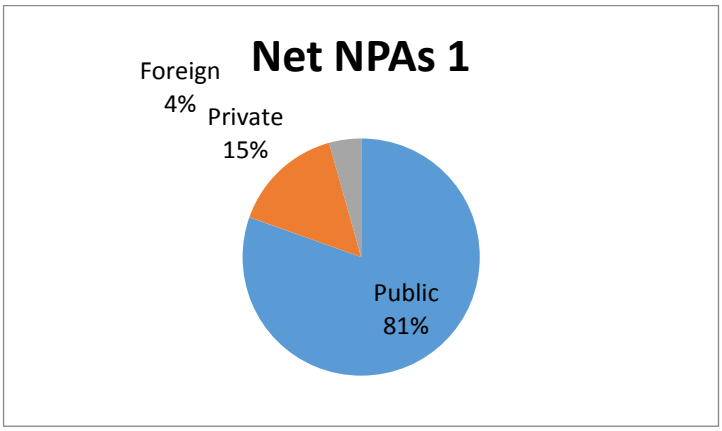
Graph 23: Bank group wise Gross Non-Performing Assets in period 2 (2009-13)



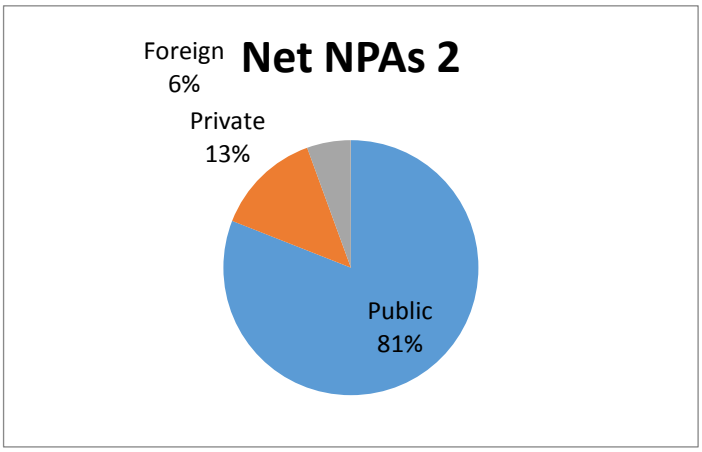
The higher the non -performing assets the drag it is on the profitability and efficiency of banks. If banks are able to reduce the non- performing assets over a period of time, it would be considered as improvement in performance of banks. Public sector banks have reduced non-performing assets in period 2 as a percentage of non-performing assets in the three types of banks considered for this study. Public sector banks have reduced their non-performing assets from 77% in period 1 to 73% in period 2. Private sector banks could not control the non – performing assets and non –performing assets have increased from 18% in period 1 to 20% in period 2. Foreign sector banks non – performing assets have also gone up from 5% in period 1 to 7% in period 2.

7.25 Net non-performing assets of banks as group

Graph 24: Bank Group wise Net Non-Performing Assets in period 1 (2002-08)



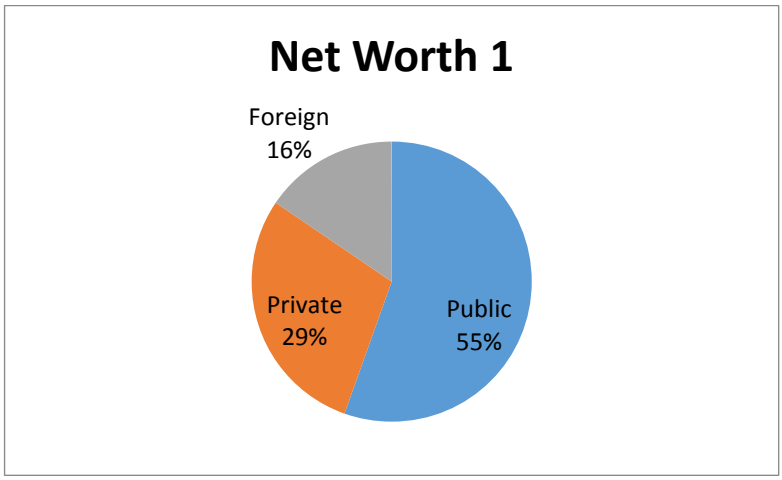
Graph 25: Bank group wise Net Non-Performing Assets in period 2 (2009-13)



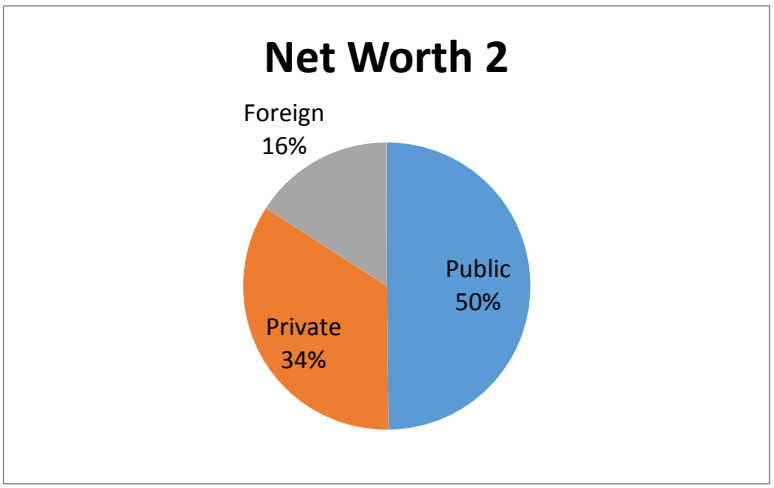
The net non- performing assets have remained same in case of public sector banks at 81% in both the periods of time. Private sector banks have reduced their net non-performing assets from 15% in period 1 to 13% in period 2. Foreign sector banks have their net non- performing assets increasing from 4% in period 1 to 6% in period 2.

7.26 Net worth of banks as group.

Graph 26: Bank Group wise Net Worth in period 1 (2002-08)



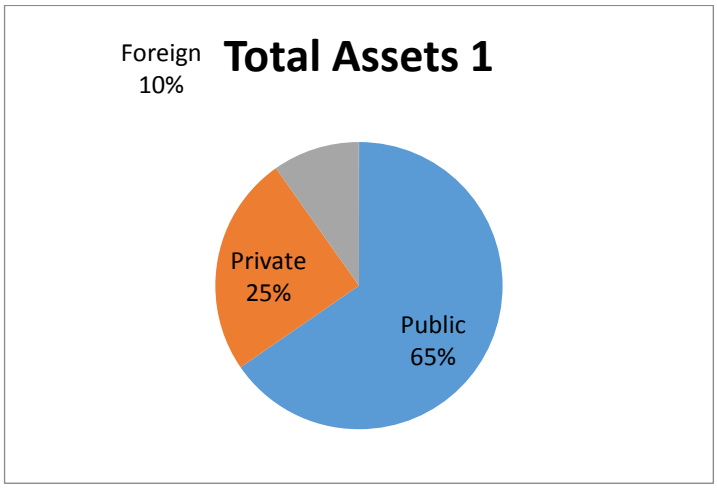
Graph 27: Bank group wise Net Worth in period 2 (2009-13)



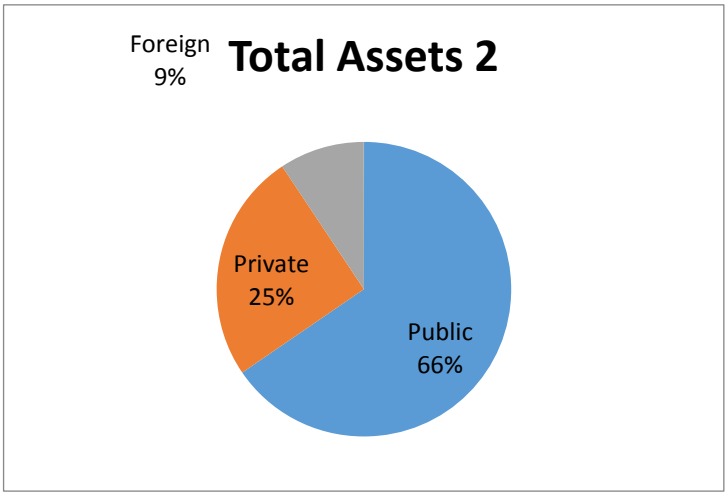
Net worth is sum of equity capital and reserves and surpluses created by banks. Public sector banks' net worth declined from 55% in period 1 to 50% in period 2. Private sector banks are able to raise capital from market as and when required more easily compared to public sector banks. Net worth of private sector banks increased from 29% in period 1 to 34% in period 2. Foreign sector banks have maintained their relative share of net worth at 16% in both the periods of time.

7.27 Total assets of banks as group

Graph 28: Bank Group wise Total Assets in period 1 (2002-08)



Graph 29: Bank group wise Total Assets in period 2 (2009-13)



Total assets are most important from banks point of view since business of banks is totally depends on the assets bank has. Total assets of public sector banks marginally increased from 65% in period 1 to 66% in period 2. Private sector banks are able to maintain their relative share at 25% in both the period of time. The total assets of foreign sector banks have marginally decreased from 10% in period 1 to 9% in period 2.

Chapter 8

Findings and Hypothesis Testing & Conclusion

Banking sector being backbone of the economy, its performance is vital for the performance of economy. The major economic indicators of the economy like Gross Domestic Product, Tax –GDP ratio, Index of Industrial Production, Foreign Direct Investment, Bank Deposit Growth, Credit Off take have been showing decelerating trend in last five years. The global financial crisis of 2008 changed the growth momentum achieved during 2004-08. The large fiscal stimulus of 2010 and 2011 created temporary spike in GDP growth. The fiscal deficit started increasing at a very high level. This reduced ability of government in stimulating the economy. The net result of slow government expenditure along with lull in private consumption and investment spending reduced the growth rate to below 5%.

The high growth years

The high growth years witnessed the goldilocks period. The high growth coupled with low inflation prompted RBI to reduce major monetary policy rates. The Cash Reserve Ratio and Liquidity Ratio were reduced during this period. The Repo and Reverse Repo rates were also reduced. The net effect was that deposit and advances interest rates continued to come down. The credit off take increased to the highest level. The deposit growth rate which picked at 24% of GDP and Credit Growth at 37% of GDP in the year 2005-06, the high growth years created unprecedented opportunities of business. The big tide of global growth lifted all boats of the economy. The performance of banks during the same time reached at the highest levels. Deposits and advances were growing at high levels. Non – performing assets were reducing fast. Profitability was improving of commercial banks.

The low growth years

Financial crisis in western world created doubts in the minds of depositors about couple of banks in India. The misconception reached the level where people started withdrawing their deposits from couple of banks with fear of bankruptcy of these banks. The GDP which was growing at an average of 9.3% in preceding three years came down to 6% in 2008-09. The slowdown in world economic growth and resultant slowdown in Indian economy was evident. Government had to stimulate economy. The

economic activities continued to slowdown. This reduced GDP growth showed its impact on all sectors including banking. The level of deposits increased at 16% of GDP and Credit Growth at 17% of GDP in the year 2012-13.

This study is an attempt to access the performance of banks during this turbulent time. The parameters are considered between the high and low growth years to find out whether banks continued to perform at the same level or their performance showed a similar trend.

The number of banks is selected across the types of banks. The fifteen banks which are chosen continue to have more than 52% of the total business (Deposits and Advances) done by all commercial banks reporting to RBI. The summary of finding is given on the parameters considered for the study.

8.1 Capital Adequacy

- Commercial banks need to maintain certain level of capital against the business that they do. BASEL Committee has given the criteria from time to time to maintain Tier I and Tier II capital. It has been observed that level of bank capital has gone up in low growth years.
- The ability and freedom of private sector banks to raise the capital helps these banks to maintain high level of capital adequacy ratio. The average of 11% capital Adequacy has improved to 12.5% of the total assets in low growth years. The higher the level of bank capital, better it is for the bank to withstand the losses created by the banks.
- DBS had the highest 30.06% capital adequacy during high growth years. ICICI bank has the highest 17.61% capital adequacy in low growth years. It has been observed that ICICI concentrated on assets quality improvement in last couple of years, contrary to the high growth obsession it had during high GDP growth years.
- SCB has been maintaining lowest level of capital adequacy among the selected banks, during the entire time period of analysis. SCBs capital adequacy ratio has been in the range of 10.25% to 11.75% of total assets.
- It has been observed that p values calculated for this parameter, except for couple of banks, are not less than 0.05% on level of significance hence it is

concluded that there is no significant change in the performance of banks in case of capital adequacy requirements.

8.2 Assets Quality

- One of the important aspects of banking is the quality of assets it has. The lower the bad loans profitable it is for a bank. The non-performing assets reflect the quality of assets. It has been observed that non-performing assets were reducing during 2004-08 because credit growth was highest during the same time. The standalone non-performing assets are increasing throughout the period. This has been a concern in banking system.
- The non-performing assets started increasing because slowing economic activities and increasing interest rates in last five years. The high debt ridden companies are finding it difficult to service their debt on time.
- The corporate debt restructuring has been on the rise in last couple of years. The banks considered in the study have shown a trend. Private sector banks have been able to control the level of non-performing assets throughout the period. Public sector banks had lower ranking during high growth years reflecting the inability to control the bad assets.
- Foreign sector banks have been ranked lower in low growth years reflecting inability to control the bad assets. AXIS and HDFC have the highest rank during high growth years.
- AXIS has the highest rank in low growth years.
- DCB has been ranked lowest throughout the period of analysis showing it has never been able to control bad assets.
- It has been observed that p values calculated for this parameter, except for couple of banks, are not less than 0.05% on level of significance hence it is concluded that there is no significant change in the performance of banks in case of assets quality parameter.

8.3 Management Efficiency

- The decision making capacity and efficiency of top management and human resource is reflected by this parameter. The business and profit per employee reflects how productive the human resource of a bank is.
- The low level of cost of deposits reflect the ability of top management to have right mix of low cost high volatile deposits with high cost low volatility deposits. The high level of credit to deposit ratio shows that ability of management to find enough opportunities to lend.
- The competition has intensified in the banking sector; management efficiency provides the necessary competence to the bank. The inter group comparison of banks show a very different picture.
- The public sector banks are known for employing more manpower.
- Private sector and foreign sector banks use third party services more often which increases their efficiency level. Public sector banks have also been allowed to avail such services. It has now become level playing field.
- The efficiency still differs from one type to other type of banks. Foreign sector banks have the highest efficiency rankings throughout the time period of this study. Profit per employee of foreign sector banks is four times that of public sector banks. Private sector banks have been ranked between public and foreign sector banks.
- CITI has been ranked highest during high growth years.
- SCB has been ranked and high level of credit to deposit ratio highest during low growth years. The usual non performing bank called DCB has been ranked lowest in this parameter throughout the period of time. The reason DCB has been ranked lowest is because it has been facing losses during most of the years of analysis.
- It has been observed that p values calculated for this parameter, except for couple of banks, are less than 0.05% on level of significance which proves that null hypothesis is rejected and the alternate hypothesis that there has been a significant difference in the performance of banks is accepted.

8.4 Earnings capacity

- Corporate sector works for profit. The profitability of any business concern depends on its productivity. Productivity determines earning capacity.
- The return on assets and return on equity are most important parameters of an organization to measure productivity. Since banks depend on two types of income (Interest Income and Fee based Income), interest income is considered separately as a percentage of total assets, and total income is considered as a percentage of total assets and equity infused in the bank.
- Return on investment (ROI) ultimately determines the sustainability of an organization. The ability of using bank assets to generate income and profit is measured in this parameter.
- The net interest margin, which is difference between interest rate received on advances and interest rate paid on deposits, is one of the most important parameter from the prospective of productivity.
- SCB is ranked highest in high growth years among the banks analyzed in this study.
- HDFC is ranked highest in low growth years which reflect the ability of this bank to perform in tough economic environment.
- Foreign sector and private sector banks have highest rankings in this parameter.
- Productivity depends on ability of the bank and not on sector it operates in, is reflected by the lowest performance of DCB.
- It has been observed that p values calculated for this parameter, except for couple of banks, are not less than 0.05% on level of significance hence it is concluded that there is no significant change in the performance of banks in case of earnings capacity parameter.

8.5 Liquidity

- Commercial bank business depends on deposits. Depositors more often expect their money to for transactions. The majority of transactions in India still happen through cash.
- People's faith in a bank is of utmost importance for a bank to function as a commercial organization. People's faith can only be achieved by giving as much cash as they may wish to withdraw. Maintaining enough cash in the system is critical for the banks.
- High liquidity lowers profitability and lower liquidity challenges the faith of depositor. The cash deposit ratio and current account and savings account deposits to total deposits ensure the adequate flow of liquidity in the system.
- Deutsche has been ranked highest throughout the time period of analysis and DBS is ranked lowest throughout the time period of analysis.
- Deutsche and DBS being from the same sector showcase that it depends on how individual banks are managed rather than which sector they belong to.
- PNB saw the highest decline in ranking in this parameter.
- SBI has the highest improvement.
- Public sector banks as a group are ranked lowest during the analysis in low growth years. It is worth noting that PNB has second rank and BOB has the fourteenth rank in low growth years. This reiterates the fact that it depends on individual bank rather than group.
- It has been observed that p values calculated for this parameter, except for couple of banks, are less than 0.05% on level of significance which proves that null hypothesis is rejected and the alternate hypothesis that there has been a significant difference in the performance of banks is accepted.

8.6 Deposits

- Deposits of commercial banks have gone up from high growth years to low growth years.
- ICICI could not maintain the deposit growth rate of high growth years. The default fear of 2008 reduced the confidence on this bank. ICICI borrowed heavily to fund advances it gives to the borrowers.
- SBI has the highest growth rate in deposits in low growth years. The campaign it had in 2008 as "safe Bank of India" yields the result in case of high deposit growth. It is observed that overall growth of deposits in the system (all commercial banks together) reduced substantially during last five years.
- There is a strong case to assume that smaller banks in India could not attract depositors the way big banks could in last couple of years.
- The banks studied have shown that public sector bank deposits increased in low growth years.
- Private and foreign sector bank deposits decreased in low growth years. This can be attributed to the faith of depositors. Financial crisis changed the way banks are perceived in India. Public sector banks being largely owned by government people have more faith in these banks.
- The growth rates at cumulative level are divided in high growth and low growth years for all the banks considered for this study. The growth rate data is given as (high growth years, low growth years).
- Public sector banks; SBI (12.87, 17.92), PNB (17.04, 18.94) BOB (18.30, 25.54), BOI (18.74, 20.82), Canara (16.53, 18.43) all banks have showed increase in growth of deposits in low growth years.
- Private sector banks; ICICI (39.80, 4.26), Axis (39.39, 23.87), HDFC (35.78, 24.38), DCB (13.70, 8.33), IndusInd (17.45, 23.33). All banks have showed decrease in growth of deposits in low growth years except IndusInd.
- Foreign sector banks; CITI (21.54, 7.70), SCB (15.69, 11.18), HSBC (28.06, 6.39), Deutsche (50.04, 8.97), DBS (120, 26.93) All banks have showed decrease in growth of deposits in low growth years.

- It has been observed that p values calculated for this parameter are less than 0.05% on level of significance which proves that null hypothesis is rejected and the alternate hypothesis that there has been a significant difference in the performance of banks is accepted.

8.7 Advances

- The advances given by banks largely determine the income for the bank. The advances can be given from deposits and bank borrowed money.
- The individual bank growth in advances is calculated. The growth rates at cumulative level are divided in high growth and low growth years for all the banks considered for this study. The growth rate data is given as (high growth years, low growth years).
- SBI (24.91, 20.31), PNB (17.04, 18.94) BOB (18.30, 25.54), BOI (18.74, 20.82), Canara (16.53, 18.43). There has been marginal rise in advances growth in low growth years except for SBI.
- ICICI (34.57, 6.17), AXIS (53.43, 27.27), HDFC (40.23, 31.02), DCB (13.69, 11.59), IndusInd (19.54, 28.26). There has been significant decline in advances growth on low growth years except IndusInd.
- CITI (25.14, 6.62), SCB (20.77, 13.22), HSBC (29.74, 4.82), Deutsche (45.18, 24.36), DBS (111.98, 45.73). There has been significant decline in advances growth in low growth years.
- This reflects the actual slowing economy. The slowing GDP is reflecting in reduced growth rate of advances.
- It has been observed that p values calculated for this parameter are less than 0.05% on level of significance which proves that null hypothesis is rejected and the alternate hypothesis that there has been a significant difference in the performance of banks is accepted.

8.8 Profits

The very existence of a commercial organization depends on the profitability. The efficient businesses create enough profits with incremental addition. Unlike planned years, public sector banks also look at profitability other than social good and justice.

- SBI (17.83, 17.67), PNB (20.18, 19.63) BOB (16.29, 27.75), BOI (39.49, 12.15), Canara (10.26, 16.11). Profit earned by banks has divergent performance, SBI and PNB saw slight decline in profit in low growth years. BOI has significant decline in profit growth. BOB and Canarahave significant increase in growth rate of profit.
- ICICI (28.20, 15.95), AXIS (41.71, 38.01), HDFC (32.70, 33.49), DCB (-163.17, -44.48), IndusInd (37.52, 74.00). The second largest bank in India, ICICI, witnessed sharp decline in profit growth in low growth years. AXIS profit growth has marginally declined. HDFC maintained its profit growth. DCB has been showing fluctuating performance throughout the twelve years considered for this analysis. IndusInd's profit rose significantly in low growth years.
- CITI (39.34, 20.40), SCB (19.40, 15.00), HSBC (60.49, 17.45), Deutsche (40.42, 22.51), DBS (-3.42, 79.90). Foreign sector banks' profit growth has declined significantly in low growth years. DBS had very fluctuating performance in high growth years; it has stabilized in case of profit growth for the bank.
- It can be concluded that overall profitability growth of banks when compared with high growth years to low growth years; there has been marked decline in profit growth.
- It has been observed that p values calculated for this parameter are less than 0.05% on level of significance which proves that null hypothesis is rejected and the alternate hypothesis that there has been a significant difference in the performance of banks is accepted.

8.9 Interest Income

The interest earned on advances disbursed by commercial banks is called ad interest income. It is worth noting that interest rates came down in India from 2002 to 2009 due to high growth of GDP and relatively low inflation. The trend reversed during 2010 to 2013 where inflation continued to rise and remained at high levels. RBI had no option but to increase policy rates. This macroeconomic development will show rise in the interest income of commercial banks. It has to be noted that rise in interest income can be attributed to general rise in interest rates rather than increase in advances over the low growth years.

- SBI (9.82, 19.89), PNB (14.00, 24.41) BOB (14.76, 24.73), BOI (16.71, 21.26), Canara (16.64, 19.47). The advances disbursed by public sector banks increased in the low growth years and interest rates generally were going up during the same time. This is reflected in rise in interest income of these banks.
- ICICI (29.56, 6.66), AXIS (38.24, 32.21), HDFC (38.67, 29.88), DCB (12.58, 12.87), IndusInd (20.81, 30.45). Private sector banks were lending heavily during high growth years. This created worries of non-performing assets in these banks. There has been a conscious effort to improve assets quality. The more stringent assessment of loan proposals and avoidance of subprime lending were given importance. This is reflected in the decline of interest income of private sector banks except IndusInd bank which continued to lend at a higher levels.
- CITI (26.00, 9.08), SCB (16.93, 13.52), HSBC (29.26, 8.43), Deutsche (36.94, 14.69), DBS (110.80, 33.71). Foreign sector banks also gave more thrust on asset quality improvement. The advances disbursed by these banks reduced significantly in low growth years impacting the interest income earned. SCB has a marginal decline in interest income otherwise all four banks analyzed has seen significant decline.
- It has been observed that p values calculated for this parameter are less than 0.05% on level of significance which proves that null hypothesis is rejected and the alternate hypothesis that there has been a significant difference in the performance of banks is accepted.

8.10 Non -Interest Income

The fees and commissions that banks earn out of secondary and tertiary services provided to the clients is called as non- interest income. This income is directly proportional to the level of economic activities happening in an economy. The high growth years would typically increase the non-interest income and vice versa is true. Non- interest income is considered as ability and promptness of a bank to adapt to ever changing business requirements of clients.

- SBI (11.74, 14.41), PNB (17.78, 17.59) BOB (15.33, 12.85), BOI (8.69, 14.01), Canara (12.00, 7.67). SBI and BOI has increased growth rate in low growth years. PNB, BOB and Canara have reduction in the growth of non-interest income.
- ICICI (24.38, -0.47), AXIS (40.06, 30.57), HDFC (39.34, 25.18), DCB (35.15, -6.20), IndusInd (5.24, 36.07).IndusInd again reversed the trend and has a significant increase in non-interest income. ICICI and DCB have the highest decline in the growth of non-interest income in low growth years. HDFC has relatively less decline in this income.
- CITI (29.01, 5.63), SCB (40.17, 5.39), HSBC (35.96, -1.64), Deutsche (29.40, 0.31), DBS (-297.86, -187.34). Foreign sector banks are known for providing other services to the client. The reduction in economic activity has hit these banks' income very badly.
- This parameter proves that commercial bank business is directly link to GDP growth level in an economy.
- It has been observed that p values calculated for this parameter, except for couple of banks, are less than 0.05% on level of significance which proves that null hypothesis is rejected and the alternate hypothesis that there has been a significant difference in the performance of banks is accepted.

8.11 Gross Non-Performing Assets

The advances which banks disburse need to be recovered in given time frame. The advances can be of short term or long term. The credit appraisal department has a crucial role in assessing the ability of the borrower to pay back the loan on time. There are many risks involved in this process. The better the credit appraisal mechanism lower would the bad loans. It was seen through the analysis that high growth years created euphoria in the market and banks lent money as never before. The high credit off take made bad loans look very small compared to the loan book. The exuberance came to a halt with financial crisis of 2008. Banks have tremendous exposures to sectors which were not doing well. The power, coal, telecom, infrastructure are couple of sectors where banks have huge exposures in terms of credit. Commercial banks' non-performing assets measured as percentage of total advances came down from 2002 to 2008. The sudden down tern in the economy unearthed the unavailability of couple of sectors. This prompted almost all the banks to look at their loan book. The credit appraisal was made stricter. Private sector banks became very careful of loans they disburse. The analysis shows that some banks were able to control the non-performing assets. Some banks could not control the rise of non-performing assets.

- SBI (0.4, 32.41), PNB (-7.26, 37.86) BOB (-13.37, 35.01), BOI (-12.43, 40.51), Canara (-8.83, 35.54). The high growth years saw gross non-performing assets declining year on year. The trend absolutely reversed in low growth years where gross non-performing assets are rising at a very high speed. This is especially worrying in case of public sector banks as they have more than fifty percent of the market share, when considered aggregately.
- ICICI (20.22, 5.45), AXIS (16.78, 39.06), HDFC (28.08, 27.76), DCB (-16.14, 70.40), IndusInd (9.38, 6.32). ICICI is able to control the growth of non-performing assets in low growth years. AXIS and DCB have shown the highest growth in non-performing assets in low growth years. HDFC has maintained its performance but the level with which the non-performing assets are increasing is a worry. IndusInd stood out in this parameter as it has been have single digit growth in non-performing assets throughout the period of analysis. It can be

concluded that private sector banks are more vigilant on this issue of raising non-performing assets.

- CITI (28.72, 25.21), SCB (11.72, 51.07), HSBC (14.53, 10.12), Deutsche (72.53, 55.26), DBS (208.51).Foreign sector banks are not able to control non-performing assets growth. There has been marginal reduction in the growth of non-performing assets in case of CITI and HSBC. Deutsche is able to reduce the growth of non –performing assets but still it has the highest growth rate of NPAs among large foreign sector banks. SCB and DBS have failed in controlling NPAs completely which can be seen from the fact that rate of growth of NPAs is very high.
- This is one of the parameter where banks have absolutely failed in their performance.
- It has been observed that p values calculated for this parameter, except for couple of banks, are less than 0.05% on level of significance which proves that null hypothesis is rejected and the alternate hypothesis that there has been a significant difference in the performance of banks is accepted.

8.12 Net Non- Performing Assets

These are those NPAs which remain in the system even after providing for the losses from the profit of a bank.

- SBI (5.28, 24.59), PNB (36.30, 99.34) BOB (-16.49, 64.61), BOI (-23.83, 80.08), Canara (-8.59, 43.52).Public sector banks' net NPAs are rising very fast during low growth years. This is the biggest drag on productivity and profitability of banks.
- ICICI (35.07, -5.07), AXIS (15.65, 24.42), HDFC (64.54, 20.12), DCB (69.51), IndusInd (7.06, -7.11). ICICI, India's second largest commercial bank is able to control rise in net non-performing assets. AXIS and DCB have failed to reduce the growth of net non-performing assets. HDFC and IndusInd are able to control the growth of net non-performing assets. IndusInd again stood out in its performance because it is the only bank whose net non-performing assets are going down rather than increasing.

- CITI (28.65, 25.48), SCB (67.95, 68.09), HSBC (21.27, 10.41), Deutsche (67.54), DBS (401.05). Foreign sector banks have largely failed in reducing the growth of non- performing assets.
- The entire banking system is under tremendous pressure on recovering the bad loans. It is proven that any slowdown in the economy reduces business opportunities and creates problems for existing businesses to survive especially when companies have large loans on their balance sheet. A lot of companies are reeling under debt burden for one side and reduction in demand for their products from other. This is one of the reasons why commercial banks are finding it very difficult to control non-performing assets.
- It has been observed that p values calculated for this parameter, except for couple of banks, are less than 0.05% on level of significance which proves that null hypothesis is rejected and the alternate hypothesis that there has been a significant difference in the performance of banks is accepted.

8.13 Total Income

Commercial banks have interest income and fee and commission based income. All the income sources put together is calculated as total income. The analysis has shown that banks are able to maintain the growth in total income.

- SBI (9.72, 18.95), PNB (13.56, 23.56) BOB (14.23, 23.19), BOI (15.01, 20.26), Canara (15.59, 18.03). Public sector banks have performed better during low growth years. There are two major reason for this a. the faith of depositors towards these banks post financial crisis, B. since all banks have become more careful in giving advances and other services, these banks have been benefited all banks.
- ICICI (32.64, 5.12), AXIS (83.17, 31.62), HDFC (62.39, 28.92), DCB (330.98, 9.03), IndusInd (130.74, 31.19).It is interesting to note that during high growth years private sector banks were growing at an astronomically high rate. The slowdown in the economy created that environment where private sector banks remodeled their business model. The growth rate of these banks in low growth

years seems to be sustainable especially when assets quality of almost all the banks is improving.

- CITI (48.88, 7.06), SCB (43.09, 11.02), HSBC (73.58, 5.68), Deutsche (218.09, 9.09), DBS (397.33, 39.84). Foreign sector banks were increasing their total income at an astronomically high rate. It is said that one big tide lifts all boats. The highest GDP growth for a sustained four years that India witnessed during 2004-2008 created lot of opportunities for new and aggressive banks. The slow growth years have proved that sustained level of income generation is possible only when asset quality is improved and all services are provided to the customers as one stop shop by the banks.
- It has been observed that p values calculated for this parameter, except for couple of banks, are less than 0.05% on level of significance which proves that null hypothesis is rejected and the alternate hypothesis that there has been a significant difference in the performance of banks is accepted.

8.14 Total Assets

The total assets that a commercial bank builds over a period of time are a real parameter of its performance. The sustainable business model can be built only when bank is able to create good quality total assets.

- SBI (14.14, 17.09), PNB (18.29, 19.47) BOB (18.82, 24.98), BOI (18.66, 20.59), Canara (17.25, 18.14). Public sector banks have steady growth in both the time periods in case of total assets. This partly answers the logic why these banks are still market leaders as a group. BOB has the highest growth in low growth years. SBI has the lowest growth but with the fact that it has a very high base effect as it is largest bank in India.
- ICICI (30.83, 6.52), AXIS (41.61, 25.67), HDFC (34.73, 24.80), DCB (14.74, 9.89), IndusInd (19.73, 25.86). Private sector banks could not maintain the growth rate of assets building in low growth years. AXIS and HDFC have been the best performing banks for the entire time period. DCB has been found as erratically performing bank throughout the period of analysis. It has been fluctuating from loss to profit and higher loss to higher profit year on year. This

has to be corrected by the bank. The most important aspect of banking which is faith of depositors can only be gained with a consistent good performance. IndusInd has been found as one of the well performing banks almost on all parameters. ICICI has seen one of the lowest growths in the total assets in low growth years.

- CITI (27.66, 9.63), SCB (20.37, 11.29), HSBC (30.08, 7.61), Deutsche (34.16, 11.40), DBS (95.88, 35.85).Foreign sector banks have significantly low growth percentage in total assets in low GDP growth years. It can be concluded that the impact of decelerating economy was seen more on private and foreign sector banks compared to public sector banks. The banks which did not see much of a difference in performance are big banks. The size of the bank and pan India presence matters when it comes to giving all services to the clients.
- It has been observed that p values calculated for this parameter are less than 0.05% on level of significance which proves that null hypothesis is rejected and the alternate hypothesis that there has been a significant difference in the performance of banks is accepted.

The overall performance of private banks looks better compared to public sector banks. The interaction was done with couple of management representatives of these banks and following facts were revealed.

1. The higher non-performing assets in public sector banks can be attributed to social initiative of public sector banks. The government pressure to fund large projects. It can be seen that most of the infrastructural projects are funded by these banks.
2. The corporate debt restructuring is seen in the sectors like manufacturing, hospitality, core industries have contributed to the concern of major banks. The restructuring has been increasing in last couple of years. The RBI data shows the following trend.

Year	Rs in Lac Crs	Percentage of Restructured standard advances to total advances
2009	0.75	2.73
2010	1.36	4.23
2011	1.38	3.45
2012	2.18	4.68
2013	3.58	5.70

Source: Financial Stability Reports; RBI

This proves that there has been increase in restructured loans of commercial banks. The economic slowdown reduced the demand in the economy resulting in underutilization of installed capacity of big projects.

3. The stricter capital requirements in BASEL III would force banks to generate more capital from equity and other sources. Private sector banks are able to raise capital from the market better than public sector banks as latter would have to seek government permission. The recent announcement of RBI make large banks in India to maintain as much as 16% capital of their risk weighted assets. The systemically important banks will be declared in 2015. The criteria of choosing these banks would be interconnectedness, complexity and substitutability of these banks along with the size of the bank which is more than 2% of India's Gross Domestic product. The likely names from this study are SBI, PNB, ICICI, HDFC Bank, CITI and SCB. These banks will have to raise more capital from the market compared to other banks.
4. The vacant position of top management is another problem public sector banks are grappling with. The banks analyzed for the study and other banks from this sector have vacant positions of Chairman, Managing Director, and Executive Director. The lack of leadership and vision does contribute to overall inefficiency.
5. The retirements in public sector banks are at its peak. The managerial level employees would be needed. According to a report more than 50 % of managerial position employees would retire in couple of years making it difficult to take day to day decisions. The government of India will have to

allow public sector banks to recruit talent directly from the market at mid to senior level management.

6. The consolidation among public sector banks has to be taken up seriously. It has been observed that top ten banks in India have most of the business of commercial banking. The consolidation of regional banks in pan India level bank will help larger bank to provide more competitive services. The smaller banks need not face the problem of imbalanced regional growth. If smaller public sector banks are merged in big public sector banks making five major banks in India. These merged entities will be better able to service new age customers, it will be easy for them to raise capital and bigger banks will be better able to withstand any financial stress occurring from macroeconomic level.

8.2 Conclusion

Commercial banks are important for economic growth and financial inclusion for the economy. Indian banking was in the hands of few individuals before independence. The presence of banks in rural areas was limited at that time. Indigenous bankers and moneylenders exploited rural population. A numbers banks started and went bankrupt in 1930s to 1950s. The post independent policy on Indian banking was that of a socialist type. Exploitation was very wide spread during that time. This gave rise to nationalization of banks starting with imperial bank being nationalized in 1955. State Bank of India has been a large bank serving rural areas in most efficient way. One bank was not enough for the scale of nation like India. The second wave of nationalization came in 1969, where 14 banks were nationalized to help state level rural penetration of banks. The scale with which the work of rural banking was required was always massive, with this view 6 more banks were nationalized in 1980. First four decades of independent India had a controlled economy and nationalization of banking was in line with that policy objective. As it became more evident that control and commend economy was not giving the results it was expected, globalization process started slowly from 1991. The private entrepreneurship was given more thrust. The old Development Financial Institutions (DFIs) had lost their relevance. The Narsimham committee 1991 recommended more autonomy to the banking sector. It also recommended either closing down of DFIs or giving them banking licenses. This created new private sector banks which came in to existence from 1993. The banking revolution started from this initiative. The competition intensified in urban areas as foreign sector banks were allowed to do commercial banking business since 1991. The May I Help You tag which was introduced by ICICI bank was a turning point in Indian banking. The commercial banking business was dominated by public sector banks to the tune of 90% before 1991. The competition after 1991 changed this and private sector banks could gain market share of banking business in India very fast. One of the major objectives of letting new private sector banks to come in banking business was to bring in computerization and digitization. Private sector banks could get a head start in this regard since they had no baggage of past or unionization of their work force. The Core Banking System and first ATM were brought in India by private sector banks. The customer centric approach and

innovative services given by private and foreign sector banks made public sector banks to realize that to stay in competition they will have to provide all these services.

The competition made Indian banks more responsive and efficient. The world economic growth reached pinnacle in first couple of years of new millennia. The low cost goods from china flooded world market; inflation was relatively low and accommodative monetary policies of major nations in the world created unprecedented economic activities across the world. Indian economy gained highly on this back ground. Indian economy was increasing at an average of 9.3% during 2006-2008, the highest in the known history. Commercial banks made most of it and their business grew rapidly. The deposit and credit growth was highest during this time. Productivity and profitability was increasing across the types of banks. The real shocker came with financial crisis of western world. Seventeen banks and financial institutions went bankrupt in USA. Indian banking sector faced the lack of faith from depositors. Couple of private sector banks had majority of their depositors asking for their money in a heist. The world economic growth has gown down since then. Indian economy has been suffering from low economic growth. This study is an attempt to find out the difference in performance of banking sector in last twelve years. The two major phases of business cycle have occurred during this time. The non-performing assets in the beginning of the millennia were almost 10% of the advances. This was one of the biggest drags on the profitability during that time. As years pasted by banks were able to control the bad loans. The aspect of non-performing assets has come full circle. In the beginning of this study non-performing assets were high. The high growth years reduced these non –performing assets. The low growth years have again increased the bad loans. This proves that banks will have to keep vigil about the credit appraisal process across the business cycles. The profitability has improved across banks and types of banks. The non-interest income has also gone up which reflects that banks are increasingly providing other value added services to the clients.

Public sector banks need to control their increasing non-performing assets. The profitability measure of these banks is still lowest compared to its private and foreign sector peers. The faith of depositors has given these banks a strong base of deposits money during low growth years. Public sector banks need to capitalize on this by

keeping strong credit appraisal system in place and improving assets quality under all circumstances. SBI has a legacy and strong market share of commercial banking in India. It should maintain its leadership position by giving cutting age services to its clients. The other public sector banks analyzed for this study also have long history and legacy to bank on. The majority of public sector bank employees are retiring from the system; this is another chance for these banks to improve the productivity of human resource. The core banking system and related technological improvements will make definitive changes that would support the overall improvement. It has been observed that big banks are able to withstand business cycles more efficiently. The consolidation in banking should be considered by the government more seriously. The regional small banks should be merged with nation level big banks would unleash the potential of these banks in real sense. The fifteen banks considered in this study out of ninety three banks reporting to RBI, occupy more than 53% of the commercial banking business in India. This shows tilted advantage to national level banks. This further supports the consolidation effort in banking sector.

The new private sector banks have seen a very learning last twelve years. These banks from being very aggressive in the business in first couple of years realized that assets quality is equally important as profitability is. Financial crisis tested the business model of these banks. It is impressive to see that these banks changed their business model with the changing business scenario. ICICI has seen the most dramatic years in terms of deposits and assets quality. HDFC and AXIS have been the most consistent performing banks. IndusInd has impressed with its low growth years performance. DCB has been the most erratic performing bank.

Foreign sector banks have still remained marginal players in commercial banking business in India. The big banks among foreign sector banks have advantage since they can serve their clients better. CITI and SCB have presence in all major cities in India.

The performance of commercial banks has been satisfactory on majority of the factors considered in this study. The banking sector revolves around trust of the depositors. Commercial banks in India have largely maintained this faith of depositors over a long

period of time. RBI plays a very important role in this regard by keeping stringent rules and regulations to be followed by banks.

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Annexure data of banks

1. CAR = Tier I capital + Tier II capital / Risk weighted assets
2. Tier I Capital
3. Tier II Capital
4. Advances to Total Assets Ratio
5. Gross Non-Performing Assets to Advances Ratio
6. Net Non-Performing Ratio to Advances Ratio
7. Net Non-Performing Assets to Total Assets
8. Secured Advances to Total Advances
9. Business per Employee
10. Profit per Employee
11. Credit Deposit Ratio
12. Cost of Deposit
13. Return on Advances
14. Interest Income to Total Assets
15. Net Interest Margin to Total Assets
16. Operating Profit to Total Assets
17. Return on Assets
18. Return on Equity
19. Cash-Deposit Ratio
20. CASA percentage
21. Term Deposits to Total Deposits
22. Deposits
23. Advances
24. Profit
25. Interest income
26. Non-interest income
27. Total funds
28. Total income
29. GNPAS
30. NNPAS
31. Net worth
32. Total assets

CAR = Tier I capital + Tier II capital / Risk weighted assets

Banks	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	13.35	13.5	13.53	12.45	11.88	12.34	13.54	14.25	13.39	11.98	13.86	12.92
PNB	10.7	12.02	13.1	14.78	11.95	12.29	13.46	14.03	14.16	12.42	12.63	12.72
BOB	11.32	12.65	13.91	12.61	13.65	11.8	12.94	14.05	14.36	14.52	14.67	13.3
BOI	10.68	12.02	13.01	11.52	10.75	11.58	12.04	13.01	12.94	12.17	11.95	11.02
Canara	11.88	12.5	12.66	12.78	11.22	13.5	13.25	14.10	13.43	15.38	13.76	12.4
ICICI	11.44	11.1	10.36	11.78	13.35	11.69	13.96	15.53	19.41	19.54	18.52	18.74
Axis	10.65	10.9	11.21	12.66	11.08	11.57	13.73	13.69	15.8	12.65	13.66	17
HDFC	13.93	11.12	11.66	12.16	11.41	13.08	13.60	15.69	17.44	16.22	16.52	16.8
DCB	11.49	10.08	14.26	9.88	9.66	11.34	13.38	13.30	14.85	13.25	15.41	13.61
IndusInd	12.51	12.13	12.75	11.62	10.54	12.54	11.91	12.33	15.33	15.89	13.85	15.36
CITI Bank	11.04	11.3	11.11	10.78	11.33	11.06	12.00	13.23	18.14	17.31	16.03	15.9
SCB	9.28	10.56	10.87	10.46	9.93	10.44	10.59	11.55	12.41	11.88	11.05	13
HSBC	10.92	18.1	14.54	14.03	10.61	11.06	10.59	15.31	18.03	18.03	16.04	17.1
Deutsche	14.55	17.35	14.42	16.22	12.74	10.62	15.05	15.25	16.45	15.03	14.12	14.08
DBS	13.31	15.98	55.49	35.06	31.33	29.24	18.15	15.70	16.96	14.98	14.38	12.99

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

Tier I

Banks	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	9.22	8.81	8.34	8.04	9.36	8.01	9.14	9.38	9.45	7.77	9.79	9.49
PNB	6.34	7.11	7.01	8.87	10.06	8.93	8.97	8.98	9.11	8.44	9.28	9.76
BOB	7.56	8.1	8.47	8.21	10.98	8.74	7.64	8.49	9.2	9.99	10.83	10.13
BOI	6.37	7.56	7.47	7.05	6.75	6.54	7.7	8.91	8.48	8.33	8.59	8.2
Canara	8.07	7.85	7.81	7.29	7.81	7.17	7.01	8.01	8.54	10.87	10.35	9.77
ICICI	7.47	7.05	6.09	7.59	9.2	7.42	11.76	11.84	13.96	13.17	12.68	12.8
Axis	6.42	6.44	6.44	8.87	7.26	6.42	10.17	9.26	11.18	9.41	9.45	12.23
HDFC	10.81	9.49	8.03	9.6	8.55	8.57	10.30	10.58	13.26	12.23	11.6	11.08
DCB	10.93	6.63	8.89	5.85	5.96	8.44	11.82	11.50	11.93	11.1	13.81	12.62
IndusInd	10.45	10.06	8.91	7.24	6.84	7.34	6.70	7.52	9.65	12.29	11.37	13.78
CITI	8.36	8.39	8.79	8.6	10.77	10.12	11.24	12.42	17.27	16.49	15.15	14.81
SCB	6.9	6.81	7.11	7.1	8.21	8.93	8.21	7.99	8.94	8.9	8.19	10.45
HSBC	7.47	14.5	11.17	11.38	9.8	10.01	9.72	14.12	16.63	16.69	14.83	15.7
Deutsche	13.67	15.16	9.32	12.62	11.14	9.73	14.51	14.62	15.77	14.3	13.27	13.39
DBS	12.73	15.03	54.53	34.45	20.8	22.84	14.98	10.27	11.14	9.84	9.32	9.25

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

Tier II

Banks	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	4.13	4.69	5.19	4.41	2.52	4.33	4.40	4.87	3.94	4.21	4.07	3.43
PNB	4.36	4.91	6.09	5.91	1.89	3.36	4.49	5.05	5.05	3.98	3.35	2.96
BOB	3.76	4.55	5.44	4.4	2.67	3.06	5.30	5.56	5.16	4.53	3.84	3.17
BOI	4.31	4.46	5.54	4.47	4	5.04	4.34	4.1	4.46	3.84	3.36	2.82
Canara	3.81	4.65	4.85	5.49	3.41	6.33	6.24	6.09	4.89	4.51	3.41	2.63
ICICI	3.97	4.05	4.27	4.19	4.15	4.27	2.20	3.69	5.45	6.37	5.84	5.94
Axis	4.23	4.46	4.77	3.79	3.82	5.15	3.56	4.43	4.62	3.24	4.21	4.77
HDFC	3.12	1.63	3.63	2.56	2.86	4.51	3.30	5.11	4.18	3.99	4.92	5.72
DCB	0.56	3.45	5.37	4.03	3.7	2.9	1.56	1.80	2.92	2.15	1.6	0.99
IndusInd	2.06	2.07	3.84	4.38	3.7	5.2	5.21	4.81	5.68	3.6	2.48	1.58
CITI	2.68	2.91	2.32	2.18	0.56	0.94	0.76	0.81	0.87	0.82	0.88	1.09
SCB	2.38	3.75	3.76	3.36	1.72	1.51	2.38	3.56	3.47	2.98	2.86	2.55
HSBC	3.45	3.6	3.37	2.65	0.81	1.05	0.87	1.19	1.4	1.34	1.21	1.4
Deutsche	0.88	2.19	5.1	3.6	1.6	0.89	0.54	0.63	0.68	0.73	0.85	0.69
DBS	0.58	0.95	0.96	0.61	10.53	6.4	3.17	5.43	5.82	5.14	5.06	3.74

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

Advances to Total Assets Ratio

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	34.69	36.65	39.17	44.01	54.14	60.40	57.76	56.25	59.99	61.84	64.96	66.76
PNB	47.14	46.66	46.15	47.86	51.37	59.47	60.04	62.65	62.91	63.99	64.12	64.47
BOB	47.47	46.26	41.83	45.85	52.84	58.42	59.41	62.99	62.89	63.81	64.24	59.98
BOI	54.88	55.64	54.04	58.47	58.05	59.97	63.46	63.37	61.28	60.68	64.71	63.93
Canara	45.88	49.32	48.66	54.78	59.80	59.35	59.40	62.93	63.96	62.86	62.14	58.73
ICICI	45.18	49.88	49.59	54.52	58.14	56.83	56.43	57.56	49.86	53.26	51.88	54.07
Axis	37.23	36.60	38.77	41.34	44.87	50.34	54.45	55.21	57.76	58.67	59.43	57.84
HDFC	28.65	38.64	41.94	49.71	47.70	51.46	47.63	53.95	56.56	57.68	57.83	59.88
DCB	53.94	56.40	45.25	46.28	49.91	50.53	53.65	55.09	56.37	58.07	60.90	58.40
IndusInd	54.63	54.01	48.40	57.61	52.83	52.97	55.01	57.11	58.10	57.34	60.88	60.46
CITI	52.96	50.04	51.56	53.57	53.82	49.52	45.77	37.92	38.39	36.38	36.68	40.53
SCB	47.76	44.50	47.03	53.56	52.39	51.15	45.41	38.45	46.81	46.12	45.69	51.73
HSBC	40.94	39.23	37.97	45.23	44.86	42.09	39.44	29.16	25.96	30.06	32.51	33.63
Deutsche	34.39	27.52	24.41	23.65	21.43	27.91	36.26	35.25	45.61	49.84	43.84	55.26
DBS	44.65	57.31	17.90	39.74	28.09	20.26	26.02	21.67	21.42	31.69	35.30	34.04

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

Gross Non-Performing Assets to Advances Ratio

Banks	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	9.80	7.93	6.15	3.88	2.92	3.08	2.87	3.09	3.35	4.57	4.90
PNB	12.38	9.89	6.19	4.20	3.51	2.78	1.79	1.72	1.81	2.97	4.36
BOB	11.79	11.18	7.65	3.99	2.50	1.86	1.29	1.37	1.38	1.55	2.43
BOI	8.92	8.14	5.68	3.80	2.47	1.70	1.73	2.90	2.26	2.60	3.22
Canara	6.11	6.45	3.92	2.26	1.52	1.32	1.57	1.53	1.46	1.73	2.58
ICICI	9.44	4.91	3.03	1.52	2.11	3.36	4.42	5.23	4.64	3.73	3.31
Axis	3.18	2.93	1.99	1.68	1.13	0.83	1.10	1.26	1.12	1.06	1.21
HDFC	2.25	1.89	1.72	1.45	1.40	1.43	2.01	1.44	1.06	1.02	0.97
DCB	10.41	8.65	14.38	16.82	5.49	1.55	9.32	9.22	6.14	4.56	3.26
IndusInd	4.97	3.55	3.56	2.88	3.09	3.06	1.62	1.24	1.01	0.99	1.03
CITI	1.96	2.57	2.04	1.60	1.61	2.06	4.52	3.48	2.06	1.80	2.61
SCB	3.27	2.98	2.77	2.84	2.65	2.17	2.82	2.64	2.33	5.78	6.26
HSBC	5.30	4.34	3.24	1.89	1.70	2.33	5.58	7.17	3.63	2.03	1.79
Deutsche	2.55	0.95	0.31	0.31	0.22	0.66	2.75	2.01	1.25	1.07	0.69
DBS	13.02	0.00	0.00	0.00	0.00	0.21	1.25	1.89	1.10	1.67	4.20

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

Net Non-Performing Ratio to Advances Ratio

Banks	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	5.64	4.49	3.41	2.64	1.83	1.54	1.78	1.76	1.72	1.63	1.82	2.10
PNB	5.27	3.79	0.95	0.20	0.28	0.75	0.63	0.17	0.53	0.84	1.52	2.34
BOB	5.68	4.81	4.95	1.43	0.86	0.60	0.46	0.31	0.34	0.35	0.54	1.28
BOI	6.01	5.59	4.49	2.80	1.49	0.96	0.52	0.44	1.31	0.91	1.54	2.08
Canara	3.89	3.59	2.84	1.86	1.11	0.94	0.84	1.09	1.06	1.11	1.46	2.18
ICICI	0.00	0.00	2.29	1.65	0.72	1.02	1.55	2.09	2.12	1.11	0.73	0.77
Axis	3.46	2.26	1.20	1.38	0.97	0.72	0.42	0.40	0.40	0.29	0.28	0.36
HDFC	0.50	0.36	0.15	0.23	0.44	0.43	0.47	0.63	0.31	0.19	0.18	0.20
DCB	0.00	0.00	0.00	6.63	4.45	1.62	0.64	3.88	3.09	0.96	0.57	0.74
IndusInd	6.58	4.24	2.90	2.71	2.08	2.46	2.27	1.14	0.49	0.28	0.27	0.31
CITI	0.40	1.16	1.40	1.00	0.95	1.02	1.23	2.63	2.14	1.21	0.90	1.47
SCB	0.40	0.31	0.51	1.12	1.57	1.43	1.03	1.37	1.40	0.27	0.69	1.63
HSBC	2.26	1.02	0.70	0.50	0.58	0.42	0.58	1.42	2.31	0.91	0.62	0.33
Deutsche	0.37	0.00	0.00	0.00	0.00	0.00	0.22	0.88	0.79	0.23	0.09	0.13
DBS	0.00	9.90	0.00	0.00	0.00	0.00	0.04	0.51	1.00	0.31	0.60	2.37

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

Net Non-Performing Assets to Total Assets

Banks	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	8.56	8.27	7.47	7.05	7.25	6.97	6.78	6.61	6.74	6.65	7.98	7.64
PNB	9.12	8.68	7.60	6.70	6.60	7.10	7.17	7.75	7.22	7.13	7.96	8.75
BOB	8.40	7.98	7.22	6.79	6.26	6.44	6.58	6.64	6.00	6.11	6.63	6.43
BOI	8.01	7.74	6.83	6.35	6.26	6.48	6.91	7.25	6.50	6.19	7.41	7.05
Canara	8.82	8.16	7.10	6.86	6.56	6.85	7.87	7.79	7.08	6.83	8.25	8.26
ICICI	2.07	8.77	7.19	5.61	5.48	6.67	7.70	8.20	7.07	6.39	6.86	7.47
Axis	8.21	7.47	6.57	5.10	5.81	6.22	6.39	7.33	6.44	6.24	7.70	7.98
HDFC	7.16	6.62	6.03	6.01	6.09	7.55	7.60	8.91	7.27	7.19	8.25	8.76
DCB	9.00	8.14	6.53	6.50	7.40	6.58	7.41	10.85	7.46	7.27	8.25	8.12
IndusInd	6.96	7.50	6.54	7.26	6.74	7.17	8.08	8.36	7.65	7.86	9.30	9.53
CITI	8.89	7.84	7.70	6.52	6.74	6.61	7.11	6.50	6.36	5.62	6.05	6.94
SCB	8.70	7.80	7.35	6.69	6.65	6.87	6.64	5.79	6.39	5.95	6.53	7.58
HSBC	7.83	7.08	6.14	5.83	5.88	6.38	6.56	6.69	5.71	5.70	5.73	6.62
Deutsche	8.18	5.68	3.50	3.63	5.01	5.48	5.85	7.54	5.57	6.56	8.38	6.68
DBS	7.88	10.75	4.93	2.48	4.85	6.29	6.98	6.43	4.69	4.48	4.94	6.29

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

Secured Investments to Total Investments

Banks	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	84.43	86.02	87.21	88.87	85.02	81.16	75.71	82.66	77.00	78.20	81.95	76.73
PNB	77.18	81.54	84.06	85.66	84.38	83.25	83.38	87.08	85.51	83.94	81.53	83.00
BOB	71.15	75.58	75.67	79.18	74.84	76.23	79.10	78.37	82.11	83.98	83.35	84.17
BOI	72.11	64.53	67.93	70.84	71.56	73.52	80.79	82.10	85.47	78.69	82.58	84.02
Canara	76.74	79.36	81.05	78.25	84.61	83.95	87.04	88.82	90.60	85.35	86.98	84.20
ICICI	63.51	72.14	69.99	68.30	71.39	73.82	67.64	61.51	56.58	47.64	54.49	53.90
Axis	55.04	59.08	64.88	52.67	54.67	60.74	59.58	59.55	61.09	61.33	62.68	63.52
HDFC	44.21	47.57	59.91	58.06	69.16	73.76	64.11	88.68	87.11	75.64	78.19	76.07
DCB	76.12	85.08	84.48	85.27	79.75	75.47	80.32	78.16	78.25	76.30	80.30	72.45
IndusInd	79.70	80.70	95.50	84.26	84.76	82.33	82.05	77.91	81.96	73.96	81.68	71.78
CITI	80.43	80.72	79.28	79.58	86.43	89.38	92.50	95.36	97.83	97.09	98.15	93.35
SCB	57.73	64.31	69.69	75.61	75.97	81.24	90.53	90.16	80.88	85.66	81.36	81.64
HSBC	72.23	81.42	85.60	84.13	71.33	72.81	75.55	57.39	68.00	55.42	52.69	62.08
Deutsche	64.41	88.39	89.26	85.14	70.53	68.84	91.85	79.30	73.64	62.15	60.81	74.66
DBS	72.58	89.51	100.00	66.85	78.75	62.87	61.44	50.18	51.47	40.08	51.17	59.93

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

Business per Employee

												Rs in Lacs
Banks	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	173	191	211	243	299	357	456	556	636	704	798	943
PNB	168	196	228	277	331	407	505	655	808	1018	1132	1165
BOB	223	238	253	310	396	555	710	914	981	1229	1466	1689
BOI	219	243	267	320	381	498	652	833	1011	1284	1360	1582
Canara	215	250	298	351	442	549	609	780	983	1199	1374	1420
ICICI	486	1120	1010	880	905	1027	1008	1154	765	735	708	735
Axis	896	926	808	895	1020	1024	1117	1060	1111	1366	1276	1215
HDFC	778	865	866	806	758	607	506	446	590	653	654	750
DCB	443	463	480	392	390	391	454	379	515	491	514	674
IndusInd	1588	1284	1080	926	880	1040	1063	836	837	844	788	840
CITI	1567	1660	1667	1360	1608	1360	1764	1880	1980	1746	1975	2124
SCB	801	841	780	786	837	924	817	972	1083	1346	1547	1688
HSBC	596	623	821	779	976	980	1012	962	1136	1222	1658	1890
Deutsche	986	894	1099	1609	1017	1144	1617	1434	1842	1989	2156	2575
DBS	1238	1316	1670	1111	600	1003	1417	1662	2555	2407	3278	3566

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

Profit per Employee

												Rs in Lacs
Banks	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	1.16	1.47	1.77	2.08	2.17	2.37	3.73	4.74	4.46	3.9	5.3	6.4
PNB	0.97	1.43	2	2.42	2.48	2.68	3.66	5.64	7.31	8.4	8.42	8.06
BOB	1.4	1.92	2	1.71	2.13	2.73	3.94	6.05	8	11	12	10
BOI	1.16	1.97	2.35	0.8	1.66	2.71	4.95	7.49	4.39	6.2	6.4	6.4
Canara	1.64	2.26	2.97	2.48	3.02	3.24	3.65	4.97	7.35	9.8	8.2	6.9
ICICI	5.33	11	12	11	10	9	10.00	11.00	9	10	11	14
Axis	7.79	8.22	8.07	7.03	8.69	7.59	8.39	10.02	12	14	14	15
HDFC	9.75	10.09	9.39	8.8	7.39	6.13	4.97	4.18	5.98	7.4	8.1	10
DCB	2.53	2.6	1	-10.84	-7	0.4	2.00	-4.00	-5	1	2	5
IndusInd	6.88	9.5	14.98	10.12	1.56	2.61	2.62	3.49	6.51	8.2	8.6	9.2
CITI	22.14	24.26	28.33	21.75	21.71	17.33	37.73	45.12	18.32	28.6	36	50
SCB	20	25.15	13.4	11.5	14.5	19.62	20.22	23.82	26.31	26.36	23.06	41.05
HSBC	5	4.5	6.32	8.9	12.07	14.32	16.69	16.06	11.73	23.2	34.7	40.41
Deutsche	27.95	43.31	65.23	20.31	18.57	20.98	27.54	26.90	29.8	43.37	60.94	61.67
DBS	36	28.1	-27.6	14.52	12.24	39.84	28.27	72.16	64.75	20.5	42.7	35.06

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

Credit Deposit Ratio

Banks		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	CDR	44.65	46.52	49.57	55.14	68.89	77.46	77.55	73.11	78.58	81.03	83.13	86.94
PNB	CDR	53.6	53.06	53.72	58.56	62.35	69.07	71.79	73.75	74.84	77.38	77.39	78.84
BOB	CDR	54.47	53.26	48.79	53.36	63.97	66.94	70.18	74.84	72.55	74.87	74.67	69.25
BOI	CDR	64.16	66.15	64.58	71.06	69.38	70.85	75.64	75.331	73.33	71.3	78.2	75.78
Canara	CDR	51.74	56.14	55.17	62.35	68	69.18	69.60	73.96	72.16	72	71.09	68.05
ICICI	CDR	146.59	110.61	91.17	91.57	88.54	84.97	92.30	99.98	89.7	95.91	99.31	99.19
Axis	CDR	43.56	42.32	44.68	49.2	55.63	62.73	68.09	69.48	73.84	75.25	77.13	77.97
HDFC	CDR	38.6	52.53	58.35	70.33	62.84	68.74	62.94	69.24	75.17	76.7	79.21	80.92
DCB	CDR	61.2	68.04	54.52	51.39	59.77	60.21	66.98	70.46	72.27	76.32	83.41	78.74
IndusInd	CDR	66.36	62.2	69.75	68.63	62.04	62.82	67.21	71.33	76.94	76.14	82.77	81.9
CITI	CDR	74.69	71.18	74.56	84.3	87.62	86.76	83.20	77.25	67.32	71.64	72.8	78.18
SCB	CDR	124.7	72.44	80.97	88.67	84.6	88.09	90.13	89.75	86.22	84.22	86.88	99.92
HSBC	CDR	63.49	64.07	59.18	74.18	67.37	66.45	70.26	55.21	42.11	50.64	57.82	62.79
Deutsche	CDR	76.24	82.65	82.85	70.09	58.95	70.86	65.14	62.19	87.95	97.59	74.51	107.6
DBS	CDR	179.29	154.59	28.96	91.58	61.4	32.06	46.40	45.21	60.5	102.12	99.4	89.48

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

Cost of Deposit

Banks	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	7.62	7.12	5.9	5.01	4.85	4.68	5.57	5.93	5.61	4.98	5.63	6.01
PNB	6.85	5.95	4.8	4.36	4.14	4.33	5.40	6.15	5.21	4.91	6.18	6.61
BOB	6.65	5.89	4.83	4.21	4.02	4.56	5.35	5.33	4.56	4.34	5.15	5.23
BOI	5.95	5.5	4.56	4.19	4.05	4.31	5.23	5.75	5.16	4.61	5.82	5.78
Canara	7.07	6.21	5.2	4.6	4.52	5.32	6.71	6.72	5.83	5.39	7.08	7.39
ICICI	5.73	6.18	5.2	3.87	4.41	5.89	7.21	6.82	5.48	4.71	5.95	6.16
Axis	8.01	7.23	4.93	4.06	4.32	5.02	5.11	6.06	4.42	4.54	5.95	6.35
HDFC	6.25	5.31	3.93	3.32	3.38	4.34	5.18	6.58	4.51	4.27	5.57	6.01
DCB	7.47	7.3	5.6	4.91	5.04	5.48	6.85	7.49	6	5.61	6.83	7.27
IndusInd	6.03	6.01	5.05	4.69	5.53	6.49	7.64	7.66	6.39	5.99	8.02	8.35
CITI	6.29	5.37	4.16	2.94	2.86	3.98	4.34	3.91	3.15	2.94	3.21	3.85
SCB	5.83	6.65	3.77	3.3	3.23	3.58	4.63	4.98	3.2	3.45	4.93	5.12
HSBC	6.24	4.76	3.45	2.59	2.89	3.53	4.49	4.94	3.22	3.2	4.03	4.6
Deutsche	3.87	2.39	1.48	1.44	1.47	1.88	2.17	1.66	1.09	1.62	2.37	2.44
DBS	6.55	2.96	3.44	0.92	4.13	3.84	2.73	4.03	3.24	5.11	6.26	6.38

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

Return on Advances

Banks		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	RA	9.44	8.69	7.62	7.24	7.62	8.29	9.34	9.68	8.62	8.64	9.98	9.46
PNB	RA	10.63	9.95	8.86	7.89	7.91	8.93	9.66	10.68	9.77	9.85	10.62	10.57
BOB	RA	10.02	8.89	7.9	7.35	7.31	8.27	8.84	8.93	7.88	8.02	8.67	8.4
BOI	RA	9.39	8.8	7.48	7.1	7.58	8.52	9.34	9.78	8.42	8.12	8.76	8.6
Canara	RA	10.27	9.76	8.67	7.91	7.85	8.44	9.60	10.44	9.07	8.96	10.57	10.27
ICICI	RA	2.85	11.99	10.53	8.8	8.59	9.41	10.72	10.06	8.7	8.26	9.42	10.05
Axis	RA	10.61	11.75	9.28	7.84	8.06	9.13	9.83	10.57	8.59	8.43	9.85	10.45
HDFC	RA	10.9	8.47	7.52	7.68	8.91	10.57	12.62	14.96	10.77	10.56	11.56	12.33
DCB	RA	10.82	8.88	8.53	7.95	8.75	9.96	12.74	13.47	10.69	10.4	11.21	11.99
IndusInd	RA	8.73	8.55	10.59	9.65	9.13	10.24	11.94	12.56	11.63	12.14	13.77	14.13
CITI	RA	12.71	11.33	9.93	9.06	9.57	10.16	11.57	12.61	10.5	9.06	9.68	9.78
SCB	RA	14.03	13.23	10.47	9.27	9.15	9.57	10.90	12.30	10.56	9.75	11.29	11.38
HSBC	RA	10.1	9.6	8.4	7.86	8.72	10.6	12.26	13.63	10.36	9.47	8.74	9.94
Deutsche	RA	9.77	8.52	5.01	5.37	6.07	9.46	10.29	13.31	8.7	8.52	13.11	11.51
DBS	RA	13.33	11.72	9.54	3.28	3.88	8.89	9.18	9.39	8.2	6.13	7.45	8.29

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

Interest Income to Total Assets

Banks	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	5.64	4.49	3.41	2.64	1.83	1.54	1.78	1.76	1.72	1.63	1.82	2.10
PNB	5.27	3.79	0.95	0.20	0.28	0.75	0.63	0.17	0.53	0.84	1.52	2.34
BOB	5.68	4.81	4.95	1.43	0.86	0.60	0.46	0.31	0.34	0.35	0.54	1.28
BOI	6.01	5.59	4.49	2.80	1.49	0.96	0.52	0.44	1.31	0.91	1.54	2.08
Canara	3.89	3.59	2.84	1.86	1.11	0.94	0.84	1.09	1.06	1.11	1.46	2.18
ICICI	0.00	0.00	2.29	1.65	0.72	1.02	1.55	2.09	2.12	1.11	0.73	0.77
Axis	3.46	2.26	1.20	1.38	0.97	0.72	0.42	0.40	0.40	0.29	0.28	0.36
HDFC	0.50	0.36	0.15	0.23	0.44	0.43	0.47	0.63	0.31	0.19	0.18	0.20
DCB	0.00	0.00	0.00	6.63	4.45	1.62	0.64	3.88	3.09	0.96	0.57	0.74
IndusInd	6.58	4.24	2.90	2.71	2.08	2.46	2.27	1.14	0.49	0.28	0.27	0.31
CITI	0.40	1.16	1.40	1.00	0.95	1.02	1.23	2.63	2.14	1.21	0.90	1.47
SCB	0.40	0.31	0.51	1.12	1.57	1.43	1.03	1.37	1.40	0.27	0.69	1.63
HSBC	2.26	1.02	0.70	0.50	0.58	0.42	0.58	1.42	2.31	0.91	0.62	0.33
Deutsche	0.37	0.00	0.00	0.00	0.00	0.00	0.22	0.88	0.79	0.23	0.09	0.13
DBS	0.00	9.90	0.00	0.00	0.00	0.00	0.04	0.51	1.00	0.31	0.60	2.37

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

Net Interest Margin to Total Assets

Banks	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	2.74	2.76	2.85	3.21	3.27	3.03	2.64	2.48	2.35	2.86	3.38	3.06
PNB	3.37	3.93	3.84	3.51	3.44	3.58	3.06	3.15	3.12	3.5	3.21	3.17
BOB	2.8	2.86	3.18	3.31	3.05	2.95	2.42	2.52	2.35	2.76	2.56	2.28
BOI	2.84	2.78	2.73	2.49	2.54	2.71	2.638	2.72	2.3	2.49	2.26	2.16
Canara	2.63	2.89	2.95	3	2.95	2.7	2.04	2.36	2.35	2.56	2.17	2
ICICI	0.96	1.35	1.62	1.94	2.25	2.23	1.96	2.15	2.19	2.34	2.44	2.7
Axis	1.59	1.9	2.58	2.36	2.47	2.55	2.83	2.87	3.05	3.1	3.04	3.09
HDFC	3.21	3.07	3.68	3.79	4.08	4.5	4.66	4.69	4.13	4.22	4	4.28
DCB	2.23	1.66	1.95	1.39	1.79	2.66	2.71	2.92	2.34	2.79	2.83	2.85
IndusInd	1.73	1.84	2.54	2.71	1.9	1.41	1.36	1.80	2.81	3.4	3.3	3.41
CITI	3.94	4.06	4.94	4.58	5.2	4.81	4.86	4.67	4.04	3.91	4.07	4.03
SCB	4.55	4.7	4.56	3.87	4.49	4.56	4.15	3.70	4.18	4.1	3.73	4.15
HSBC	2.89	3.01	2.99	3.69	4.2	4.96	4.53	4.30	3.51	3.67	3.74	3.74
Deutsche	3.76	2.73	1.01	0.88	2.07	3.39	4.28	5.21	4.79	4.98	6.31	5.78
DBS	3.34	4.23	3.4	2.58	4.1	3.03	3.18	2.91	3.59	2.24	2.5	2.65

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

Operating Profit to Total Assets

Banks	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	1.82	2.15	2.44	2.53	2.37	1.89	2.04	2.13	1.82	2.23	2.47	2.14
PNB	2.16	2.91	3.31	2.37	2.15	2.1	2.22	2.58	2.7	2.68	2.54	2.33
BOB	1.95	2.33	3.08	2.56	1.84	1.88	1.81	2.12	1.95	2.19	2.13	1.81
BOI	2.18	2.77	2.78	1.62	1.64	1.89	2.30	2.69	1.88	1.72	1.82	1.78
Canara	2.39	2.59	3.15	2.46	2.1	1.95	1.71	1.98	2.09	2.03	1.67	1.5
ICICI	0.88	2.44	2.04	2.02	1.86	1.97	2.14	2.29	2.62	2.35	2.36	2.57
Axis	3.26	2.41	3.14	1.83	2.27	2.22	2.43	2.90	3.19	3.03	2.81	2.97
HDFC	2.78	2.63	2.77	2.87	3.17	3.41	3.36	3.27	3.17	3.09	2.91	3.1
DCB	2.54	1.39	1.1	-0.08	-0.47	0.89	1.71	1.11	0.8	1.27	1.04	1.26
IndusInd	2.68	3.23	3.56	2.61	1.13	0.89	0.89	1.45	2.24	2.67	2.66	2.81
CITI	4.16	3.71	4.5	3.7	3.98	3.9	5.22	5.72	3.28	3.16	2.89	3.33
SCB	4.98	4.6	4.33	2.98	4.14	4.46	4.56	4.40	4.63	3.97	3.95	4.07
HSBC	2.75	2.35	2.49	3.62	3.91	4.16	4.49	4.89	3.71	3.23	3.52	3.06
Deutsche	4.38	6.12	7	2.26	2.85	2.78	4.11	4.66	4.27	4.47	5.26	5.27
DBS	3.77	3.43	2.52	1.1	2.01	3.26	1.57	4.18	3.51	1.41	2.17	1.72

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

Return on Assets

Banks	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	0.7	0.86	0.94	0.99	0.89	0.84	1.01	1.04	0.88	0.71	0.88	0.91
PNB	0.77	0.98	1.08	1.12	1.09	1.03	1.15	1.39	1.44	1.34	1.19	1
BOB	0.81	1.05	1.2	0.75	0.79	0.72	0.89	1.09	1.21	1.33	1.24	0.9
BOI	0.78	1.16	1.25	0.38	0.68	0.88	1.25	1.49	0.7	0.82	0.72	0.65
Canara	1.03	1.24	1.34	1.01	1.13	0.98	0.92	1.06	1.3	1.42	0.95	0.77
ICICI	0.67	1.13	1.31	1.59	1.3	1.09	1.12	0.98	1.13	1.35	1.5	1.7
Axis	0.93	1.17	1.42	1.21	1.18	1.1	1.24	1.44	1.67	1.68	1.68	1.7
HDFC	1.48	1.52	1.45	1.47	1.38	1.33	1.32	1.28	1.53	1.58	1.77	1.9
DCB	0.95	0.85	0.37	-3.38	-2.01	0.71	0.48	-1.25	-1.3	0.3	0.68	1.06
IndusInd	0.5	0.91	1.74	1.35	0.22	0.34	0.34	0.58	1.14	1.46	1.57	1.63
CITI	3.6	2.88	3.55	2.84	3.07	2.79	2.24	2.12	0.96	1.37	1.64	2.12
SCB	2.17	2.92	1.74	1.61	2.49	3.06	3.13	2.87	3.03	2.44	1.49	2.43
HSBC	0.87	0.8	0.91	1.21	1.58	1.82	1.82	1.51	0.88	1.68	1.98	1.81
Deutsche	2.24	2.92	3.17	0.72	1.04	1.23	1.56	1.72	1.73	1.95	2.58	2.98
DBS	2.01	2.01	-1.69	0.89	0.73	1.6	0.86	2.72	2.38	0.79	1.12	0.72

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

Return on Equity

Banks	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	16.95	19.15	19.67	19.43	17.04	15.41	16.75	17.05	14.8	12.62	15.72	15.43
PNB	18.59	23.14	24.52	21.41	16.41	15.55	18.01	22.92	24.12	22.6	19.8	15.7
BOB	15.2	18.81	20.32	12.58	12.28	12.45	14.58	18.65	21.86	23.47	20.64	15.07
BOI	18.4	26.65	26.71	8.03	14.85	20.65	24.37	24.97	12.56	15.79	14	12.25
Canara	23.59	26.74	28.47	19.53	20.29	16.25	15.01	18.25	22.48	23.2	15.36	12.08
ICICI	6.53	17.38	20.93	18.86	14.33	13.17	11.63	7.77	7.96	9.65	11.2	13.1
Axis	29.28	25.06	27.08	18.81	18.28	20.96	17.60	19.12	19.15	19.34	20.29	18.53
HDFC	20.81	18.48	20.61	18.45	17.74	19.46	17.74	17.17	16.3	16.74	18.69	20.34
DCB	10.93	12.1	6.47	-66.53	-46.9	2.95	7.89	-14.27	-13.08	3.51	7.43	10.95
IndusInd	9.17	15.49	37.37	25.79	4.34	7.1	6.24	9.84	17.25	17.91	18.26	17.15
CITI	21.35	20.27	23.7	19.98	18.43	16.44	22.62	20.83	6.87	10.01	12.42	16.3
SCB	35.87	39.26	21.56	20.16	23.21	26.33	24.08	20.45	19.44	16.7	12.76	17.78
HSBC	14.35	8.52	8.33	11.84	13.3	16.38	16.31	13.13	6.94	11.83	13.88	12.84
Deutsche	18.39	22.14	31.04	7.18	9.9	13.42	12.39	9.50	9.2	11.98	13.75	14.46
DBS	14.94	8.44	-5.44	2.35	2.84	8.99	5.86	20.38	17.59	7.34	15.12	10.36

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

Cash-Deposit Ratio

Banks	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	8.08	4.3	5.98	4.58	5.7	6.68	9.59	7.49	7.62	10.11	5.18	5.47
PNB	7.96	8.66	7.67	9.17	19.55	8.85	9.17	8.13	7.35	7.6	4.87	4.57
BOB	4.18	5.22	4.19	3.33	3.56	5.13	6.16	5.51	5.61	6.5	5.63	2.84
BOI	6.08	5.2	5.96	4.95	5.95	6	7.8273	4.6995	6.79	7.29	4.71	5.75
Canara	12.28	7.78	7.98	5.14	6.78	6.39	8.67	5.37	6.7	7.5	5.44	4.33
ICICI	5.53	10.14	7.94	6.36	5.41	8.12	12.02	8.03	13.62	9.27	8.01	6.51
Axis	9.14	9.43	18.03	10.88	6.06	7.93	8.34	8.02	6.71	7.34	4.86	5.86
HDFC	6.86	9.3	8.36	7.29	5.93	7.59	12.46	9.47	9.25	12.03	6.08	4.94
DCB	7.19	6.65	6.19	5.68	6.16	7.46	11.10	6.03	6.09	7.21	6.43	4.53
IndusInd	6.07	6.69	11.92	4.85	4.03	5.79	8.02	5.39	7.86	7.15	6.85	6.01
CITI	7.63	6.95	17.09	11.1	9.06	7.94	10.16	6.35	6.24	8.73	10.42	7.19
SCB	8.22	6.43	5.19	5.39	4.92	5.86	12.52	6.02	7.89	7.78	5.21	5.06
HSBC	5.09	7.16	4.49	8.14	5.84	9.34	11.54	7.43	7.12	8.98	6.4	8.73
Deutsche	5.79	8.21	13.22	10.87	15.02	13.32	17.96	11.77	12.08	7.39	17.98	12.87
DBS	5.2	4.75	2.85	3.43	4.37	2.27	4.85	5.41	8.09	6.38	6.25	6.28

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

CASA percentage

Banks	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	36.48	37.33	40.77	41.28	47.55	48.48	46.96	41.64	47.26	49.42	44.81	44.82
PNB	44.32	46.87	45.87	46.34	48.99	46.16	42.99	38.83	40.85	38.45	35.34	39.16
BOB	32.97	33.73	36.39	36.45	37.94	33.18	31.22	29.59	29.62	28.68	26.9	25.32
BOI	33.63	32.07	33.66	34.55	35.02	32.22	30.61	26.76	27.84	25.42	26.65	25.64
Canara	33.83	34.81	33.78	33.87	33.29	31.52	31.49	30.05	29.09	28.33	24.34	24.18
ICICI	16.31	15.53	22.95	24.27	22.72	21.78	26.09	28.70	41.69	45.06	43.45	41.89
Axis	16.5	23.04	38.08	37.98	39.98	39.86	45.68	43.15	46.73	41.1	41.54	44.38
HDFC	40.66	42.97	54.72	60.65	55.45	57.68	54.49	44.37	52.03	52.69	48.4	47.43
DCB	15.42	16.98	18.79	22.71	32.06	28.35	24.27	31.01	35.36	35.21	32.12	27.16
IndusInd	12.96	12.18	11.17	10.69	12.87	14.92	15.70	19.24	23.67	27.15	27.3	29.32
CITI	30.53	33.37	46.15	56.02	58.7	48.43	49.37	47.48	51.5	55.57	54.52	52.88
SCB	37.72	36.81	44.83	46.18	49.9	42.69	47.40	43.06	47.49	42.72	40.14	38.22
HSBC	30.55	33.9	46.23	50.7	53.8	43.53	46.12	41.30	47.86	50	46.75	47.55
Deutsche	51.92	60.59	59.05	58.74	74.86	74.37	69.45	70.28	54.16	66.41	64.98	47.83
DBS	2.66	10.01	5.65	2.6	1.82	2.11	3.13	5.48	8.43	7.57	4.5	6.19

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

Term Deposits to Total Deposits

Banks	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	63.52	62.67	59.23	58.72	52.45	51.52	53.04	58.36	47.26	49.42	44.81	44.82
PNB	55.68	53.13	54.13	53.66	51.01	53.84	57.01	61.17	40.85	38.45	35.34	39.16
BOB	67.03	66.27	63.61	63.55	62.06	66.82	68.78	70.41	29.62	28.68	26.9	25.32
BOI	66.37	67.93	66.34	65.45	64.98	67.78	69.39	73.23	27.84	25.42	26.65	25.64
Canara	66.17	65.19	66.22	66.13	66.71	68.48	68.51	69.95	29.09	28.33	24.34	24.18
ICICI	83.69	84.47	77.05	75.73	77.28	78.22	73.91	71.30	41.69	45.06	43.45	41.89
Axis	83.5	76.96	61.92	62.02	60.02	60.14	54.32	56.85	46.73	41.1	41.54	44.38
HDFC	59.34	57.03	45.28	39.35	44.55	42.32	45.51	55.63	52.03	52.69	48.4	47.43
DCB	84.58	83.02	81.21	77.29	67.94	71.65	75.73	68.99	35.36	35.21	32.12	27.16
IndusInd	87.04	87.82	88.83	89.31	87.13	85.08	84.30	80.76	23.67	27.15	27.3	29.32
CITI	69.47	66.63	53.85	43.98	41.3	51.57	50.63	52.52	51.5	55.57	54.52	52.88
SCB	62.28	63.19	55.17	53.82	50.1	57.31	52.60	56.94	47.49	42.72	40.14	38.22
HSBC	69.45	66.1	53.77	49.3	46.2	56.47	53.88	58.70	47.86	50	46.75	47.55
Deutsche	48.08	39.41	40.95	41.26	25.14	25.63	30.55	29.72	54.16	66.41	64.98	47.83
DBS	97.34	89.99	94.35	97.4	98.18	97.89	96.87	94.52	8.43	7.57	4.5	6.19

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

Deposits

												Rs in Cr
Banks	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	270560	296123	318618	367047	380046	435521	537403	742072	804118	933932	1043647	1202739
PNB	64123	75814	87916	103167	119685	139859	166457	209760	249329	312898	379588	391560
BOB	61804	66441	72967	81333	93662	124916	152034	192396	241261	305439	384871	473883
BOI	59589	64098	71482	78821	93932	119882	150011	189708	229761	298885	318216	381839
Canara	64030	72095	86345	96796	116803	142381	154072	186892	234651	293436	327053	355856
ICICI	32085	48169	68108	99818	165083	230510	244431	218347	202016	225602	255500	292614
Axis	12287	16965	20954	31712	40114	58785	87626	117374	141300	189237	220104	252614
HDFC	17654	22376	30409	36354	55797	68298	100768	142811	167404	208586	246706	296247
DCB	3692	3657	4474	3895	3124	4415	6074	4646	4787	5610	6335	8364
IndusInd	8400	8598	11200	13114	15006	17645	19037	22110	26710	34365	42361	54117
CITI	15242	17743	20465	21484	27912	37875	46125	51677	54452	56668	64697	66559
SCB	7243	18002	19949	22522	28460	34174	37003	41801	48192	58419	63964	62001
HSBC	12341	12801	16270	17013	24955	34825	42620	49970	55747	54106	61423	56866
Deutsche	2477	1945	2533	3558	4380	6978	13754	14147	14692	14646	16842	20794
DBS	133	124	375	611	1452	3836	5095	6022	6637	7368	12922	15487

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

Advances

												Rs in Cr
Banks	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	120806	137758	159733	202374	267458	342232	416768	542503	631914	756719	867578	1045617
PNB	34369	40228	47225	60413	74627	96596	119501	154702	186601	242106	293774	308725
BOB	33663	35348	35601	43400	59912	83621	106701	143251	175035	228676	287377	328186
BOI	38311	42633	45856	55529	65174	84936	113476	142909	168490	213096	248833	289368
Canara	33127	40472	48439	60421	79426	98506	107238	138219	169334	211268	232489	242177
ICICI	47034	53279	62095	91405	146163	195865	225616	218310	181205	216365	253727	290249
Axis	5352	7179	9363	15603	22314	36874	59661	81556	104340	142407	169759	196966
HDFC	6814	11755	17745	25566	35061	46945	63426	98883	125830	159982	195420	239721
DCB	2259	2488	2440	2156	1867	2659	4068	3274	3459	4281	5284	6586
IndusInd	5574	5348	7301	9000	9310	11084	12795	15770	20550	26165	35063	44321
CITI	11385	12629	15259	18111	24455	32861	38376	39919	36655	40597	47103	52035
SCB	9032	13043	16152	19970	24077	30103	33351	37489	41552	49200	55570	61954
HSBC	7836	8202	9628	12621	16812	23142	29944	27588	23474	27400	35512	35708
Deutsche	1888	1608	2098	2541	2582	4945	8960	8797	12922	14293	12548	22374
DBS	238	192	109	560	892	1230	2364	2722	4015	7524	12844	13858

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

Profit

													Rs in Cr
Banks	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	1604	2431	3104	3680	4304	4406	4541	6729	9121	9166	8264	11707	14105
PNB	463	562	842	1108	1410	1439	1540	2048	3090	3905	4433	4884	4748
BOB	274	545	772	967	676	826	1026	1435	2227	3058	4241	5007	4481
BOI	251	508	851	1008	340	701	1123	2009	3007	1741	2488	2677	2749
Canara	285	741	1018	1338	1109	1343	1420	1564	2072	3021	4025	3282	2872
ICICI	161	258	1206	1637	2005	2540	3110	4157	3758	4024	5151	6465	8325
Axis	86	134	192	278	334	485	659	1071	1815	2514	3388	4242	5179
HDFC	210	297	387	509	665	870	1141	1590	2244	2948	3926	5167	6726
DCB	30	34	34	17	-162	-85	7	38	-88	-78	21	55	102
IndusInd	40	50	90	262	210	36	68	75	148	350	577	802	1061
CITI	285	325	391	571	600	705	900	1804	2173	860	1424	1922	2718
SCB	185	410	854	596	601	904	1364	1706	1906	2127	2059	1735	2960
HSBC	200	166	150	393	356	514	845	1192	1291	809	1527	1987	1935
Deutsche	94	122	170	272	77	125	218	386	430	446	630	823	1033
DBS	7	10	6	-7	9	16	74	65	259	270	127	335	288

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

Interest Income

													RS IN CR
Banks		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	II	29810	31087	30460	32428	35795	39491	48950	63788	70993	81394	106521	119657
PNB	II	6648	7485	7780	8460	9584	11537	14265	19127	21422	26986	36461	41893
BOB	II	5956	6098	6147	6431	7100	9212	11813	15091	16698	21885	29673	35197
BOI	II	5594	5928	5796	6032	7029	9180	12355	16347	17877	21751	28480	31909
Canara	II	6371	6692	7063	7572	8711	11364	14200	17119	18751	22940	30850	34078
ICICI	II	2152	9368	9002	9410	13784	22994	30788	31092	25706	25974	33542	40076
Axis	II	1180	1465	1587	1924	2889	4560	7005	10835	11638	15154	21994	27183
HDFC	II	1703	2014	2549	3093	4475	6889	10115	16332	16172	19928	27874	35065
DCB	II	377	359	352	303	277	346	562	645	458	536	716	916
IndusInd	II	710	743	986	1134	1188	1500	1880	2309	2706	3589	5359	6983
CITI	II	1910	1979	2280	2203	3064	4383	5963	6840	6070	6269	7767	8916
SCB	II	1645	2287	2523	2493	3056	4042	4878	5649	5674	6352	7943	9083
HSBC	II	1499	1480	1558	1627	2202	3507	4979	6326	5165	5194	6262	7033
Deutsche	II	449	332	301	390	604	971	1445	1881	1578	1880	2398	2703
DBS	II	42	36	30	35	154	382	634	808	879	1065	1797	2559

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

Non –Interest Income

												RS IN CR
Banks	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	4174	5740	7612	7120	7389	5769	8694	12690	14968	15824	14351	16035
PNB	978	1250	1867	1676	1231	1042	1997	3064	3610	3612	4202	4216
BOB	993	1262	1719	1313	1192	1173	2051	2757	2806	2809	3422	3631
BOI	1103	1642	1792	1156	1185	1562	2116	3051	2616	2641	3321	3766
Canara	1429	1478	2016	1544	1378	1450	2212	2311	2857	2811	2927	3153
ICICI	575	3159	3065	3416	4983	5929	8810	7603	7477	6647	7502	8346
Axis	416	410	540	416	730	1010	1795	2896	3945	4632	5420	6551
HDFC	333	466	480	651	1123	1516	2283	3290	3983	4335	5783	6853
DCB	96	87	88	91	80	55	173	120	107	112	102	117
IndusInd	184	258	345	251	226	244	297	456	553	713	1011	1363
CITI	803	756	887	944	1043	1345	2446	3582	1591	1947	1393	1997
SCB	517	561	699	525	1057	1347	2322	3097	2837	2471	2988	2807
HSBC	478	482	561	661	928	1212	2116	2699	2135	1788	2200	1724
Deutsche	223	356	605	408	560	653	1017	1019	817	980	752	936
DBS	10	4	3	4	-9	84	-33	302	154	96	311	128

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

Total funds

												Rs in Cr
Banks	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	279883	305426	332049	386231	410687	475224	589130	795785	907129	1053500	1170652	1371921
PNB	64531	76476	89205	105885	126349	141807	171903	214134	268591	344487	416852	431180
BOB	62496	67066	73842	82973	98464	126058	155961	198032	254611	327746	408444	500462
BOI	62936	68124	76002	84782	99825	126502	157183	199194	252160	320906	350330	417206
Canara	65623	72188	87099	96910	116828	143955	156589	193948	243091	307697	342578	376139
ICICI	81303	82471	98848	133362	203604	281766	310079	285670	296279	335156	395664	437955
Axis	13532	17684	21481	33493	42794	63980	93250	127559	158469	215504	254175	296565
HDFC	19677	24660	32716	41144	58655	71113	105362	145496	180319	222980	270192	329253
DCB	3721	3956	4712	4054	3255	4569	6500	4991	5290	6470	7458	9889
IndusInd	9259	8834	13510	13724	15540	18237	20132	23966	31644	39890	51043	63576
CITI	18264	21131	23968	27287	36095	50551	57352	70243	66485	77465	93621	98415
SCB	16554	22835	26073	28834	36376	40525	43953	48423	56913	69262	76582	80143
HSBC	15999	15972	18809	20249	28070	39712	50865	58238	61667	59132	71900	74576
Deutsche	4469	4672	7233	8783	9373	13921	18635	17747	19656	19453	18112	28906
DBS	444	244	379	710	2078	4366	7307	8519	13728	18075	27745	32334

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

Total Income

												Rs in Cr
Banks	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	33984	36827	38072	39548	43184	45260	57644	76478	85961	97218	120872	135692
PNB	7626	8735	9647	10136	10815	12579	16262	22191	25032	30598	40663	46109
BOB	6949	7360	7866	7744	8292	10385	13864	17848	19504	24694	33095	38828
BOI	6697	7570	7866	7188	8214	10742	14471	19398	20493	24392	31801	35675
Canara	7800	8170	7866	9116	10089	12814	16412	19430	21608	25751	33777	37231
ICICI	2727	12527	7866	12826	18767	28923	39598	38695	33183	32621	41044	48421
Axis	1596	1875	7866	2340	3619	5570	8800	13731	15583	19786	27414	33734
HDFC	2036	2480	7866	3744	5598	8405	12398	19622	20155	24263	33657	41917
DCB	473	446	7866	394	357	401	735	765	565	648	818	1033
IndusInd	894	1001	7866	1385	1414	1744	2177	2765	3259	4302	6370	8346
CITI	2713	2735	7866	3147	4107	5728	8409	10422	7661	8216	9160	10913
SCB	2162	2848	7866	3018	4113	5389	7200	8746	8511	8823	10931	11890
HSBC	1977	1962	7866	2288	3130	4719	7095	9025	7300	6982	8462	8757
Deutsche	672	688	7866	798	1164	1624	2462	2900	2395	2860	3150	3639
DBS	52	40	7866	39	145	466	601	1110	1033	1161	2108	2687

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

Gross NPAs

											Rs in Cr
Banks	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	13506	12667	12455	10375	9998	12837	15588	19534	25326	39676	51189
PNB	4980	4670	3741	3138	3390	3319	2767	3214	4379	8719	13465
BOB	4167	3979	3321	2390	2092	1981	1842	2400	3152	4464	7982
BOI	3803	3734	3155	2479	2100	1930	2470	4882	4811	6470	9309
Canara	2474	3126	2370	1792	1493	1415	2167	2590	3089	4031	6260
ICICI	5027	3047	2770	2222	4126	7579	9649	9480	10034	9475	9607
Axis	228	274	311	374	418	494	897	1318	1599	1806	2393
HDFC	265	335	439	508	657	906	1988	1816	1694	1999	2334
DCB	259	211	310	314	146	63	305	319	263	241	215
IndusInd	266	259	320	268	342	392	255	255	265	347	457
CITI	247	392	369	391	530	791	1805	1275	838	846	1358
SCB	427	482	553	683	799	723	1057	1095	1147	3212	3880
HSBC	435	418	409	317	394	697	1540	1683	995	720	640
Deutsche	41	20	8	8	11	59	242	260	178	134	154
DBS	25	0	0	0	0	5	34	76	83	214	582

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

Net NPAs

												Rs in Cr
Banks	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	6810	6183	5441	5348	4906	5257	7424	9552	10870	12346	15818	21956
PNB	1810	1526	448	119	210	725	753	263	981	2038	4454	7236
BOB	1913	1700	1761	619	518	501	493	451	602	790	1543	4190
BOI	2304	2382	2061	1554	969	812	591	628	2207	1944	3842	6032
Canara	1288	1453	1378	1125	879	926	899	1507	1799	2347	3386	5278
ICICI	-	-	1422	1505	1052	1992	3490	4553	3841	2407	1860	2230
Axis	185	162	112	216	217	266	248	327	419	410	472	704
HDFC	34	42	27	60	155	202	298	627	392	296	352	469
DCB	-	-	-	143	83	43	26	127	107	41	30	49
IndusInd	367	227	212	244	194	273	291	179	101	72	94	136
CITI	45	147	214	181	233	336	471	1050	784	492	423	766
SCB	36	40	83	223	378	431	345	514	580	131	386	1009
HSBC	177	84	67	63	97	98	174	391	543	248	220	119
Deutsche	7	-	-	-	-	-	20	77	102	33	11	28
DBS	-	19	-	-	-	-	1	14	40	23	77	329

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

Net Worth

												Rs in Cr
Banks	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	15224	17203	20231	24072	27644	31299	49033	57947	65949	64986	83951	98883
PNB	3381	4033	5012	8161	9376	10435	12318	14653	17722	21508	27815	32676
BOB	3827	4387	5131	5628	7844	8650	11044	12879	15106	21043	27476	31969
BOI	2845	3541	4010	4465	4984	5895	10589	13494	14230	17290	20961	23918
Canara	3472	4149	5252	6109	7132	10354	10500	12207	14671	20039	22690	24877
ICICI	6599	7284	8360	12900	22556	24663	46820	49533	51618	55090	60405	66706
Axis	615	918	1138	2422	2886	3402	8771	10214	16044	18998	22808	33107
HDFC	1942	2252	2694	4520	5300	6433	11497	14651	21522	25379	29924	36214
DCB	324	246	311	200	164	336	640	598	601	621	861	1003
IndusInd	562	602	800	830	866	1057	1350	1664	2397	4050	4741	7630
CITI	1734	2127	2695	3310	4347	6603	9351	11518	13513	14960	15984	17379
SCB	1521	2800	2733	3234	4562	5801	8370	10276	11605	13062	14142	19153
HSBC	1231	2298	2453	3578	4166	6159	8459	11214	12135	13687	14953	15195
Deutsche	703	839	918	1232	1311	1940	4292	4760	4944	5574	6398	7813
DBS	77	84	210	556	573	1076	1141	1400	1670	1797	2641	2930

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013

Total Assets

												Rs in Cr
Banks	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SBI	348228	375876	407815	459882	494028	566565	721526	964432	1053413	1223736	1335519	1566261
PNB	72914	86221	102331	126241	145267	162422	199020	246918	296632	378325	458192	478877
BOB	70910	76417	85108	94664	113392	143146	179599	227406	278316	358397	447321	547135
BOI	69805	76626	84859	94978	112274	141636	178829	225501	274966	351172	384535	452602
Canara	72211	82054	99539	110305	132821	165961	180528	219645	264741	336078	374160	412342
ICICI	104109	106811	125228	167659	251388	344658	399795	379300	363399	406233	489068	536794
Axis	14374	19613	24150	37743	49731	73257	109577	147722	180647	242713	285627	340560
HDFC	23787	30424	42306	51429	73506	91235	133176	183270	222458	277352	337909	400331
DCB	4188	4411	5392	4659	3741	5262	7582	5943	6136	7372	8676	11278
IndusInd	10204	9901	15086	15622	17622	20927	23261	27614	35369	45635	57596	73306
CITI	21496	25239	29597	33806	45437	66358	83851	105263	95488	111586	128427	128381
SCB	18910	29312	34345	37286	45954	58853	73444	97492	88774	106683	121636	119758
HSBC	19139	20909	25356	27901	37473	54987	75920	94620	90433	91148	109224	106170
Deutsche	5490	5843	8596	10746	12050	17715	24713	24954	28330	28679	28625	40492
DBS	533	335	609	1409	3176	6071	9086	12564	18742	23746	36385	40708

Source: RBI- Statistical Tables Relating to Banks in India 2002-2013