CHAPTER 3

RESEARCH METHODOLOGY
CHAPTER-3

RESEARCH METHODOLOGY

This chapter discusses the research methodology used for the present study. It explains need of the study, objectives of the study, scope of the study, sample and sample designing, data collection, data analysis and limitations of the study.

3.1 Need of the Study

Since Government has accepted the planned development of the economy and banks play the pivotal role with this regard. They are the primary credit providers and the vehicles of promoting economic development in the country. It has been for the last few decades that priority sector lending was started by the banks in India, but it is essential to examine the extent of achievement of banks with regard to priority sector lending. Though few studies on Priority Sector Lending have been carried out in other states but no full fledged study has been undertaken to review the role of banks in Punjab after banking sector reforms. Further, to examine various performance aspects of banks with this regard in the wake of changes that have been taken place over the period, become all the important. Therefore, a study covering the aspect of priority sector lending bank group-wise, sector-wise, detailed bank-wise and district-wise opinion of beneficiaries and managers in the state of Punjab has been undertaken. So, it is with this background in mind that the present study titled “Priority Sector Lending – A study of Commercial Banks in Punjab since 1991” has been undertaken.

3.2 Objectives of the Study

The specific objectives of the study are:

(i) To study the growth of commercial banks in the state of Punjab.
(ii) To examine the RBI’s policy on lending to Priority Sector.
(iii) To examine the component-wise lending and to evaluate the performance of commercial banks with regard to Priority Sector Lending in the state of Punjab.
(iv) To analyze the opinion of beneficiaries' and bank managers' regarding Priority Sector Lending.

(v) To give suggestions for improvement in the performance of commercial banks regarding Priority Sector Lending.

3.3 Scope of the Study

The present study examines the growth and performance of commercial banks with regard to priority sector lending in the state of Punjab. The scope of the study consists of priority sector lending by all the commercial banks present in the state of Punjab. The study covers the time period 1990-91 to 2007-08. The base year of 1991 has been selected to evaluate the performance of banks after banking sector reforms. For the purpose of study 300 beneficiaries representing different sectors of priority sector and various commercial banks have been chosen. To study the opinion of the bank managers, 48 managers of selected banks have been selected.

3.4 Sample and Sample Designing

The opinion of the beneficiaries regarding priority sector lending in the state of Punjab was assessed taking a sample of 300 beneficiaries from both the public and private sector banks. The sample was selected by using multi-stage sampling technique. At the first stage, four districts were selected, namely, Amritsar from Majha region (land between Ravi and Beas), Jalandhar from Doaba region (land between Sutlej and Beas) and Ludhiana and Patiala from Malwa region (land in east of river Sutlej, largest region of the state). Thus, all the three belts of Punjab were given due representation in the sample. The selection of banks was made in a descending order in terms of their disbursement of priority sector loans as on 31st March 2007 in the state of Punjab. Thus, at the second stage of sampling, top 7 public sector banks and 5 private sector banks (representing 1/3rd of the public and private sector banks present in the state) were selected. The public sector banks included Punjab National Bank, State Bank of Patiala, State Bank of India, Oriental Bank of Commerce, Punjab & Sind Bank, Bank of India and Canara Bank. Similarly, the private sector banks included ICICI Bank Ltd., Centurian Bank of Punjab Ltd., HDFC Bank Ltd., Axis Bank Ltd. and Bank of Rajasthan Ltd.
The survey was conducted taking one branch each of the selected banks randomly from each selected district. Thus, primary data was collected from 300 beneficiaries of the selected 48 branches of the selected banks. At the next stage, 6-7 respondents were selected from each selected branch by way of judgement sampling. The selection of beneficiaries was made from all the three priority sectors, viz. agriculture, small scale industries and other priority sector. Further, the opinion of bank managers was assessed taking a sample of 48 branch managers from all the branches covered under the primary survey.

3.5 Data Collection

For the purpose of study, two sets of data have been collected. One set of data pertaining to period 1990-91 to 2007-08 has been collected from secondary sources which include various RBI Bulletins, Report on Trend and Progress of Banking in India, Basic Statistical Returns, Statistical Tables Relating to Banks in India, Statistical Abstract of Punjab, Reports of State Level Bankers’ Committee Punjab, IBA Bulletins, Economic and Political Weekly, District Credit Plans of various districts of Punjab etc. Website of RBI, Government of Punjab and various other websites, etc. have also been used for collection of data.

The second set of data is primary data, which has been collected from the beneficiaries and bank managers with the help of questionnaire as attached in Appendix I. For the development of the questionnaire existing literature was studied and many experts in the field of banking were contacted. Before finalizing the questionnaire, a pilot study was conducted on 20 beneficiaries and 5 bank managers which helped in improving the quality of the questionnaire. In addition to this, data has been collected by interviewing those beneficiaries who visited branch offices of selected banks. The discussions with the bank managers and other staff members also helped in collecting important information relevant for the present study. The primary information was also collected from the branch managers by interviewing them regarding the procedure followed and problems faced by them in disbursing priority sector advances through questionnaire as attached in Appendix II. The survey was conducted during November, 2007 to January, 2008.
3.6 Data Analysis

The data collected from primary source has been tabulated and analysed. For the purpose of analysis, the collected primary data for beneficiaries has been classified bank group-wise, sector-wise, and district-wise. Primary data for managers has been analysed bank group-wise only. Bank group-wise data has been categorised in two parts, viz. public sector banks and private sector banks. Bank group-wise distribution of respondent beneficiaries and bank managers has been shown in Tables 3.1 and 3.2 respectively.

Table 3.1
Bank Group-wise Distribution of Sample Beneficiaries

<table>
<thead>
<tr>
<th>Type of Bank</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Sector Banks</td>
<td>175 (58.33%)</td>
</tr>
<tr>
<td>Private Sector Banks</td>
<td>125 (41.67%)</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
</tr>
</tbody>
</table>

Table 3.2
Bank Group-wise Distribution of Sample Bank Managers

<table>
<thead>
<tr>
<th>Type of Bank</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Sector Banks</td>
<td>28 (58.33%)</td>
</tr>
<tr>
<td>Private Sector Banks</td>
<td>20 (41.67%)</td>
</tr>
<tr>
<td>Total</td>
<td>48</td>
</tr>
</tbody>
</table>

Sector-wise data has been categorised into three parts, viz. agriculture, small scale industries and other priority sectors. Sector-wise distribution of sample beneficiaries has been shown in Table 3.3.
Table 3.3

Sector-wise Distribution of Sample Beneficiaries

<table>
<thead>
<tr>
<th>Sector</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture Sector</td>
<td>102 (34.00%)</td>
</tr>
<tr>
<td>Small Scale Industries Sector</td>
<td>77 (25.67%)</td>
</tr>
<tr>
<td>Other Priority Sector</td>
<td>121 (40.33%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>300</td>
</tr>
</tbody>
</table>

District-wise data has been classified into four categories, viz. Amritsar, Jalandhar, Ludhiana and Patiala districts. District-wise distribution of sample beneficiaries is presented in Table 3.4.

Table 3.4

District-wise Distribution of Sample Beneficiaries

<table>
<thead>
<tr>
<th>District</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amritsar</td>
<td>75 (25.00%)</td>
</tr>
<tr>
<td>Jalandhar</td>
<td>75 (25.00%)</td>
</tr>
<tr>
<td>Ludhiana</td>
<td>75 (25.00%)</td>
</tr>
<tr>
<td>Patiala</td>
<td>75 (25.00%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>300</td>
</tr>
</tbody>
</table>

After coding and tabulation, various statistical tools have been used to reach at meaningful conclusions. Chi-square test has been used to study inter-bank, inter-sectoral and inter-district, differences with regard to the various qualitative aspects highlighted by respondents (beneficiaries and managers). It helps to find out whether such differences are significant or insignificant and could have arisen due to fluctuation of sampling. It has been calculated as follows:

\[
\text{Chi-square} (\chi^2) = \sum \frac{(O - E)^2}{E}
\]

where, \(O\) represents observed frequency and \(E\) represents expected frequency.
\( \chi^2 \) value is compared with table value for the given degree of freedom at 1 per cent or 5 per cent level of significance. If the calculated value of \( \chi^2 \) is more than table value, then difference between variables is considered to be significant, otherwise insignificant.

Weighted average score has been used to study the beneficiaries’ and managers’ preferences and views expressed in terms of ranks of preference for different attributes related to their degree of importance. Five-point scale has been selected to measure the extent of importance or degree of satisfaction. The scale of range is \(-2 \) to \(+2\). Positive scores indicate importance or satisfaction and negative scores indicate unimportant or dissatisfaction. The weighted average score has been calculated by assigning weights like \(-2\) for most unimportant, \(-1\) for unimportant, \(0\) for neither important nor unimportant, \(+1\) for important and \(+2\) for most important.

\[
\text{Weighted Average Score}(XW) = \frac{\sum WX}{\sum W}
\]

where, \(W\) represents weights and \(X\) represents variable

Further, Kendall’s Co-efficient of Concordance test has been used to study the level of concordance among the responses of beneficiaries and managers of different banks about the references given by them to various particulars of banks. The formula is:

\[
W = \frac{12\sum R_i^2 - 3K^2N(N+1)^2}{K^2N(N^2-1)}
\]

where, \(K\) represents number of sets of ranking, \(N\) represents number of objects being ranked and \(\sum R_i^2\) represents sum of squared sums of ranks for each of the \(N\) objects.

When the ranks are repeated formula is:

\[
W = \frac{12\sum R_i^2 - 3K^2N(N+1)^2}{K^2N(N^2-1) - K\sum T_i}
\]
where, $T_i$ represents correction terms.

Average scores have been used to study the managers’ preferences and views expressed in terms of ranks of preference for different attributes related to their degree of importance. Average score has been calculated on the basis of average ranks. The following formula has been used to convert average rank into average score:

$$\text{Average Score} = \frac{100(R - 0.5)}{N}$$

where, $R$ represents ranks and $N$ represents total number of respondents.

Analysis of secondary data has been done bank group-wise, sector-wise, detailed bank-wise and district-wise. The growth of commercial banks and their lending to priority sector in Punjab has been examined in terms of the following parameters:

(i) **Branch Expansion**

- Population-wise and Bank group-wise Branches
- Detailed Bank-wise Branches

(ii) **Deposit Mobilisation**

- Population-wise and Bank group-wise Deposits
- Detailed Bank-wise Deposits
- District-wise Deposits

(iii) **Credit Deployment**

- Population-wise and Bank group-wise Advances
- Detailed Bank-wise Advances
- District-wise Advances
(iv) **Volume of Business**

- Population-wise and Bank group-wise Volume of Business

(v) **Functional Progress**

- Population-wise and Bank group-wise Deposits Per Branch
- Population-wise and Bank group-wise Advances Per Branch
- Population-wise and Bank group-wise Volume of Business Per Branch

(vi) **C/D Ratio**

- Population-wise and Bank group-wise C/D Ratio

(vii) **Priority Sector Advances**

- Bank group-wise Priority Sector Advances
- Sector-wise and Bank group-wise Priority Sector Advances
- Bank group-wise Weaker Section Advances
- Bank group-wise DRI Advances
- Bank-wise Priority Sector Advances
- District-wise Priority Sector Advances
- Bank-wise Agricultural Advances
- District-wise Agricultural Advances
- Bank-wise Small Scale Industrial Advances
- District-wise Small Scale Industrial Advances
- Bank-wise Other Priority Sector Advances
- District-wise Other Priority Sector Advances
- Sector-wise Performance under Annual Action Plan
- Bank-wise and Sector-wise Performance under Annual Action Plan
- District-wise and Sector-wise Performance under Annual Action Plan
- Sector-wise Recovery Position of Priority Sector Advances
- District-wise Recovery Position of Priority Sector Advances
For analysing secondary data tools like simple percentage, growth rate, ratio analysis, exponential growth rate, co-efficient of variation and co-efficient of concentration were used.

Exponential growth rate has been calculated by using the following formula:

\[ Y = AB^T \]

where, \( Y \) is the variable for which rate of growth is calculated and \( T \) is time.

Take \( \log \) on both sides

\[ \log Y = \log A + T \log B \]

By estimating this \( \log \) linear relationship with the help of least square method, rate of growth has been derived by relation.

\[ B = 1 + r \]

where, \( r \) is the exponential growth rate

\[ r\% = (B - 1) \times 100 \]

Further, co-efficient of variation was used to test the consistency in terms of selected variables like deposits, advances, priority sector advances, etc. It is calculated by using the following formula:

\[ \text{Co-efficient of Variation (C.V)} = \frac{\sigma}{\bar{X}} \times 100 \]

where, \( \sigma \) represents standard deviation of the variable and \( \bar{X} \), represents mean of the variable.

There is inverse relationship between the co-efficient of variation and consistency. More the value of co-efficient of variation, lesser is the consistency and vice-versa.
Co-efficient of concentration has been used to measure the concentration of any variable in various channels which includes mainly, districts. The following formula is used to measure it:

\[ \text{Co-efficient of Concentration} (\chi) = \frac{1}{2} \sum (P_i - P) \]

where, \( P_i \) is proportionate share of \( i^{th} \) channel in the total value of the variable and \( P \) is hundred divided by number of channels in which a variable can be put.

Ratio analysis has been used to analyse the growth and performance of variables. Following ratios have been calculated:

\[
\text{Share of Priority Sector Advances to Total Advances} = \frac{\text{Priority Sector Advances}}{\text{Total Advances}} \times 100
\]

\[
\text{Share of Agricultural Advances to Total PS Advances} = \frac{\text{Agricultural Advances}}{\text{Total Priority Sector Advances}} \times 100
\]

\[
\text{Share of Agricultural Advances to Total Advances} = \frac{\text{Agricultural Advances}}{\text{Total Advances}} \times 100
\]

\[
\text{Share of SSI Advances to Total PS Advances} = \frac{\text{Small Scale Industrial Advances}}{\text{Total Priority Sector Advances}} \times 100
\]

\[
\text{Share of SSI Advances to Total Advances} = \frac{\text{Small Scale Industrial Advances}}{\text{Total Advances}} \times 100
\]

\[
\text{Share of OPS Advances to Total PS Advances} = \frac{\text{Other Priority Sector Advances}}{\text{Total Priority Sector Advances}} \times 100
\]

\[
\text{Share of OPS Advances to Total Advances} = \frac{\text{Other Priority Sector Advances}}{\text{Total Advances}} \times 100
\]

\[
\text{Share of Total Priority Sector Advances to Net Bank Credit} = \frac{\text{Total Priority Sector Advances}}{\text{Net Bank Credit}} \times 100
\]
Share of Total Agricultural Advances to Net Bank Credit = \( \frac{\text{Total Agricultural Advances}}{\text{Net Bank Credit}} \times 100 \)

Share of Rural & Semi-urban Branches to Total Branches = \( \frac{\text{Rural & Semi-urban Branches}}{\text{Total Branches}} \times 100 \)

Share of Urban Branches to Total Branches = \( \frac{\text{Urban Branches}}{\text{Total Branches}} \times 100 \)

Share of Rural & Semi-urban Deposits to Total Deposits = \( \frac{\text{Rural & Semi-urban Deposits}}{\text{Total Deposits}} \times 100 \)

Share of Urban Deposits to Total Deposits = \( \frac{\text{Urban Deposits}}{\text{Total Deposits}} \times 100 \)

Share of Rural & Semi-urban Advances to Total Advances = \( \frac{\text{Rural & Semi-urban Advances}}{\text{Total Advances}} \times 100 \)

Share of Urban Advances to Total Advances = \( \frac{\text{Urban Advances}}{\text{Total Advances}} \times 100 \)

Share of Rural & Semi-urban Business to Total Business = \( \frac{\text{Rural & Semi-urban Business}}{\text{Total Business}} \times 100 \)

Share of Urban Business to Total Business = \( \frac{\text{Urban Business}}{\text{Total Business}} \times 100 \)

Deposits Per Branch = \( \frac{\text{Total Deposits}}{\text{Total Number of Branches}} \)

Advances Per Branch = \( \frac{\text{Total Advances}}{\text{Total Number of Branches}} \)
Business Per Branch = \frac{\text{Volume of Business}}{\text{Total Number of Branches}}

C/D Ratio = \frac{\text{Advances}}{\text{Deposits}} \times 100

\text{Share of Weaker Section Advances to Total Advances} = \frac{\text{Weaker Section Advances}}{\text{Total Advances}} \times 100

\text{Share of DRI Advances to Total Advances} = \frac{\text{DRI Advances}}{\text{Total Advances}} \times 100

3.7 Chapter Scheme

The study has been carried out with the following chapter scheme:

\textbf{Chapter-1}: This chapter deals with the evolution of the concept of priority sector and growth of banks in India with respect to priority sector lending.

\textbf{Chapter-2}: A review of the previous studies on the related topics has been presented in this chapter.

\textbf{Chapter-3}: This research methodology used for the present study has been discussed in this chapter. It also explains the need, objectives, scope, sample and sampling design, data collection, data analysis and limitations of the study.

\textbf{Chapter-4}: This chapter focuses on the policy framework of RBI related to priority sector since 1991.

\textbf{Chapter-5}: This chapter outlines the growth of commercial banks in the state of Punjab.

\textbf{Chapter-6}: In this chapter, the growth and performance of public and private sector banks in Punjab since 1991 with respect to priority sector lending has been studied.
Chapter-7: In this chapter, an attempt has been made to study the response of beneficiaries regarding availing of priority sector loans and the problems faced by them in the process of loans.

Chapter-8: The opinion and problems of bank managers in disbursement and recovery of priority sector loans have been studied in this chapter.

Chapter-9: This chapter summarizes the findings of the whole study and offers suggestions for meaningful and effective priority sector lending by banks in Punjab.

3.8 Limitations of the Study

(i) The study is based on secondary data regarding performance of banks in India as well as Punjab with regard to priority sector lending. In certain cases the data was not available.

(ii) No separate data relating to direct agricultural advances and indirect agricultural advances of banks in Punjab was available for the last 10 years. Hence, analysis has been done on the basis of total agricultural advances.

(iii) District-wise data for branches in Punjab was not available for the last 10 years. Detailed bank-wise and district-wise data of Punjab was available from the year 1997-98 onwards only. Sector-wise and district-wise performance data of banks in Punjab in terms of priority sector and its various components under annual action plan was available from 1997-98 and 2001-02 onwards respectively. District-wise recovery position data of banks in Punjab in terms of priority sector advances was available from 2002-03 onwards. So, conclusions have been drawn on the basis of available data only.

(iv) Since September 2004, IDBI Ltd. has been categorized as another public sector bank. But, it has been shown as private sector bank in SLBC reports. So, data of public and private sector banks may not truly represent actual position of the banks in Punjab.

(v) As per the official site of RBI, 14 private sector banks were working in the state as on March 31st, 2005. But, in SLBC report secondary data of only nine banks was available. So, study of only nine private sector banks has been undertaken.
(vi) Definition of priority sector though amended every year to some extent, but data for the study has been taken as shown under priority sector lending category in SLBC reports. No self-modifications were made.

(vii) Due to non-availability of complete list of beneficiaries, judgment sampling has been selected while choosing sample of beneficiaries.

(viii) Since the results are based on sample survey, there is every possibility of difference between what is recorded and what is truth. Although, every effort has been made to eliminate this difference by designing the questionnaires carefully and conducting the personal interviews, but, there is no way to avoid the errors completely.
References


