Chapter VII
Main Findings and Suggestions

The main findings and suggestions have been summarized from an integrated and organized structured research investigation of public sector banks, conceptual framework of bank productivity and trend analysis of productivity of banks, impact of productivity on profitability of banks, assets management efficiency, carrying cost of liabilities and net profit margin. Along with this, an interactive opinions of bankers, policy makers, academicians, financial analysts and practicing accounting professionals, on various vex issues of productivity and profitability have been the sunrise guiding source in the research study.

Main Findings

Model of Public Sector Banking

In IPR 1948 our government announced the public sector as a leader of economic development and guardian of weaker sections of community. So, the public sector model of growth was introduced through economic planning for industrial and infrastructure development. We had private sector banks, before 1955. These private sector banks were only interested in maximizing profit and minimizing cost. So, these banks opened their branches in towns and cities. The banks provided bank funds and services to rich people, wholesalers, large industrialists and professionals. So
banking was for classes rather than for masses. The banks ignored their social responsibility. On the eve of second five year plan, our Government applied the public sector model of growth to industrial development and banks for promoting economic growth with social justice. As a result the first public sector bank viz. ‘State Bank of India’ came into existence in 1 July, 1955. In order to promote a public sector model of banking, the State Bank of India, Subsidiary Act in 1959 was passed by the government. As a consequence, the state associate banks became the subsidiaries of State Bank of India, Viz. State Bikaner, State Bank of Indore, State Bank of Jaipur, Bank of Mysore, Bank of Patiala, Bank of Travancore, and State Bank of Saurashtra. Thus, state Bank of India and its Associate Banks came into existence as public sector banks for promoting target growth with social justice.

The model of public sector banking was further expanded by nationalizing the leading fourteen commercial banks in 1969 for operating branches in unbanked and under banked rural areas, providing credit to the priority sectors, agriculture, small scale industries, urban and rural poor. Thus public sector banks as the leading financial intermediaries with mission of growth with social justice have provided big push for accelerating the development of our country.

In 1991 government has introduced economic reforms viz. Liberalisation, Privalisation and Globalization (LPG). Our government has removed all controls and abolished the license raj. The role of public sector has been curtailed and the priority role is
given to the private sector for development. Indian economy is linked to the global economy. The public sector model of growth has been dismantled and role of market has become the nucleus in development of economy. As a result, the foreign banks with modern technology, new products profiles, aggressing marketing mix and customer focus banking entered into financial market of India. This has increased the competition for business with public sector banks. State Bank of India and its Associate Banks in a given statutory, and regulatory framework have transformed themselves by adopting new products and service profiles, interwoven the banking operations with the fabrics of information technology, aggressive marketing mix, risk management, Assets Liabilities Management (ALM), customer care, and customer focus banking. Thus public sector banks have discarded their public sector work culture and adopted market focus business culture with social responsibilities.

**Concept of Bank Productivity**

The concept of productivity has been originated and applied in the manufacturing industries. The productivity means ratio of output to input i.e.
\[
\frac{O}{I} = P
\]

Where:

\( P \) = Productivity
\( O \) = Output
\( I \) = Input.

It measures the efficiency and effectiveness of input resources used in the production of output. So productivity is an index of output in relation to input. The productivity minimizes the cost per unit of output. Therefore, productivity is the nucleus of performance of every organization. As a result, productivity performance becomes a core strategic function of management.

The banks’ organizations are different as compared to manufacturing organizations. The banks are service organizations. The banks are collecting savings from surplus holders and lend that collected deposits to the different deficit units viz. borrowers. So, banks are the financial intermediaries. The banks pay interest to the depositors and charge interest for lending money to the borrowers. The difference between interest earn on lending and interest paid to the depositors is the profit of bank. Banks also provide services to their customers.

The banks are the commercial organizations and their aim is also to maximize the profit through minimizing the cost. For minimizing the cost, bank management has to focus on productivity performance. For conceptualizing the bank productivity and its
measurement, various research scholars, academicians, professional bankers, research and training institutions of banks, R B I, Study group, Banking commission appointed by R.B.I., Productivity Profitability and Efficiency Committee of R.B.I. and Government of Maharashtra have tried their best to conceptualise the productivity of banks. On the basis of survey of literature the conceptual framework of productivity of banks is evolved.

The volume of business of a bank is considered as an output. Accordingly, the volume of business per employee and volume of business per branch denote composite human resource productivity and composite branch productivity.

The partial human resources productivity of bank is calculated by deposit per employee, credit per employee and net profit per employee. Accordingly partial branch bank productivity is calculated by deposit per branch, credit per branch and net profit per branch. In other words, it represents the plant productivity of bank firm.

**Composite Productivity of Human Resources and Branch**

The composite productivity of human resources of banks have consistently recorded increase at micro and macro levels for the period under study. The composite productivity in terms of total volume of business per employee of all the banks taken together have increased from Rs. 156.93 lakh in 2000-2001 to Rs. 735.52 lakh in 2009-2010.
In the same way the composite productivity in terms total volume of business per branch at micro and macro levels have consistently increased for the period under study. The total volume of business per branch of all the banks taken together have recorded increase from Rs. 17968.00 lakh in 2000-2001 to Rs. 77946.58 lakh in 2009-2010.

Partial Productivity of Human Resources of Banks.

The partial productivity of banks is measured in terms of deposit per employee, credit per employee and net profit (N.P.) per employee of banks for the period under study.

(i) Deposit Per Employee of Banks.

The deposits per employee of banks at micro and macro levels have consistently increased for the period under study. The total deposits per employee of all the banks taken together have consistently recorded increase from Rs. 107.18 lakh in 2000-2001 to Rs. 414.49 lakh in 2009-2010.

(ii) Advances Per Employee of Banks.

The advances per employee of banks at micro and macro levels have increased for the time frame study. The total advances per employee of all the banks taken together have recorded increase from Rs. 51.65 lakh in 2000-2001 to Rs. 321.02 lakh in 2009-2010.
(iii) **Net Profit Per Employee of Banks**

The net profit (N.P.) per employee of banks have consistently increased at micro and macro levels during the period under study. The net profit per employee of all the banks taken together have increased from Rs. 0.55 lakh in 2000-2001 to Rs. 4.65 lakh in 2009-2010.

**Partial productivity of Branch of Bank firm.**

(i) **Deposits Per Branch**

Branch of bank is like a plant. Therefore, partial productivity of branch in terms of deposits per branch is calculated. The deposits per branch at micro and macro level have recorded consistent increase for the period under study. The deposits per branch of all the banks taken together have increased from Rs.1975.77 lakh in 2000-2001 to Rs. 6208.10 lakh in 2009-2010.

(ii) **Advances Per Branch**

The advances per branch of banks at micro and macro levels have consistently increased for the period under study. The advances per branch of all the banks taken together have recorded increase from Rs. 1193.57 lakh in 2000-2001 to Rs. 5039.16 lakh in 2009-2010.
(iii) **Net Profit Per Branch**

The net profit per branch of banks at micro and macro levels have consistently increased for the period under study. The net profit per branch of all the banks taken together have recorded increase from Rs. 107.98 lakh in 2000-2001 to Rs. 482.34 lakh in 2009-2010.

**Productivity and Profitability**

The increase in productivity of banks implies increase in the volume of business at lowest cost. The mission and strategy of bank management is focused on achieving higher volume of business with lowest possible cost to maximise profit in a competitive financial market with socio-economic commitment. Therefore productivity performance of bank business is a nucleus task of profit performance of bank management. So, productivity is a function of output cost and profit. The productivity determines output and cost but output and cost determine the profit. Therefore increase in productivity of banks increases output, reduces cost and increases profit.

The model of profit of bank is evolved. This model of profit of bank is based on Interest Income Surplus (I I S) and Non-Interest Expenses Burden (N I E B) of banks.
The profitability of banks is calculated by correlating the volume of business to profit and its components.

The profitability measured through the return on volume of business. The interest income spread ratio and non-interest expense burden ratio determine the profitability ratio of banks. The profitability of banks at micro and macro levels recorded consistent increase from 0.0048 in 2000-2001 to 0.0085 in 2003-2004, but it fluctuated during 2005-2006 to 2009-2010 and relatively declined to 0.0069 in 2009-2010.

The impact of increase in productivity on profitability of banks is analysed with the help of return on own funds (ROF). The trend behavior of profitability in terms of ROF has revealed that it has uniformly behaved at micro and macro levels. The ratio return on own funds of all the banks taken together have consistently increased from 0.1277 in 2000-2001 to 0.2024 in 2003-2004, then it fluctuated and recorded decline to 0.1484 in 2009-2010. So, it confirms the trend behavior of profitability of banks in terms of return on volume of business.

**Assets Management**

An impact of consistent increase in human resources productivity and branch productivity on profitability in terms of return on volume of business (ROVB) and return on own funds (ROWF) of banks have revealed a consistent increase during 2000-2001 to 2003-2004 but during 2005-2006 to 2009-2010, they remained fluctuating and recorded decline. The trend behaviour of profitability of banks is examined by analyzing the earnings of banks. The banks earn their incomes by marketing their assets. So, interest earning on assets determine the total incomes of banks. Therefore, assets allocation policy of bank management, and assets mix determine the earnings of banks. Thus there is a positive correlation between the degree of assets utilization and profitability of banks, subject to uniform expenditure control exercised by bank is determined by the degree of assets management efficiency (AME). The assets management efficiency of bank depend upon the constant evaluation and monitoring of assets mix which directly influence the
earnings of banks from aggregate assets. The correlation between gross earning and assets is quantified by using assets utilization analysis. The assets utilization analysis reveals the strong and weak variables of assets mix. Such an assets management exercise helps the bank management to improve its assets management efficiency. Therefore, an attempt is made to develop the Assets Management Efficiency Model.

In order to quantify the assets management efficiency, an assets utilization indicator (AUI) is developed. The assets utilization indicator expresses the ratio of gross income of bank to its total assets average out for the time frame study.

The assets utilization indicator is used for quantifying the assets management efficiency of banks. But bank management is interested in knowing strong and weak variables of assets mix. This will help the bank management to improve its assets management efficiency by increasing earning on assets by redesigning its assets mix. For this purpose the model is refined to identify the gross income from each major category of assets of bank. The model shows the earnings from each specific component of spectrum of assets.


The assets management efficiency of banks is further quantified with the help of return on assets of banks. The return on assets of banks at micro and macro levels behave consistently during
the period under study. The return on assets (ROA) of banks at macro level recorded increase from 0.66 per cent in 2000-2001 to 1.40 per cent in 2003-2004 and then declined to 0.85 per cent in 2009-2010. This trend behavior of ROA of banks is confirmed by the analysis of credit deposit ratio, spread, and non-performing assets. Therefore, the hypothesis is sustained.

The model of regression analysis needs to be statistically tested to validate the significance of the analysis. Hence we applied two different approaches to validate the model. First, we use the graphic representation and second, we conducted the’ Wald Test of Coefficients.’ The model fitness is given in the diagram, where we have plotted the actual data series of ROA and the ROA obtained from regression model. The actual data series is shown in the green curve and the obtained data series is given through the red curve. The residuals are the depicted in the blue curve. The residuals are the values which are not explained by model, also referred as white noise. It is evident from the diagrams of all the banks that the model which has been applied in this analysis and the real data series are very near to each other. This also justifies that the model is able to generate values that are near to the real data.

**Liability Management of Banks.**

The profitability of banks is determined by assets management efficiency as well as the liability management efficiency (LME). The assets management efficiency (AME) is measured through the
assets utilisation indicator (AUI) and return on assets (ROA) of banks. The liability management efficiency is equally significant in explaining the trend behavior of profitability of banks. The liability management deals with the size, composition and carrying cost of liabilities. The carrying cost of liabilities of banks is correlated to the size of liabilities. In order to measure the change in the size of liabilities of banks, we have developed an Equity Multiplier (EM). The Equity Multiplier of banks at micro and macro levels have behaved consistently.

In order to measure the change in the carrying cost of liabilities, we have developed the ‘Liability Cost Indicator’, (LIC). Liability Cost Indicator of banks, at micro and macro levels have behaved consistently. The ‘Liability Cost Indicator’ (LCI) of all the banks taken together have declined from 5.50 per cent in 2000-2001 to 4.62 per cent in 2003-2004, but recorded increase to 4.68 per cent in 2009-2010.

We have examined the impact of increase in ‘Liability Cost Indicator’ (LCI) on the profitability of banks. The Liability Cost Indicator of all the banks taken together recorded decrease from 5.50 per cent in 2000-2001 to 4.62 per cent in 2003-2004. As a consequence the profitability of banks at macro level recorded increase from 5.64 per cent in 2000-2001 to 10.82 per cent in 2003-2004. The ‘Liability Cost Indicator’ of banks increased from 4.62 per cent in 2003-2004 to 4.68 per cent in 2009-2010. As result correspondingly, the profitability of banks have decreased from 10.82 per cent in 2003-2004 to 10.68 per cent in 2009-2010.
The Liability Cost Indicator (LCI) determines the profitability of banks. An increase in Liability Cost Indicator implies an increase in carrying Cost of Liabilities of banks. But carrying cost of liabilities of banks is determined by the composition of liabilities of banks. The deposits constitute more than 80 per cent in total composition of liabilities of banks. Therefore, interest expenses on total deposit mix is a main causative factor responsible for carrying cost of liabilities of banks. So, we have examined the carrying cost of liabilities in terms of LCI, by correlating interest expenses to total deposits of banks for the period under study. The interest expenses as percentage to total deposits of all the banks taken together have recorded decline from 7.33 per cent in 2000-2001 to 5.86 per cent in 2003-2004 to 6.15 per cent in 2009-2010.

The behavior of interest expenses as percentage to total deposits is examined by expressing the current deposits as percentage to total deposits, saving deposits as percentage to total deposits and fixed deposits as percentage to total deposits.

The current deposits as percentage to total deposits of all the banks taken together have increased from 13.91 per cent in 2000-2001 to 15.73 per cent in 2005-2006 and recorded fall to 13.11 per cent in 2009-2010. The saving deposits as percentage to total deposits of banks at macro level recorded increase from 20.45 per cent in 2000-2001 to 27.66 per cent in 2005-2006 but it behaved inconsistently during 2006-2007 to 2009-2010. The fixed deposits as percentage to total deposits of banks at macro level recorded decline from 60.85 per cent in 2000-2001 to 57.66 per cent in 2005-
2006 and remained fluctuating during the period of 2006-2007 to 2009-2010. Thus change in the carrying cost of liabilities is determined by the change in the deposit mix of the banks for the period under study.

The Composite Model of Expenditure Control

The composite productivity of banks in terms of volume of business per employee and volume of business per branch have consistently increased for the period under study. Its impact on profitability of banks is quantified with the help of return on volume of business of banks (ROVB) and return on own funds (ROF). The trend behavior of profitability of banks have remained inconsistent for the period under study. The inconsistent trend behavior of profitability of banks is examined with help of Return on Assets (ROA) of banks. The carrying cost of liabilities of banks is analysed with the help of liability cost indicator (LCI) of banks. The analysis of return on assets (ROA) and carrying cost of liabilities of banks have confirmed the trend behavior of profitability of banks for the period under study.

The correlation between productivity and profitability is further examined with the help of net profit margin. The expenditure monitoring model is developed by applying the principles of marginal analysis to revenue and expenditure of banks. In this model, a distinction is drawn between net profit and net profit margin of banks. The net profit is calculated by total income minus
the total expenses of banks. The profit concept is used by financial analysts, before taxes and after taxes according to their purposes of analysis. While net profit margin concept is developed on the principles of marginal analysis. Therefore the net profit margin (NPM) measures the cost incurred by a bank per unit of its gross revenue. Accordingly, a high profit margin of a bank shows a low cost per unit of its revenue. While low profit margin reveals that bank has incurred more than proportionate expenditure in relation to its total revenue. Therefore a decline in the net profit margin of bank results a simultaneous decline in the profitability of bank.

The net profit margin model of banks is quantified for the period under study. The trend behavior of net profit margin of banks at micro and macro levels have remained consistent for the period under study. The net profit margin of banks at macro level have recorded increase from 5.64 per cent in 2000-2001 to 10.82 per cent in 2003-2004. But the net profit margin of all the banks taken have decreased from 11.80 per cent in 2005-2006 to 10.68 per cent in 2009-2010.

Net Profit and Net Profit Margin of Banks

The net profit (N.P.) of bank is derived after processing the financial data viz. incomes and expenditures recorded in the Profit and Loss Account and Balance Sheet of bank for a year. This net profit is considered as an index of financial performance of banks.
So, an attempts is made to compare the net profit performance with net profit margin performance of banks. The correlation between net profit (N.P.) and net profit margin of banks is tested with the help of following hypothesis.

“Other things being equal the net profit (N.P.) and net profit margin (N.P.M.) of banks are positively correlated.”

The net profit of banks at micro and macro levels have consistently increased for the period under study. The net profit of all the banks taken together have consistently increased from Rs. 2221.84 crores in 2000-2001 to Rs. 12432.62 crores in 2009-2010. While the net profit margin (N.P.M.) of banks at micro and macro levels behaved inconsistently for the period under study. The net profit margin of all the banks taken together have recorded increase from 5.64 per cent in 2000-2001 to 11.80 per cent in 2005-2006 but remained inconsistent since 2006-2007 and finally recorded decline to 10.68 per cent in 2009-2010. Therefore, the hypothesis is not sustained.

The total income and net profit of banks at micro and macro levels have consistently increased for the period under study. But the net profit margin (N.P.M.) of banks at micro and macro levels have not correspondingly and consistently increased for the period under study. In order to diagnose the inconsistent trend behaviours
of profit margin of banks, the following hypothesis is tested and sustained.

“Other things remaining the same trend behaviour of net profit margin (N.P.M.) of banks is determined by the simultaneous inverse trend behaviour of expenditure as percentage to total income. But the expenditure as percentage to total income is determined by interest expenses, establishment expenses, provisions and operating expenses as percentage to total expenses of banks.”

Causa Effect Relationship between H.R.P., NPM and Total Expenses as Percentage to Total Income of Banks.

The human resource productivity, net profit margin and total expenses as percentage to income of banks have behaved uniformly at micro and macro levels for the period under study. The human resource productivity of all the banks taken together have increased from Rs. 156.93 lakh in 2000-2001 to Rs. 227.77 lakh in 2003-2004. The net profit margin (NPM) of all the banks taken together have recorded increase from 5.64 per cent in 2000-2001 to 10.82 per cent in 2003-2004, on account of corresponding fall in their total expenses to total income from 94.35 per cent in 2000-2001 to 89.17 per cent in 2003-2004. The human resource productivity (HRP) of
all the banks taken together have consistently increased form Rs. 227.77 lakh in 2003-2004 to Rs.735.52 lakh in 2009-2010 but net profit margin (NPM) of banks correspondingly declined from 10.82 per cent in 2003-2004 to 10.68 per cent in 2009-2010 due to corresponding increase in their total expenses to total income from 89.17 per cent in 2003-2004 to 89.27 per cent in 2009-2010.

Causa Effect Relationship between B.P., N.P.M. and Total Expenses as Percentage to Total Income.

The relationship between B.P., N.P.M., and total expenses as percentage to total income of banks have maintained consistency in their causa effect relationship at micro and macro levels for the period under study. The branch productivity of all the banks taken together have consistently increased from Rs. 17968.00 lakh in 2000-2001 to Rs. 31861.83 lakh in 2003-2004 and the net profit margin of banks correspondingly increased from 5.64 per cent in 2000-2001 to 10.82 per cent in 2003-2004 due to simultaneous fall in their total expenses to total income from 94.35 per cent in 2000-2001 to 89.17 per cent in 2003-2004. The branch productivity of banks at macro level recorded increase from Rs. 31861.83 lakh in 2003-2004 to Rs. 77946.58 lakh in 2009-2010, but their N.P.M. declined form 10.82 per cent in 2003-2004 to 10.68 per cent in 2009-2010 on account of corresponding increase in their total expenses to total income from 89.17 per cent in 2003-2004 to 89.27 per cent in 2009-2010.
The behaviour of net profit margin of banks is mainly determined by the inverse behaviour of total expenses as percentage to total income for the period under study. The interest expenses, provisions and operating expenses are mainly responsible for changes in total expenses of banks.

Main Suggestions

Productivity:

In manufacturing firm, with the help of factors of production viz. input of production, the raw material is converted into finished products i.e. output. Therefore, the relationship between output to input is expressed as ratio of output to input known as productivity. The productivity is the benchmark concept of efficiency, because increase productivity means an optimum output in relation to input employed in production. So, productivity is an index of output-cost efficiency. As a result the productivity performance is mission of strategic production management in manufacturing sector. The productivity of each factor of production can be calculated for determining its efficiency in terms of output. As a consequence the productivity is conceptualised in manufacturing sector.

It is difficult to calculate productivity of banks. The banks are not manufacturing the products. The banks are providing services and funds to their customers. The banks are the financial intermediaries. The banks accept the scattered household saving, corporate savings and government savings. These collected public
deposits are used for lending to wholesale traders, retailers, industrialists, etc. The banks also provide various services to their users. The bank profit is mainly determined by the interest earned on lending and interest paid to the depositors. So, bank management has main objective of maximizing the profit. The cost of bank is comprising of interest cost, establishment cost and operating cost. The human resource is the only input on which the all types of banking operations depend. Therefore, the operational efficiency of bank is determined by the efficiency of human resources. Accordingly, the productivity of banks is conceptualised in two viz composite human resource productivity and partial human resource productivity. The composite human resource productivity is expressed as a ‘Ratio of Volume of business to number of employees’. The partial human resource productivity is expressed as ‘Ratio of total deposits to number of employees, total credit to number of employees and net profit to total employees.

The composite human resource productivity and partial human resource productivity of S.B.I. and its Associate Banks have consistently increased for the period under study. Our country is second fastest growing large economy after China. More than half the population does not have bank accounts. So, banks have growing business opportunities. But there is a cut throat competition among financial institutions for business. In this competitive behaviour, emerging digital technology, new products and service profiles, and the role behaviour, the efficiency in job performance will determine the future productivity performance of banks. In fact
the improvement in productivity performance of human resources will be determined the financial performance of banks. In order to increase the productivity performance of human resources, we offer the following suggestions.

(i) The bank management should prepare a long term human resource plan by keeping in view the perspective business development plan.

(ii) The human resource development plan need to be prepared according to the hierarchy and role demarcated. On the basis of job analysis the training needs are to be determined. The training programme is required to be framed according to the training needs. The training programme should train the hands, head and heart of employees i.e.

**Hands**: The training should train the hands to acquire the technical and operational expertise.

**Head**: It is a brain box of an employee. It is a command center of functional/operating parts of human body. The training should train the mental capabilities of understanding the job, policy, customer requirements, market trend, business, organization culture, expectations, complex interpersonal relationship, adaptabilities etc.

**Heart**: The training should train the heart of an employee for understanding other employees at work. He should
develop a positive attitude and approach to work, people and organization.

The training is required to be given to the employees after recruitment, before promotion and when a change in technology, work and role take place. The training input and methods will depend upon the type of personnel viz. executive personnel and operative personnel.

The training programme should be holistic in nature. Alongwith training of skills, knowledge and role behaviour of employees, it should incorporate the performance appraisal, career planning personnel inventory, and research in human resource development (HRD) in banks.

Ultimately training plays a key role in productivity performance of human resources in banks. The training to the employees will develop skill sets, role behaviour, organizational culture, attitudes, commitment, involvement, hard work, belongingness, leadership, work culture, and understanding. Thus trained employee becomes an appreciating human assets in the bank organization.

The need, role and significance of training to employees is further highlighted with growth potential in the sector with over 145 million households in the country remaining unbanked, 50 per cent of the population not having a bank account and only 17 per cent of the population having access to any kind of lending facilities. Our government has directed banks to provide appropriate banking facilities to all habitations that have population in excess of 2000.
The State-Level Banker Committees (SLBCs) formulated their road maps for financial inclusion and identified approximately 73000 habitations with population of more than 2000. In view of this business growth potential particularly focused in rural areas, the banks have to train their personnel for rural banking business. The banks should trained the personnel to understand the agriculturists, their output, agro business, and spread the banking habits among the rural people. The personnel should be trained for innovative rural lending and deposit mobilization. Thus the bank management should create a special trained task force for customer relationship, customer care and customer service for rural banking business.

The bank management should determine the index of productivity performance. The bank should link the payment of bonus to the index of productivity performance.

**Profitability of Banks**

The public sector banks are working within the constraints of policy, statutory, regulatory and social responsibilities. Their working is also subject to the exogenous factors in the environment. The banks should improve their spread by increasing the interest income. The banks can increase their interest income by way of increasing the volume of credit.

The profitability of banks depend upon the spread. So bank management should make efforts to increase the credit deposit ratio
(CDR). The increase in credit deposit ratio will increase the spread of the banks.

Simultaneously banks should control the burden. The banks can control their burden by controlling the non-interest expenses and by increasing the non-interest income. The banks can increase their non-interest income by innovating new services, modification in the existing service and diversifying the services. The banks can increase their service charges by improving quality, speed and customer care and relationship.

The banks can introduce the package of agency and fee based services for customers. Such multi agency and fee based charges can increase the non-interest incomes of banks. Alongwith this the banks should develop and introduce the non-interest expenditure control system. The NIECS of banks should monitor the non-expenditure by check list mechanism in the banks.

The banks are providing multiple services. The attempts should be made to find out the cost of each service. Accordingly, the service charges should generate revenue greater than the cost of service rendered to the customer.

Approximately 25 to 30 per cent funds of banks are invested in government securities. The bank management should charge the rate of interest on investment in government securities which can cover the cost of funds and yield the marginal return.

The banks have heavy burden of tax liabilities. The banks should focus on tax management to save their incomes.
The cash holdings in banks increasing the burden of interest cost and operating cost. The cash holding in bank is considered as inventory in bank. So, holding of cash in bank is amount to carrying cost of inventory.

Therefore, there is a scope to the banks to reduce the carrying cost of cash holding by applying the effective and suitable techniques and methods of inventory control to cash management in banks. The objective of cash monitoring system in banks should be minimum liquidity and maximum profitability.

In our country, we are having a decentralized structure of bank organization. A branch of a bank is a front line organization. So, a branch is a nucleus center of business. The profitability of a bank is determined by the profitability of its branch. S.B.I. and its Associate Banks are the largest group of public sector banks. So, they will have to carry a major responsibility of current policy and programme of financial inclusion in the country. As a result they will have to increase, the number of branches in rural and semi urban areas. Therefore, banks have to effectively prepare in advance, the long term business plan, management information system (MIS), required staff mix, cash monitoring system, and focus on cost of transactions in rural branches.

We have also analysed the profitability of banks in terms of return on own funds (ROF). The own funds of any organisation is the foundation and backbone of that organization. In non-bank public limited companies the capital structure comprises of equity capital and borrowed capital. The proportion of equity capital is
relatively very high. The capital collected through equity shares is
cost less and charge less. So, it provides a lot of leverage for
profitability of company. In case of every bank, the capital structure
is consist of equity capital, borrowed capital and public deposits.
The proportion of public deposits is relatively very high in case of
banks. These public deposits are high cost of funds with
commitment of banks to return on maturity and demand of the
depositors. In order to improve the profitability performance of
banks, it is suggested that the banks should increase their equity base
of their capital structure.

Assets Management

The profitability of banks is determined by earnings of
incomes. The banks have two sources of incomes viz. interest
earning on credit and income form services. So banks have interest
income and non-interest income. The interest income is a major
source of banks. The interest income of a bank is determined by
asset management efficiency. The assets management efficiency
(AME) of banks is determined by return on assets (ROA). The return
on assets depend upon the quality of assets viz performing assets
(PA) or non-performing assets (NPA). The non-performing assets
adversely affect the return on assets, profits through provisions and
operating cost of NPA accounts. Therefore bank management has to
minimize the non-performing assets to improve the assets
management efficiency.
The banks should ascertain the credit worthiness of the borrower, profitability, market and economic conditions, along with feasibility of loan proposal before approval to be given. The banks should prepare strict repayment monitoring schedule with timely follow up for recovery of loans.

The banks are facing the credit risk, liquidity risk and operational risk. The banks can minimize the credit risk by creating the risk monitoring management committee (MMC). The top management, the brain box of the bank will prepare the risk management policy. The risk management policy will lay down the risk tolerance limit (RTL) for risk operation management (ROM).

The operational heads of departments of bank will be the members of risk monitoring management committee (RMMC). The executive director will work as a co-ordinator of RMMC. The RMMC will be entrusted the task of strategic risk management of bank.

The risk monitoring management committee for strategic risk management needs data, information, technology and professionally trained personnel.

The modern management information system (MIS) with appropriate software is a strong functional arm of risk monitoring management committee. The data and information received as input for risk management are processed with speed and accuracy. The operational efficiency of MIS depends upon the trained and committed personnel. Theses professional personnel with skill, expertise knowledge and risk management culture are required
learning relearning and training to maintain their operational efficiency.

The risk monitoring management committee for an effective execution of risk management policy (RMP), should design the risk governance mechanism. The risk governance mechanism should prepare the inventory based on exogenous and endogenous risk variables. It should identify the profitability of risk accounts by developing the warning signal system. The risk governance mechanism should use the risk based audit and supervision by developing an integrated checklists of key risk indicators (KRIs). Alongwith this the risk governance and risk management strategy should practice the risk identification, risk elimination, risk reduction and risk transfer.

The liquidity risk can arise when demand for funds of borrowers and depositors outstrip the supply of funds of banks. Therefore banks have to forecast the demand for liquidity. The banks can use the linear programming technique for assets allocation of funds with different maturities. The funds manager also, takes decisions of investing the funds in short term and long term maturities for meeting the liquidity requirements. The deposit liabilities are the principal source for assets allocation. The maturity ladder of assets mix will show the turnover rate of liabilities. The higher turnover rate of liabilities will help to generate interest earning and also to cover the carrying cost of liabilities. Thus banks should focus on stored liquidity management for avoiding the liquidity risk.
Since 1991 the banks are now in the global financial market for business. As a result there is an increase in the volume of business, expansion in boundaries of business, new products and service profiles, vast customer mix and growing competition between banks for business. In order to deal with complex vast business with speed, quality and accuracy, the banking operations are interwoven with the fabrics of information technology. As a consequence the banks are confronting a new risk prone areas of operational risk. The operational risk relate information assets viz. computers, software, data, procedures, information and people. Therefore, operational risk as the risk of loss resulting from inadequate or failure of internal processes, people and system. There banks have to focus on information assets and recruit the people, with skill, knowledge, commitment and culture. These personnel need learning, relearning and training, to remain operationally capable and efficient in managing the operational risk.

**Liability management**

The profitability of a bank is determined by assets management efficiency (AME) and liability management efficiency (LME). The assets management efficiency of banks is measured with the help of return of assets (ROA). But profitability equally depends on the carrying cost of liabilities of banks. The carrying cost of liabilities of banks is quantified with the help of equity multiplier (EM) and liability cost indicator (LCI). The carrying cost
of liabilities of banks depend upon size and composition of liabilities. The change in the size of liabilities of banks is measured through the equity multiplier and carrying cost of liabilities is measured through liability cost indicator. The increase in liability cost indicator implies that carrying cost of liabilities of banks have increased. In the composition of liabilities, 80 per cent are deposits liabilities of banks. Therefore, interest expenses to total deposits of banks are calculated. In order to ascertain the critical key variable responsible for increase in carrying cost of liabilities of banks, the analysis of deposit liabilities is undertaken. The current deposits have been expressed as percentage to total deposits, saving deposits as percentage to total deposits and fixed deposits as percentage to total deposits.

The banks have to relatively increase the share of current and saving deposits. The banks should expand the coverage of current deposits by increasing the business men. At the same time banks have to increase the saving deposits by expanding the coverage of household depositors. The banks should conduct market research for developing new products profiles and design the new schemes to attract these depositors. An effective marketing mix strategy with special focus on market segment can increase the CASA deposits of banks.

The banks have sizeable deposits in the Reserve Bank of India (RBI) as a stored liquidity. For these deposits in the form of stored liquidity, in Reserve Bank of India, banks have to incur the interest burden and also to incur the operating cost. Therefore, it is
suggested to unlock the stored liquidity for returns and controlling the carrying cost of liabilities as well as operating cost. The banks are also suggested to control their carrying cost of liabilities by expanding their equity base. By expanding the equity base the banks will have huge funds without interest cost, for generating revenues.

**Assets Liability Management (ALM):**

The assets liability management (ALM) is a complex and critical task of banks. The task of assets liability management is entrusted to assets liability committee (ALCO). The assets liability committee will determine the return on assets (ROA) in relation to carrying cost of liabilities of banks. So assets liabilities committee manages the assets and liabilities of banks for maximizing the net interest margin (NIM). The ALCO in its task of ALM matches the assets and liabilities with different interest rate sensitivity in a given gap limit for managing the liquidity, interest rate margin, foreign exchange, and equity within risk tolerance limit (RTL) for earning risk adjusted return.

The ALM is exercised with the help of Gap Management Method (GMM). In gap management the rate sensitive assets (RSAs) and rate sensitive liabilities (RSLs) with different time buckets are focused for earning interest surplus i.e. spread. The gap management method quantities the interest surplus (Spread) on account of changes in the interest rates. The GMM reflects the changes in the balance sheet due to changes in the interest rate.
The gap management method (GMM) can quantify the interest sensitive gap (ISG) as follow.

\[
I_{sg} = RS_{As} - R_{SLs}
\]

\[
I_{sg} \text{ Ratio} = RSA / RSL
\]

\[
R_{1SR} \text{ of A/L} = 1
\]

\[
R_{1SR} \text{ of A/L} > 1
\]

\[
R_{1SR} \text{ of A/L} < 1
\]

Where:

ISG = Interest Sensitive gap

\[
R_1 = \text{Rate}
\]

\[
S = \text{Sensitivity}
\]

\[
A = \text{Assets}
\]

\[
L = \text{Liabilities}
\]

The surplus is the outcome when RSA is greater than RSL. For calculating the duration gap, the following equation is used for duration gap analysis.

\[
G = (DA \times A) - (DL \times L)
\]
Where:

\[ G = \text{Gap} \]
\[ D_A = \text{Duration of Assets} \]
\[ D_L = \text{Duration of Liabilities} \]

When banks have more variable assets as compared to fixed liabilities, and fall in the interest rates will negatively affect the interest spread. Alternatively, the banks have variable assets greater than fixed liabilities, and interest rates rise, the banks will have positive effect on their interest spread. When interest rate rise more assets will reprised as compared to fixed liabilities and vice versa.

When ratio of RSA to RSLs is less than one, the banks will have negative gap. If interest rates fall, the more liabilities as compared to assets of banks will be reprised at lower rate of interest. As a result the banks will gain. If interest rates rise, the more liabilities will be reprised at a higher rates. As a consequence the interest spread of banks will be adversely affected.

When RSAs are equal to RSLs or ratio of interest sensitive assets is equal to interest sensitive liabilities is equal to one. The interest earnings will remain the same, on account of equal volume of assets and liabilities will be reprised at the same rate.
Restructuring The Public Sector Banks:

The policy of development of banking system of our government is founded on need base approach of our economy. Since, economic reforms of 1991 and banking sector reforms of 1991, there are fundamental and structural changes in the Indian economy in particular and global economy in general. Now banks are in global competitive market environment. Therefore, productivity and profitability performance of banks are the sensitive core issues. S.B.I. and its Associate Banks have to compete with private sector banks as well as foreign banks for business. In view of this, their fragmented banking structure need to be restructured. All the fragmented ‘Associate Banks’ of SBI should be merged into one. There should be only one S.B.I. in the country. It will increase the competitive strength of organization and provide the advantages of economies of scale. It will eliminate the duplication of resources and ensure effective as well as an optimum allocation and utilisation of resources of bank.

A single S.B.I. as national bank of India has an immense growth potential because over 145 million households in the country remaining unbanked, 50 per cent of population not having a bank account and only 17 per cent of population having access to any find
of lending facility. Moreover, the governments renewed focus of making banking inclusion offer business opportunity to the banks.

In a market focus economy under the global demonstration effect, there are fast multi-dimensional changes in business, technology, lifestyle of life, products, services, incomes, customer awareness, choice, preferences etc. The existing fragmented structure need to be dismantled and a single S.B.I. as a national bank can emerged as an alternative suitable structure to cope up with changed scenario in the country.

**Composite Productivity and Profitability of Banks (A composite Model of NPM of Expenditure Control)**

The composite productivity and net profit of banks have consistently increased but their profitability have not consistently increased for the period under study. In order to diagnose the problem, we have developed the composite model of net profit margin (NPM). The net profit margin model is developed on the principle of marginal analysis. It shows the cost incurred for a unit of gross revenue. A high profit margin of a bank shows that bank has incurred less than proportionate expenditure in relation to its total revenue. The low profit margin reveals that bank has incurred more than proportionate expenditure in relation to its total revenue.

The net profit margin of banks have consistently increased during 2000-2001 to 2003-2004 on account of consistent fall in their
total expenses as percentage to total income. But the net profit margin of banks have remained fluctuating and declined during 2005-2006 to 2009-2010 due fluctuations and increase in their total expenses as percentage to total income. Therefore banks are required to reduce their total expenses.

The banks should reduce their interest expenses by way of increasing the current and saving deposits. The banks should simultaneously increase their interest incomes by way of increasing the volume of credit. The banks should achieve more than 70 per cent of credit deposit ratio. The banks should innovate new sources of lending through research. The market research should be effectively practiced for penetrating into new segment of assets marketing. The banks along with lending should minimize the non-performing assets, to reduce the burden of provisions.

The banks should use information technology to reduce the establishment expenses. The use of ATMs have substantially reduced the establishment expenses. The banks should increase the number of users of internet banking and mobile banking.

The banks should launch a drive of reducing operating expenses. The banks should make every endeavour of creating cost consciousness among their personnel.