CHAPTER 6
CONCLUSION AND RECOMMENDATIONS

The Indian banking industry has travelled a long way to become a highly proactive and dynamic entity. Now, the Indian banking industry is going through a period of intense change, where global trends are impacting the banking business by increasing competition. Liberalization has boosted customer expectations, increasing disintermediation, competitive pricing and possibilities of macro-volatility. This change has been largely brought about by the heavy input of liberalization and economic reforms. However, these reforms have provided the necessary platform for the Indian banks to operate on the basis of operational flexibility and functional autonomy, thereby enhancing growth, performance, efficiency, productivity and profitability. The increasing competition inspired the commercial banks to become cost effective and efficient in using the resources to perform well. A bank is considered to be cost effective, if it uses equal amount of input resources as others but also generates higher levels of output in terms of income or profit or if it spends less amount of input resources to generate same level of performance as others in banking industry. There is a need to be cost effective and competitive for survival in today's market scenario and in order to capture market share. That's why, operational efficiency of banks is critical as a basis for effective competition. In this context the main objective of the study is to analyze the operational efficiency of selected public sector banks in India. The present chapter summarizes the main findings of the study and puts forward suggestions on the basis of the findings of the study.

The broad objective of the study is to analyze the operational efficiency of selected public sector banks in India. In this context the detailed objectives of the study are as follows: (a) to review the theory and empirics on operational efficiency of banking system; (b) to compare the progress of public sector banks with regards to deposits, advances, investment, number of branches and employment generation; (c) to analyze the productivity of public sector banks on the basis of various productivity indicators; (d) to evaluate the profitability of public sector banks; (e) to explore the technical efficiency scores for the selected public sector banks operating in India; and (f) to suggest measures for improving profitability, productivity and efficiency of public sector banks.

On methodology plan, present study covers the period of 21 years; from the year 1990-1991 to 2011-2012. The sample for the study takes into account 69 percent of the total public sector banks in India. For this purpose, all the 26 public sector banks are ranked on the basis of Business per Employee, as on 31st March, 2011. The Study is primarily based on secondary data. A major part of the database has been drawn from the published secondary sources, primarily the reports of Indian Bankers Association (IBA) and the Reserve Bank of India (RBI). The data relating to financial performance of the selected public sector banks has been obtained from various sources like "Financial Analysis of Banks" brought by Indian Banker's Association, "Statistical Tables Relating to Banks in India". "Reserve Bank of India Monthly Bulletin", "Performance highlights of banks", "Trends and Progress of Banking in India" and other publications of Reserve Bank of India.

The Study attempts to accomplish its objectives by dividing the analysis of data into four parts. *First* part of the study which covers the determinants of efficiency of public sector banks have been analyzed in terms of deposit mobilization, credit deployment, investment, branch expansion and employment generation. *Second* part of analysis deals with productivity of banks on the basis of 12 indicators. These indicators have been divided into three categories. The first set of indicators measure output in terms of input of number of employees, that is employee productivity. The second set of indicators measure output in terms of input of number of branches, that is branch productivity. The last set of indicators depicts productivity on the basis of certain financial ratios, that is, financial productivity. *Third* part covers emerging trends in the profits of the banks have been studied while analyzing data of selected banks regarding spread ratio and burden ratio. *Fourth part* of analysis covers technical efficiency of the public sector banks by using CCR and BCC models. Tabular analysis has been supported with statistical techniques like percentages, growth rates etc.

6.1 Conclusion

In the light of objectives and methodology outlined above, following are the main conclusions of the study:

a) *Bank-wise analysis of growth & performance parameters* of public sector banks in India reveals that, in general, selected nationalized banks have shown higher growth with respect to deposit mobilization, credit deployment, investment, branch expansion and employment generation when compared with selected State Bank & its Associates. Regarding *deposit mobilization* and *investment* it is highest in 'Corporation Bank' followed by 'Oriental Bank of Commerce'. The top three leaders in *credit deployment* have been nationalized banks i.e., 'Corporation Bank' followed by 'Oriental Bank of Commerce' and 'Andhra Bank'. *Growth rate of branches* is highest in 'Oriental Bank of Commerce' followed by 'Corporation Bank' and 'Andhra Bank'. With regards to *employment generation,* the maximum employment generation has been found in 'Corporation Bank' and 'Oriental Bank of Commerce'.

b) *Bank-wise analysis of growth & performance parameters* also reveals that public sector banks like 'Corporation Bank' and 'Oriental Bank of Commerce' have occupied top positions, in order, to deposits, advances, investment, branches and employment generation. 'Andhra Bank' has occupied third highest position regarding credit deployment and number of branches whereas the 'State Bank of Hyderabad' has been placed at third highest position in regard to deposits, investment and employment generation**.**

c) *Bank group-wise growth profile analysis* of deposit mobilization, advances, investment and branch expansion is indicative of the fact that growth rates with regards to all these indicators are higher in case of nationalized banks group as compared to State bank group. Further, Branch Expansion has grown at a slower pace when compared to deposit mobilization, advances and investment both in nationalized and State banks group during the period of study. The overall growth rate of advances is higher than the growth rate of investment in both bank groups. The growth rate of employment generation is negative. In regard to employment generation the number of employees has declined from 1990-91 to 2011-12. State bank group has higher deceleration rate in comparison to nationalized bank group.

d) *Bank–wise employee productivity* shows that selected nationalized banks have shown higher employee productivity than State Bank of India and its Associates with regard to deposits per employee, advances per employee, business per employee and total expenditure per employee. The top three highest positions of banks have been found in selected nationalized banks among all these indicators. The growth rate of *deposits per employee* is highest in 'Vijaya Bank' followed by 'Syndicate Bank' and 'Andhra Bank'. The highest growth rate of *credit per* *employee* is found in 'Syndicate Bank' followed by 'Andhra Bank' and 'Corporation Bank'. *Business per employee* is the maximum in 'Vijaya Bank' followed by 'Syndicate Bank' and 'Andhra Bank'. The growth rate of *total expenditure per employee* is highest in 'Corporation Bank' followed by 'Andhra Bank' and 'Vijaya Bank'.

e) *Employee productivity* indicators like deposits per employee, advances per employee, business per employee, total expenditure per employee and establishment expenses per employee have improved both in nationalized banks group and State Banks Group during the period of study. All the employee productivity indicators have shown an increasing trend. Further, total expenditure per employee and establishment expenses per employee has grown at a slower pace in both bank's group while comparing with other employee productivity indicators, show that employee productivity has improved during the period of study. Growth rates with regards to all these employee productivity parameters are higher in case of nationalized banks group as compared to State bank group.

f) *Branch productivity analysis* reveals that in general selected nationalized banks have shown higher growth regarding credit per branch when compared with selected State Bank and its Associates. Regarding *deposits per branch* it is highest in 'Vijaya Bank' among selected nationalized banks and 'State Bank of Bikaner & Jaipur' followed by 'State Bank of Travancore' tops among selected State Bank & its Associates. Top three positions regarding *credit per branch* have been occupied by nationalized banks 'Corporation bank', 'Andhra Bank' and 'Vijaya Bank'. Growth rate of *business per branch* is the highest in 'Vijaya Bank' among selected nationalized banks and 'State Bank of Travancore' followed by 'State Bank of Mysore' tops among selected State Bank & its Associates. The growth rate of *total expenditure per branch* is highest in 'Vijaya Bank' among selected nationalized banks and 'State Bank of Mysore' followed by 'State Bank of Patiala' tops among selected State Bank & its Associates. Within selected nationalized banks the consistent leader of growth in branch productivity indicators has been 'Vijaya Bank'.

g) *Group–wise branch productivity analysis* reveals that in terms of deposits per branch, advances per branch, business per branch, total expenditure per branch and establishment expenses per branch have positive growth rate both in nationalized banks group and State Banks Group during the period of study.

It also reveals that, in general, nationalized banks group has shown higher growth rate regarding credit per branch, business per branch and total expenditure per branch when compared with State Banks Group. However, State Banks Group has shown a higher growth rate with regard to deposits per branch and establishment expenses per branch when compared with nationalized banks group.

h) *Bank-wise analysis of financial performance* reveals that among the selected nationalized banks 'Corporation Bank' followed by 'Syndicate Bank' and 'State Bank of Mysore' among selected State Banks & its Associates has shown higher financial productivity i.e. (lower portion of establishment expense as percentage to total expenses). Whereas 'Indian Bank' followed by 'Bank of Maharashtra' and 'Bank of Baroda' has shown higher share of establishment expense as percentage to total expenditure representing lower financial productivity. In regard to *Total Earning as Percentage to Total Credit* among the selected nationalized banks 'Corporation Bank' and 'Syndicate bank' among selected nationalized banks and 'State Bank of Bikaner & Jaipur' among selected State Bank & its Associates has been at the bottom in order to total earning as percentage to total credit. Whereas 'Indian Bank' followed by 'Bank of India' and 'Punjab and Sind Bank' has shown highest position which means that these banks in spite of other sources, earn maximum by credit deployment.

i) *Analysis of financial productivity indicators* like '*Establishment Expense as Percentage to Total Expenses*' and '*Total Earning as Percentage to Total Credit'* have decelerated both in nationalized banks group and State Banks Group during the period of study. State Bank Group has higher decelerated rate while comparing with nationalized banks group in respect to both financial productivity indicators.

j) *Rate of interest earned as percentage to total assets* has decelerated in public sector banks. With regard to *Interest earned as percentage to total assets*, the top position has been achieved by selected nationalized banks. It is highest in 'UCO Bank' followed by 'Punjab and Sind Bank' and 'Andhra Bank'. *Interest paid as percentage to total assets*, during the period of study have also decelerated. It is the highest in 'State Bank of Patiala' followed by 'State Bank of Hyderabad' among the selected State Bank Group; while 'Oriental Bank of Commerce' has the highest position among the selected nationalized banks. *Spread as percentage* *to total assets* is highest in 'Indian Bank' followed by 'UCO Bank' and 'Punjab and Sind Bank' which comes under the category of selected nationalized banks.

k) *Group-wise analysis of interest earned as percentage to total assets* as well as *interest paid as percentage to total assets* has decelerated both in nationalized bank group and State Banks Group during the period of study. Decelerated rate with regards to interest earned as percentage to total assets, a profitability indicator, are higher in case of nationalized banks group as compared to State Bank Groups. On the other hand the decelerated rate of *interest paid as percentage to total assets* is higher in SBI group. The overall rate of *spread as percentage to total assets* is negative; in State Banks Group, it means that interest earned by the banks is not sufficient to fulfill the requirement of interest paid during the period of study. Whereas, Nationalized Bank group have positive growth rate in regard with *spread as percentage to total assets*.

l) *Bank–wise analysis reveals that with regard to non-interest income as percentage to total assets*, 'Indian Bank' and 'Oriental Bank of Commerce' among the selected nationalized banks have achieved the top position whereas in State Banks Group 'State Bank of Patiala' has been at the top position. *Non-Interest expenses as percentage to total assets* during the period of study are highest in 'Indian Bank' followed by 'Bank of India' among the selected nationalized banks while 'State Bank of India' has highest position in the State Bank Group. *Burden as percentage to total assets*, in absolute terms, is the highest in 'Indian Bank' followed by 'UCO Bank' which comes under the category of selected nationalized banks.

m) *Group-wise analysis reveals that non-interest income as percentage to total assets* as well as *non-interest expenses as percentage to total assets* have decelerated both in nationalized banks group and State Banks Group during the period of study. Decelerated rates with regards to non-interest income as percentage to total assets as profitability indicators are higher in case of nationalized banks group as compared to State Bank Groups. On the other hand the decelerated rate of non-interest expenses as percentage to total assets is higher in State Bank Group.

n) *Analysis of technical efficiency under CRS assumption in 1991-92*, shows that among the selected nationalized banks 'Bank of India' and 'Indian Bank' whereas in Selected State Bank & its Associates 'State Bank of India' were found to be highly efficient. These three banks formulate the reference set for other inefficient banks. It has been found that 15 inefficient banks have been followed the reference set of 'State Bank of India' which appeared as a 'Global leader' of Indian public sector banking Industry in the year 1991-92.

o) *Under VRS assumption in the year 1991-92* among selected nationalized banks three banks namely, 'Bank of Baroda', 'Bank of India' and 'Indian Bank' attained the PTE score equal to 1 whereas under State Bank & its Associates 'State Bank of India' had PTE score equal to 1. These four banks lie on the efficient frontier and acquired the status of 'locally efficient' banks. Turning to the analysis of SE measures for public sector banks as a whole; only 'Bank of Baroda' is not operating at most productive scale size. Inefficiency in this bank is not caused by poor input utilization (i.e., managerial inefficiency) rather caused by the operations of the banks with inappropriate scale size.

p) *Analysis of efficiency for year 2001-02,* under CRS assumption bank- wise analysis reveals that 3 banks namely 'Corporation Bank', 'Bank of India' and 'State Bank of Mysore' were found to be technically efficient since they had OTE score of 1 have acquired the status of 'globally efficient' bank. The remaining 15 Public Sector banks having OTE score less than 1 which means that they are technically inefficient. On the whole, it has been observed that OTIE levels ranged from 1.2 percent to 33.5 percent among inefficient PSBs.

q) *Turing to the analysis of PTE and SE for the year 2001-02,* it has been observed that 7 banks namely 'Corporation Bank', 'Oriental Bank of Commerce', 'Bank of India', 'UCO Bank', 'State Bank of Bikaner & Jaipur', 'State Bank of Mysore' and 'State Bank of India' acquired the status of 'locally efficient' banks as they attained the PTE score equal to 1 and lie on the efficient frontier under VRS assumption. Scale Efficiency indicate that 40 percent Public sector banks are operating in the zone of DRS. On the whole, decreasing returns-to-scale is observed to be the predominant form of scale inefficiency in Indian public sector banking industry in the year 2001-02.

r) *Analysis of efficiency for year 2011-12, under CRS assumption* bank- wise analysis reveals that among 18 public sector banks 'IDBI Ltd**.**' and 'Corporation Bank' that comes under selected nationalized banks and 'State Bank of India' under Selected State Banks & its Associates was found to be technically efficient since they had OTE score of 1. These three banks namely 'IDBI Bank Ltd.', 'Corporation Bank' and 'State Bank of India' lie on efficient frontier under

CRS model and has acquired the status of 'globally efficient' banks. The remaining 15 public sector banks have OTE score less than 1 which means that they are technically inefficient. On the whole, we observed that OTIE levels ranged from 6 percent to 19 percent among inefficient PSBs.

s) *Under VRS assumption for the year 2011-12,* it has been observed that 'IDBI Bank Ltd', 'Corporation Bank', 'Bank of Baroda', 'Punjab & Sind Bank' and 'Vijaya Bank' in selected nationalized banks group while in Selected State Banks & its Associates 'State Bank of Mysore' and 'State Bank of India' have acquired the status of 'locally efficient' banks as they attained the PTE score equal to 1 and lie on the efficient frontier. On the basis of Scale Efficiency Scores 4 banks namely 'IDBI Bank Ltd', 'Corporation Bank', 'State Bank of Mysore' and 'State Bank of India' have became efficient under VRS assumption but have been found to be inefficient under CRS case, OTIE in these banks is not caused by managerial inefficiency rather caused by inappropriate scale size. On the whole, increasing return-to-scale is observed to be the predominant form of scale inefficiency in Indian public sector banking industry.

t) *The Mean technical efficiency analysis* of sample banking units under CRS assumption present that all public sector banks estimated mean technical efficiency were 79.1 per cent in 1991-92 and move up to 90.8 per cent in 2011-12. This suggests that an average PSB the magnitude of OTIE in Indian public sector banking industry was to the tune of 21 percent in 1991-92, 16 percent in 2001-02 and 9 percent in 2011-12.

u) *The mean pure technical efficiencies* of selected Public Sector Banks, by using DEA-VRS assumption were 79.1 per cent in 1991-92 that moves up to 96.3 per cent in 2011-12. The connotation of this finding is that the magnitude of PTIE in Indian public sector banking industry is to the tune of 21 percent in 1991-92, 13 percent in 2001-02 and 4 percent in 2011-12.

v) Turning to the *sources of overall technical inefficiency,* it has been notice that the observed technical efficiency and pure technical efficiency are increasing by the time. The results show that on an average, the main source of inefficiency was caused by inappropriate scale of operation. This implies that the banks are not working at their optimum level of operations. However, in most of the inefficient banks, overall technical inefficiency is mainly attributed to scale inefficiency rather than pure technical inefficiency.

To sum up the above discussion, it is evident that although different parameters of operational efficiency have shown varying results but one thing is crystal clear that all banking groups as well as individual banks are improving performance; and efficiency has a convergence tendency in the temporal dimension.

6.2 Recommendations

On the basis of above conclusions and the analysis done following are the recommendations to improve the system.

a) To be a successful banker, a bank must utilize depositor’s money as loan and advances. Loan and advances is the largest item of the bank in the asset size of balance sheet which is risky and more profitable too. Loan and advances of State bank group is lower than nationalized banks group. It has been given more priority on the private sector lending. Loan and advances to the government sector and other financial institutions is too low. Hence, State Banks Group and nationalized banks group are recommended to follow the liberal lending policy to increase their total loan and advances in order to earn more profit.

b) Banks deal in money which has to be properly invested to earn profits. This needs a well trained team work which is supported by regular supply of information with regard to market, economic policies and legal aspects etc. the investment committee of the bank should ensure good returns to the bank at desirable level of risk.

c) Diversification of investment is suggested to the selected banks as they have given priority to invest in government securities only. Both of the bank groups seem to be risk avoider as they have invested highest amount in risk free securities. Higher the risk higher will be the profit. Hence, State banks group and nationalized banks group are recommended to diversify their investment in bond, government non-financial institutions, other non-financial institutions etc.

d) Facing the throat cut competition from the foreign and new private sector banks (classified as modern banks), the Public Sector banks have adopted a various measures to improve the operational efficiency, meeting customer expectations and reduction in operating costs. This include switching over to fully automated system (Core banking solution based operations) precede with business process reengineering (BPR), offering VRS to its employees, training and refreshers to staff, lateral recruitment of specialists, introduction of electronic based multiple service delivery channels. Still the banks are required to undergo heavy restructuring exercise with the involvement of international consultancy agencies to adapt best international practices and remove hurdles in their operations.

e) The establishment expenditure, which constitutes the second item of the total expenditure of banks, needs to be monitored regularly after dividing it in controllable and non-controllable aspects. Though the staff salary structure of the banks is subject to bilateral agreements with the trade unions but the utilization of manpower resources to the optimum advantage is within the control of management. If staff assessment is carried out on the basis of activity analysis and productivity criteria, it could be possible to attain higher business volume with minimum staff and thus establishment cost can be substantially reduced and bank's profitability can be improved.

f) Employees are the most important resource for banks. They contribute in achieving higher profitability, business competitive advantage and goodwill of the banks. Management should treat them as business partners. The mindset of past is not going to work out in present scenario. They should be discussed, consulted, motivate and participate to accomplish tasks and meet performance standards.

g) Human resource development is a critical factor which can play major role in enhancing business per employee. Public Sector Banks are lagging behind in Human Resource Development practices; these banks should devise continuous and compulsory training and development program in their organizations to inculcate professional work culture and interpersonal skills. Efforts should also be made for making for making the staff technology savvy.

h) The bank should close down the unviable bank branches by selling out the existing business to some other bank which has been able to maintain a sustainable growth rate. Increase the business volume at branches by adopting aggressive marketing strategies and by redeployment of staff wherever necessary.

i) The measures to increase the level of spread and curtail the burden can go a long way in improving the profitability of commercial banks. Spread can be increased by (a) reducing the average cost of resources by consciously avoiding high cost inter-bank deposits and high cost mark barrowings; and (b) wherever such high cost resources are mobilized, they should be matched with suitable avenues of resource deployment after taking into account the inherent risks and returns. As far as the burden is concerned, it can be reduced by way of: (a) pricing all products/services non-fund based facilities on the basis of cost-benefit analysis and (b) introducing new technology for improving operational efficiency.

j) The future strategy of banks should be to earn more from 'other income' and reduce dependence on interest income. Banks should develop new area for augmenting other income such as custodial services, selling of insurance products and retaining of government securities.

k) Independent and continuous research activity is essential for improving performance of any business including banks. Every bank should have its own research wing which should regularly search for new products meeting customer expectations and should highlight the weaknesses in the various spheres of banking activity. This should further be supplemented by outside/independent research work conducted by individuals and institutions. Since this is useful to the bank and the industry as a whole, every bank should encourage such research work. Banks should try to implement the practicable valuable suggestions given by researchers.

l) The operational efficiency of the banks is to be ensured, maintained and improved through modern technology, systems and better staff management on an ongoing basis.

m) The Board of Directors of the low performing banks should be reconstituted with people having expertise, vision and mission.

n) New avenues of viable projects should be identified by the nationalized banks to invest effectively and profitably. The funds tapped through various sources, should be invested efficiently so that profitability and productivity can be improved.

o) Increasing return-to-scale is observed in the year 2011-12 to be the predominant form of scale inefficiency in Indian public sector banking industry. To improve the level of Scale inefficiency and correspondingly profitability consolidation in the banking industry has remained crucial to ensure technological progress, excess retention capacity and emerging opportunities. A merger of big bank with a small banks will helps the small banks in having better capital adequacy, better technology and better risk management practices. The big banks benefit in terms of wider market reach and lower spending on branch expansion, improved access to trained manpower & geographic diversification of risks.

To conclude, all banking groups as well as individual banks are improving performance; and efficiency has a convergence tendency in the temporal dimension. The study suggests that there is an ample scope for improvement in the performance of public sector banks by choosing a correct input-output mix and selecting appropriate scale and size.

Suggestions for Further Research

Finally the researcher feel the duty to suggest for the coming researches that measuring operational efficiency with assets quality to customers, profitability and productivity of various selected public sector banks can help in highlighting many new dimensions of improvement in this sector. Banking area offers a wide variety of search opportunities. Due to multiple changes taking place in the banking sector, these opportunities are likely to increase. Researcher feel comparison of productivity and profitability of public sector banks to private sector banks, impact of technological changes on profitability and productivity of banking sector in public sector banks and studies relating to customer satisfaction and employee satisfaction in the banking industry are the areas that are still open for research.