Summary, Conclusions & Recommendations

- Summary
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- Recommendations
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The present chapter summarizes the main findings of the study and puts forward suggestions on the basis of the findings of the study.

The Banking system must be on a sound footing not only to instill public confidence but also to make banks capable of discharging their social responsibility. A number of factors like the entry of the overseas financial intermediaries into domestic financial markets necessitated some kinds of charges. Banking Sector being the heart line of the financial market, their upgradation and financial strength is more vital for an efficient financial system. With these views, RBI and government had initiated the process of banks reforms by setting up Narasimham Committee-I in 1991 and thereafter Narasimhan Committee-II in 1998. Thus, the bank reforms heralded the beginning of implementing prudential norms consisting of capital adequacy ratio, asset classification, income recognition, and provisioning. Broadly, banking sector reforms have been concerned with improving
1. the policy framework,
2. the financial health, and
3. the institutional infrastructure.

In the Indian context, banking is really the mirror of economic growth of the country. Before liberalization, the Indian banking structure was largely controlled and parameters like branch size and location were given paramount importance. The Indian banking industry has come from a long way from being a sleepy business institution to a highly proactive and dynamic entity. Now, the Indian banking industry is going through a period of intense change, where global trends are affecting the banking business increasing competition, liberalization, rising customer expectations, shrinking spreads, increasing disintermediation, competitive prizing and possibilities macro-volatility. This transformation has been largely brought about by the large dose of liberalization and economic reforms.

**Liberalisation**

Liberalisation involves freeing prizes, trade and entry from state controls. In fact, the degree to which an economy is free can be defined by scope of state involvement, either directly by ownership or indirectly by regulation, in markets for products or services. Liberalisation does not raise real interests and results in an increased diversity of financial instruments. Unwary investors may be taken by the rather fanciful terms offered. In fact, as a result of liberalization, now there is a pressure on profits and profitability of public sector
banks. It can lead to speculation and create problems of systematic failures. In fact, liberalization and deregulation encompasses the following:

1. Interest rate and other price deregulation measures.
2. Removal of direct credit controls and mandatory investment regulations.
3. Measures design to promote entry of new competitors.
4. Supportive merger and ownership policy.
5. Prudential regulation and reliance on indirect tools for controls.
6. Transparency.

**Productivity**

Productivity is a vital indicator of economic performance. In simple words, it is output-input ratio. It is a relationship between given output and the means used to produce it. Banking is primarily a service industry. There are number of indicators to measure the productivity of banking sector. Measures of productivity at bank or industry level may differ from the indicators of productivity at branch level.

Productivity is affected by man power, mechanization, system and the procedures, costing of operations, customer services and various external aspects.

**Profitability**

Profitability is a rate expressing profit as a percentage of total asset or sales or any other variable to represent the relationship. In
fact, there may be various dimensions of profitability analysis. A large number of ratios can be used in order to measure the banks profitability as

1. Interest Income to Working Funds Ratio.
2. Interest Expended to Working Funds Ratio.
5. Non-Interest Expenditure to Working Funds Ratio.
7. Net Profit to Working Funds Ratio.
8. Interest Income to Total Income.
9. Interest Expended to Total Expenditure Ratio, and
10. Staff Expenditure to Total Expenditure Ratio.

Review of Literature

As Banking System plays a pivotal role in the economic development of a nation, it has caught the eyes of many researchers, administrators, departments, committees. Before examining the impact of liberalization on productivity and profitability of PSBs, the available literature on the subject has been reviewed. A number of studies have been conducted in India which examined the financial performance of the commercial banks. To mention, a few of these are: Divatia and Venkatachalam (1978), Kulkarni (1979), Sheshdari (1980), Varde and Singh (1981), Angadi (1983), Desai (1983), Subramaniam (1984), Devadas (1986), Vahisht (1987), Jagwant Singh (1990),

But there is no descriptive study showing the impact of liberalization on public sector banks in India.

_objectives of the study_

The main objectives of this study are as under:

1. To evaluate profitability and productivity of PSBs in the víz-à-víz post liberalization period.
2. To identify the various factors affecting he profitability and productivity of PSBs in the post-liberalization period,
3. To examine the contribution of various factors towards the profitability and productivity of PSBs in the víz-à-víz post-liberalization period.
4. To make suggestions for the improvement in the profitability and productivity of PSBs.
5. To create platform for future research in this area.

Hypotheses of the Study

Keeping in mind survey of literature and objectives of the study, the following hypotheses emerge:

1. The productivity and profitability of PSBs has suffered in the post-liberalization period.
2. There has been a change in the nature of the factors affecting the productivity and profitability of PSBs in the post-liberalization period.

3. Various new generation private and foreign banks have posed a great challenge to PSBs in the post-liberalization period by introducing various innovative schemes.

4. Various PSBs have started various innovative schemes, hitherto unknown even to the private sector banks.

**Research Methodology**

The study has been conducted on the basis of primary as well as secondary data. But the secondary data have formed the major source of study. The secondary data have been compiled from statistical tables relating to banks RBI bulletins, CMIE reports, Economic surveys of various years, PNB monthly review, SBI monthly review, Reports of currency and finance, Prajnan, Abhigyan, Agenda and proceedings of state level bankers committees, and other published resources.

Information from primary resources, whereever necessary, has been collected through proper interviews with the managers of various public sector banks. The collected data have been processed on computer. To reach certain relevant results, the data collected from all resources have been tabulated, analyzed and interpreted with the help of appropriate statistical techniques.

The performance of a bank can be measured by number of indicators. Profitability is the most important indicator because it
gives an insight into the broad indication of the capability of a bank to increase its earnings. For measuring the profits and profitability of commercial banks, the present study employs three methods *viz.* Trend Analysis Ratio Analysis and Concentration Indices.

**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 over 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

As the operations of the commercial banks normally grow from year to year and each year enables it have an enlarged base to
compound the growth rate, therefore exponential growth function shall be fitted to analyze the trends in selected parameters. The equation of the exponential curve** is of the form,

\[ Y = ab^x \]

Putting the equation in logarithmic form, we get

\[ \log Y = \log a + x \log b \]

To obtain the values of constants ‘a’ and ‘b’, the two ‘normal equations’ to be solved are:

\[
\begin{align*}
\sum \log Y &= N \log a + \log b \\
\sum (X, \log Y) &= \log a \sum X + \log b \sum X^2
\end{align*}
\]

where ‘a’ is the Y intercept and ‘b’ the slope of the curve.

Under the growth function, growth rate is actually equal to \( \log b \), which implies that there is growth over the period, provided \( \log b > 0 \). Antilog of \( \log b \) gives the value of ‘b’ and the growth rate in percentage form shall be equal to:

\[
\left[ \left( \text{Antilog of } \log b \right) \times 100 \right] - 100
\]

Apart from the exponential growth rate, percentage growth rate over the base year will be calculated to analyze the trends on year-to-year basis.

The percentage growth rate over the base year is given as:

\[
\begin{align*}
&\frac{V_c - V_b}{V_b} \\
&= \frac{V_c - V_b}{V_b} \times 100
\end{align*}
\]

where: \( V_c \) = Value of the given parameter in the current year.

\( V_b \) = Value of the given parameter in the base year.
Ratio Analysis:

To measure the profitability of banks, analysis of relevant ratios is commonly used. Ratio analysis is quite reliable and it provides various relationships amongst the various aspects in the context of banking business, which can be further used to draw results. The ratios also provide a convenient means of analysis and expression of the various operational aspects of banks.

Concentration Indices:

In order to judge the overall performance of all the PSBs, it becomes imperative to know the relative efficiency of each bank. For this purpose, Herfindhal’s index of concentration has been computed. Herfindhal’s index of concentration has been defined as below:

\[ H_i = \frac{\sum_{i=1}^{n} V_i^2}{\sum_{i=1}^{n} V_i} \]

Where \( H_i \) = Overall index.

\( V_i \) = ‘i’th unit’s share of variable

\( n \) = Number of units

In order to study the productivity aspect the following indicators have been used:

**Per Employee Indicators (Labour Productivity):**

1. Deposit per Employee
2. Advance per Employee
3. Business per Employee
Total Expenditure per Employee
Total Income per Employee
Spread per Employee
Net Profit per Employee
Burden per Employee

**Per Branch Indicators (Branch Productivity):**

Deposits per Branch
Advance per Branch
Business per Branch
Total Income per Branch
Total Expenditure per Branch
Burden per Branch
Net Profit per Branch
Spread per Branch.

For further results, T-Scores have been used. The combining of scores from separate tests has often posed a difficult problem in transforming raw scores into some form of standard scores. There are number of scales that can be used. One such scale i.e. T-Scale is based on T-Scores.

T-Scores are normalized standard scores converted into a distribution with a mean of 50 and σ of 10. In the scaling of individual items, the mean, as we know is at zero and σ is 1.00. The point of reference, therefore, is zero and unit of measurement is 1. If the point of reference is moved from the mean of normal curve to a
point 5 σ below the mean, this new reference point becomes zero in the scale and the mean is 5.

In the present study following formula for determining T-Scores has been used.

\[ T\text{-Score} = 50 + \frac{10}{\sigma} (X - \bar{X}) \]

where \( \sigma \) is the standard deviation of the raw scores, \( X \) is the specific score in question and \( \bar{X} \) is the mean of the group of scores.

**Chapter Plan**

The present study comprises of six chapters:

**Chapter 1 – Introduction:**

It provides an introduction of the study and reviews the available literature. It also defines the basic terms apart from giving the need, objectives, scope and research methodology.

**Chapter 2 – Liberalisation:**

It deals with the rationale behind liberalization. It also discusses various implications of liberalization.

**Chapter 3 - Productivity Analysis:**

In this chapter an analysis of the productivity of various PSBs has been made by using relevant ratios and statistical tools.

**Chapter 4 - Profitability Analysis:**

In this chapter detailed profitability analysis has been made by using ratio analysis, trend analysis and concentration indices.

**Chapter 5 - Changing Paradigm of Public Sector Banks:**
It deals with the prevailing environment in the banking sector and discusses the various implications of the changed banking environment.

Chapter 6 - Summary, Conclusions and Recommendations.

It summarizes the finding of the study and suggests various measures in order to improve the productivity and profitability of various PSBs.

Summary of Productivity Analysis

Employee Productivity

According to employee productivity in 1996, BOI was ranked 1st followed by IB, BOB and OBC. SBI was ranked 8th, SBBJ (25th) and SBM was at the bottom. SBI improved its ranking to 5th in 1997 and 1st in 1998. Thereafter, its position shuffled. On the other hand, BOB was able to maintain its position in almost each and every year. The table shows that there was some changes in the ranking of various banks at different stages of study. As far as ranking at the beginning and at the end of study period is concerned, the table shows that IB moved from 2nd to 24th, IOB from 7th to 13th. No major change was noticed in the case of SBBJ and SB.

Average T-Scores shows that at times, for certain banks different ranks were determined on the basis of fractional differences. However, OBC continuously improved its performance, average t-scores and emerged as clear leader by 2000 and remained on the top
up to 2007, the last year of the study. It is also clear that relatively SBH performed extremely well as compared to other subsidiaries of SBI. It is the leader of the group in employee productivity. Another bank which improved its rank considerably was SBT.

**Branch Productivity**

There were some changes in rank according to branch productivity at various stages of the study. SBI at all stages was on the first five positions according to branch productivity indicators. Only once in 2003 its rank slipped to 6th position, but it regained its position in 2006. The average t-scores indicate that other major players for the first five positions from 1996 to 2007 were CB, OBC, BOB, and BOI.

In 2006 and 2007, UntBI has made a remarkable improvement in its rank which is quite encouraging to note. The banks whose ranking was in the last were SBBJ, AIIB, CBI, DB and UCB. As far as ranking at the beginning and at the end of study period is concerned, the table shows that the position of BOI moved from 1st to 5th, UCB from 8th to 26th and COB from 14th to 1st. In the SBI group SBI was the leader followed by SBP in every year.

**Overall Productivity**

Average t-scores for determining overall productivity performance are based on the combined results of average score of employee productivity and average T-Scores of branch productivity. It shows that BOB, BOI, SBI, COB, OBC have top rankers whereas the ranking of SBBJ, SB, AIIB, SBM and UCB was far from satisfactory.
As far as ranking at the beginning and at the end of study period is concerned, the table shows that IB moved from 3rd to 23rd, UntBI from 16th to 7th, and VB from 23rd to 18th. As far as SBI group is concerned, SBI remained the leader followed by SBP in almost every year.

**Summary of Profitability Analysis**

- 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 has been resulting in narrowing spread. Not much inter bank differential were found in the trends of various selected parameters.

- The results of the concentration indices has shown that over the period under study *i.e.* from 1996 to 2007, in the CI of total income the share of SBI, PNB, OBC and UntBI in the total Concentration Index has gone up, whereas it has come down in the case of BOB, BOI, CBI and IB. The CI of Net Profits shows that the share of SBI, COB, BOI, DB and UntBI in the total Concentration Index has gone up, whereas it has come down in the case of BOB, CB and PNB. The CI of Deposits shows that the share of SBI, CB and UBI in the total Concentration Index has gone up, whereas it has come down in the case of BOB, CB and PNB. The CI of Total Advances shows that the share of SBI, BOB, BOI, CB, CBI, PSB and PNB in the total Concentration
Index has gone up, whereas it has came down in the case of IB and UCB. The CI of Total Burden shows that the share of BOB, CBI, IOB, PNB, SB and UntBI in the total Concentration Index has gone up, whereas it has come down in the case of BOI, IB, OBC, DB, CB and COB. The CI of Total Spread shows that the share of SBI, BOB, PNB, UntBI and BOI in the total Concentration Index has gone up, whereas it has come down in the case of CB, CBI, IB and SB. The CI of Total Expenditure shows that the share of SBI, CB, PNB and UntBI in the total Concentration Index has gone up, whereas it has come down in the case of BOB, BOI, IB and CBI. The CI of Spread per Employee shows that the share of SBI, BOB, BOI, OBC and UntBI in the total Concentration Index has gone up, whereas it has come down in the case of AB, CB, CBI, PSB and PNB. The CI of Net Profit per Employee shows that the share of SBI, COB, AB, BOI and PSB in the total Concentration Index has gone up, whereas it has come down in the case of AIIB, CB, OBC and PNB. The CI of Total Expenditure per Employee shows that the share of AB, COB, DB, OBC and UntBI in the total Concentration Index has gone up, whereas it has come down in the case of BOB, BOI, IB, CB, AIIB and SBI. The CI of Total Income per Employee shows that the share of SBH, AB, COB, DB, OBC and UntBI in the total Concentration Index has gone up, whereas it has come down in the case of BOB, BOI, IB, AIIB and SBI. The CI of Advances per Employee shows that the
share of SB, COB, OBC and UntBI in the total Concentration Index has gone up, whereas it has come down in the case of BOB, IB, IOB, AIIB and SBI. The CI of Deposit pr Employee shows that the share of SBI, COB, OBC, AB and SBM in the total Concentration Index has gone up, whereas it has come down in the case of SBBJ, BOI, BOB, SBP, AIIB and PNB. The CI of Burden per Branch shows that the share of SBI, CBI,AIIB, IOB, SB and UntBI in the total Concentration Index has gone up, whereas it has come down in the case of SBM, SBS, CB, COB and IB. The CI of Spread per Branch shows that the share of SBI, COB, SBP, BOI and UntBI in the total Concentration Index has gone up, whereas it has come down in the case of AB, CB, PSB, UCB and PNB. The CI of Net Profit per Branch shows that the share of SBI, COB, SBM, SBIn and BOI in the total Concentration Index has gone up, whereas it has come down in the case of SBP, AIIB, CB, OBC and PNB. The CI of Total Expenditure per Branch shows that the share of SBI, SBP, AB, OBC and PSB in the total Concentration Index has gone up, whereas it has come down in the case of BOB, BOI, IB, BOM and AIIB. The CI of Total Income per Branch shows that the share of SBI, COB, SBP, OBC and PNB in the total Concentration Index has gone up, whereas it has come down in the case of BOB, BOI, AIIB and CBI. The CI of Advances per Branch shows that the share of SBP, AB, CB, OBC and UntBI in
the total Concentration Index has gone up, whereas it has come down in the case of BOB, BOI, SBI, AIIB, PSB and PNB.

- From Ratio Analysis the same position has come into picture. The profitability of PSBs has declined over the period under study. The indices of selected profitability parameters over the period 1996-2007 and profitability performance levels of the PSBs has shown that six banks namely SBIn, SBM, SBS, SBT, DB and OBC achieved excellent performance with regard to index of interest earned to working funds ratio. A point worth mentioning here which emerged from the results is that SBI has not performed well in this regard, it held poor performance level. Another noteworthy point is that the majority of banks which had excellent or good performance level with respect to the index of spread to working funds obtained poor or fair performance levels in respect of the index of burden to working funds and vice versa. As far as, PNB and UBI are concerned, both of these banks obtained good performance level in respect of the index of spread to working funds as well as in regard to the index of burden to working funds. In this context, it must be noticed that DB and BOM achieved excellent performance level in respect of the index of burden to working funds and both of these banks achieved good performance level in respect of the index of spread to working funds. As far the index of interest paid to working funds is concerned SBM, SBT.AIIB, AB, BOB, DB, IB, IOB, OBC, UntBI and VB obtained the
excellent performance level whereas SBI, SBH, SBP and COB held the poor performance level. Here, it must be noticed that DB, OBC, SBM and SBT achieved excellent performance level in respect of the index of interest earned to working funds as well as in respect of the index of interest paid to working funds. As far as the index of non-interest expenditure to working funds is concerned SBBJ, SBIn, SBM, SBS, BOM, CBI, SB and VB achieved excellent performance level, AB, DB and UCB achieved good performance level, SBI, SBH, SBT, AIIB, CB, IB, IOB, PSB, PNB, UBI and UntBI got fair performance level, and SBP, BOB, BOI, COB and OBC held poor performance level. Banks can reduce their non-interest expenditure by adopting effective budgeting techniques and by implementing various cost reduction programmes. In respect of the index of non-interest income to working funds. SBI achieved the excellent performance level along with various other banks but BOM, CBI, OBC, PSB, SB, UntBI and UCB held poor performance level. Regarding the index of net profits to working funds SBH, SBP, COB and OBC achieved excellent performance level, SBI, SBBJ, SBIn, SBS, BOB, CB, PNB and UBI achieved good performance level, SBT, SBM, SB, AIIB, AB, BOI, BOM and DB got fair performance level, and CBI, IB, PSB, UntBI, UCB, VB and IOB held poor performance level.
Then a detailed analysis of the changing paradigm of Indian public sector banks has been made by keeping in mind the following issues:

- Structural and Organizational changes.
- Accounting and disclosure norms.
- Technological Issues.
- Human Resources Development Issues.
- Products and Operational Strategies
  Management of business aspects.
- Corporate Governance.
- Knowledge Management Issues.

Conclusions

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. So PSBs will have to introduce new financial instruments and innovations in order to remain in business. Now banks cannot function with the objective of meeting specific competition form a competitor in a market for a product. It will have to be successful in a market driven, extremely competitive, deregulated environment on a sustainable basis, so as to attract new shareholders, build loyal customer basis, attract and retain high quality staff.
The ability of banks to face competition will depend on their determined efforts at technological upgradation and improvement in operational and managerial efficiency, improvement in customer service, internal control, housekeeping and augmenting productivity and profitability. Extensive liberalization, determined stabilization and growth are vital for improving the financial sector. There is a close link between liberalization and growth. Across the world, the countries that liberalize rapidly and extensively turn around more quickly. However, this would result from committed policy measures, long-term planning, integrated approach and lack of political interference.

There is a virtual revolution in the market for financial services today with the banking sector being supplemented by the financial services industry. This has been brought about on the demand side by the need for liquid, readily transferable asset to affect transactions and on the supply side the technological changes world-wide including electronic banking and electronic funds transfer. In today’s competitive era, banks need to have a strategy backed by management and organization and supported by skilled committed personnel. Under the competitive environment, the focus is on profitability and trim balance sheets. Hence, banks will need to increase fee business, concentrating on areas like guarantees, safe deposit lockers, investment advisory services, drafts and remittances.

The forces of deregulation, technology and growing customer sophistication are broadly likely to have an impact in India. But
Indian bankers can eventually expect to face an environment marked by growing competition, pressure on margins and increased risks. Indian banks do not show the characteristics of efficient competitors in the banking markets, the better managed institutions will soon be making significantly progress in this sector. In the wake of liberalization banks will also have to pay great attention to strategic management, strategic planning and to greater specialization in the technical aspects of lending and credit evaluation. In order to identify appropriate competitive strategies, PSBs will have to make a careful study of the market and segment customers into various categories based on their expectations, the extent of competition, customer profitability etc.

Recommendations

On the basis of the study the following recommendations are given to the PSBs to improve their profitability and raise their productivity:

1. PSBs should strengthen their project appraisal capabilities by creating special cells, which should be manned by officers of experience, qualifications and aptitude.

2. PSBs should try to establish strategic alliances with suitable overseas banking institutions.

3. Commercial banks should be allowed to compete with financial institutions in extending term credit in clear manner.
4. PSBs should exercise some control over the volume and mix of credit portfolio within the limits of acquisition and deployment of funds.

5. PSBs should gear up their appraisal systems, monitoring mechanism and follow up reports, thereby ensuring better response from the defaulters.

6. PSBs should concentrate on intensive mobilization of deposits, it can be done only through improved customer services and by implementing a various attractive deposit mobilization schemes.

7. PSBs should bring operational efficiency and should diversify their activities into non-traditional banking activities. They should concentrate on non-interest income avenues. Diversification based on niches and core competences are more likely to be successful. The strategy of offering the right kinds of product in the right market for products rather than providing everything everywhere is important to achieve a competitive advantage.

8. PSBs should find the Break Even Point of rural branches and should try to achieve the same.

9. Financial analysis, study of break even volumes of business and profitability analysis of the bank as a whole, regionwise and productwise should be made thoroughly.
10. PSBs should try to restructure their organizational functioning.
11. PSBs should move from deposit orientation to profit orientation.
12. In order to attract more and more customers, PSBs should become market savvy, but the cost of deposits and deployment plans should be kept in mind.
13. In order to raise productivity and profitability PSBs should spell turnover strategies, income- oriented and cost-oriented strategies from time to time.
14. PSBs should try to broad base the treasury functions to more centres in view of the growth of the financial sector.
15. Now PSBs have started raising money from the capital market, so they should develop and integrate a formal shareholder value analysis in their planning process.
16. Staffing and working patterns have to be reexamined from cost control point of view.
17. Banks should develop the spirit of cost consciousness among its employees. It will also help in increasing the earnings.
18. Better management information system, credit monitoring and cash management can result increase in productivity.
19. In PSBs, low compensation is the biggest demotivator for the efficient employees. So it is suggested that the pay should be linked to individual performance, group performance and overall business result of the bank. Such a pay structure will motivate the employees.

20. Committed staff especially in skill-oriented areas should be employed even by paying more, it will lead to higher productivity.

21. Better coordination with the unions may give productivity, if the unions take a positive in matters relating to transfer, placement and technology upgradation.

22. In Indian PSBs there is no clear cut placement and succession planning so in order to raise the productivity a well-defined succession plan will lead to smooth take over of important positions and it will result in a higher productivity.

23. Banks should evolve strategies for handling the recovery of NPAs and they should also improve their asset quality. It is suggested that some major legal enactments should also be made in this regard.

24. Banks should adopt scientific product pricing methods, effective asset liability management and risk management methods in order to raise their efficiency.
25. PSBs should be given autonomy to manage their affairs. They should be free to recruit and promote staff and decide the type of personnel to choose for their needs even by paying more pay packages.

26. PSBs should give comprehensive interpretation to innovative banking.

27. PSBs should evolve effective cost standards. It will help them to reduce cost and, thus, raise earning.

28. Timely SWOT analysis should be made. It will help the PSBs in improving their efficiency.

29. In the PSBs decentralization of financial authority is needed. A change in the attitude of the bank babus should be affected to raise the productivity and profitability.

**Recommendations regarding Future Research**

Main recommendations regarding future research in the area are as under:

1. The present study examines the impact of liberalization of the productivity and profitability of public sector banks only. In future, researchers may study the impact of liberalization on the productivity and profitability of private sector banks and foreign banks already operating in India.

2. In future, researchers may have a better idea of productivity by taking into account various qualitative measures such as
motivation of employees, customer satisfaction and image of the bank etc.

3. In future, researchers may study the impact of recent developments (like enactment of the Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act, creation of Credit Information Bureau of India Ltd. etc.) on the performance of banking sector.

4. Researchers may find out the major determinants, of bank productivity and profitability, in the context of changed business environment.