CHAPTER-III

RESEARCH DESIGN

In the present chapter need, scope, objectives and methodology of the present thesis is discussed.

3.1 NEED OF THE STUDY

Prior to nationalization, commercial banks in India were privately owned and functioned on the principle of profit maximization. Historically speaking, the branches of commercial banks were confined more or less in urban areas and credit was also available largely to traders, commerce and industry (Sooden, 1992). With nationalization, the objective and approach of commercial banks underwent a complete change.

However, on account of unwarranted emphasis on social banking, the commercial banks in the post-nationalization period persistently faced the problem of falling profits. Being unable to deploy funds at market rate of interest their income earning capacity eroded consistently. With a substantial percentage of banks resources being locked up in the form of statutory obligations, their income earned in the form of rate of interest has remained very low (Narasimham, 1994). Because of poor recovery of loans particularly of agricultural loans and locking up of funds in small scale industries (SSIs), the profitability of these banks has continued to be at a low ebb. In addition to it, target-oriented branch expansion policy has also been responsible for coming up of non-viable branches and consequently poor profit of the public sector banks.

According to branch licensing policy of 1969-70, banks, which had 60 per cent of their offices in rural and semi-urban areas were given licenses for opening one office in urban areas, for every three offices opened in rural and semi-urban areas. This branch expansion policy helped to even out disparities in deposit and credit business among different sections/regions. However, subsequent to Financial Sector Reforms Committee 1991, branch licensing policy was scrapped and the banks are made free to open or close branches except the rural branches. The Narasimhan committee made it clear that the progress made in the rural branch expansion should
not be reversed and closure of a rural branch will require prior approval (Patel and Khankhoje, 1991).

One of the most important objectives of the government policies since bank nationalization has been to extend and expand credit not only to those sectors which were of crucial importance in terms of their contribution to national income and employment, but, also to those sectors which have been severely neglected in terms of access to institutional credit. Those sectors which were to be initially identified for this purpose were agriculture, small scale industries and self-employed persons. These sectors were accorded priority status in credit allocation by the banks. Though, there is no known formal decision by the government regarding curtailment in priority sector credit, yet, serious attempts have been made in the recent years to dilute the norms of priority sector lending (Shajahan, 1998). New banking culture after banking reforms is set to focus on credit to customer durables', to corporate elite and to capital market related activities. Since the aim of banking reforms is to make public sector banking more proficient in treasury operations, the importance of investing in priority sector seems to have lost its relevance for the banks.

On account of coming up of new policy guidelines, public sector banks have number of ways to escape from direct lending in priority sector. The banks can escape their priority sector lending by contributing equivalent to the shortfall in these lending in Rural Infrastructure and Development Fund (RIDF). The public sector banks can cover up the shortfall in priority sector by providing the same (minimum ₹ 1000 crores) on consortium basis to Khadi and Village Industries Commission (KVIC) also (Shajahan, 1998).

Due to these guidelines the banks could easily move away their responsibilities of direct lending to priority sectors. Since priority sectors are critical to high and sustained growth of Gross Domestic Product (GDP), it should be the business of public sector banks to support these sectors irrespective of whether there are credit targets or not (Mujumdar, 1998). On account of new economic policy, what kind of changes have taken place with respect to flow of credit to priority sector in general and in its various components in particular needs to be analyzed.

With banking reforms, private sectors banks are coming up in a big way. This policy may have some serious repercussions on the leading operations of the public
sector banks. For example, big industrialists may start their own bank in urban areas in place of semi-urban or rural areas and may compete for urban deposits. Once the efficiency in private sector banks go up, deposits in nationalized banks may come down further affecting their credit operations accordingly. With the coming up of private sector banks, it is apprehended that accounts of many industries will be transferred from the public sector banks to their own private sector banks. The public sector banks are already losing their deposits to mutual fund companies and a host of other financial intermediaries (Janki, 2001). Therefore, it is all the more important that the public sector banks should make serious efforts to improve their efficiency. In the process of financial strengthening, how the quality of their credit activity is affected is an important area of research.

It is important that the gains made in the post-nationalized period should not be allowed to go waste probably by undue and unwarranted adoption of market oriented policies of the banks and due to entry of private sector and foreign banks.

The Narasimham Committee attributed the poor performance of commercial banks in the post-nationalization period, not to public ownership, but pointed mainly to the managerial and policy environment within which banks had been operating. The Committee sought to improve the efficiency of banking system by introducing transparency in operations and ensuring that the banking sector starts operating on a sound financial footing. On this basis, control on interest rates were removed, the pre-emption of bank assets were reduced, regulatory and supervisory standards strengthened, with the introduction of new norms of assets classification, income recognition and capital-adequacy requirements (D'Souza, 2002). With the growing competition due to liberalization and globalization, customer centric approach survival of the fittest has become the order of the day in the banking industry. Hence, operational efficiency has become the primary goal of all banking organisations. Does there exist any trade off between operational efficiency and social banking is an important issue of debate.

Subsequent to reforms, there is a growing talk of profitability in place of equity. There appears to be a shift in emphasis from equity in banking services to profitability. It is important to mention here that strong and efficient banking is no doubt identified with the profits and prima- facie it sounds logical too, but it should
not be in any case become the be-all and end-all of banking potential. It is possible for the banks to make profits through policy diktat in single activity of lending and show good results (Narasimham, 1994). There cannot be two opinions that the banks should be efficient enough to earn at least that much of profits that they are ultimately able to sustain of their own. But, at the same time in developing economies role of banks in the achievement of socio-economic objectives i.e. generation of employment and eradication of poverty should also not be undermined.

In India a large percentage of population is living below the poverty line and another big chunk is living a very deplorable standard of living. There is massive unemployment in the economy. Infrastructure is in a bad shape. Though, at present, there are number of institutions providing assistance to SC and ST segment of population, still, banks have a major role in providing assistance to these vulnerable sections of the society. The credit provided by the banks to various neglected sectors/sections can go miles ahead in improving the standard of living of the masses. Bank credit can initiate a sustainable inclusive growth in the country.

Agriculture and small scale industries are indispensable for the growth of Indian economy. However, these sectors are known to face serious problems and rigidities due to lack of sufficient resources. Small farmers/entrepreneurs have little knowledge and access over financial resources and are unable to survive in the market because of their fragile financial set-up. Hence, in this context, it is sine-quo-non for the public sector banks which have reached to every nook and corner of the country to provide easy finance to these sectors.

The benefits of credit deployment should be shared equally by poor people and should not be cornered by the privileged sections of the society alone. The capital assumes the prime place in lifting the lot of poor people in an economy by promoting the use of new technology, leading to higher productivity and income. In view of the fact that directed credit programme has both the forward and backward linkages, it is important that it should be judiciously deployed among different sectors/states in the economy.

One of the most important objectives of nationalization was to influence the credit flow of commercial banks in the interest of weaker sections of the society and also to the backward areas, so as to induce an element of balanced economic
development of various regions and social groups. This could eventually lead to diffusion of economic prosperity over wider areas and reduce the concentration of wealth and economic prosperity in the hands of few.

In the context of balanced economic development in the post independence era, it is very desirable to attempt a policy of balanced economic growth. Regional planning has by now been widely recognized in developing countries as a necessary tool for a more comprehensive and effective human development. To achieve this, the banks will have to abandon the role of market followers and to assume the responsibility of market setter.

The concept of regional development pre-supposes the flow of investment funds from developed to under-developed regions. This also signifies that ordinarily internally generated funds should not be permitted to drain off merely because developed regions offer attractive benefits to the banks. This may undoubtedly reduce the profitability of the banks, but, how during the reform period the banks have been able to carry the objective of balanced development of sectors/regions remains to be seen. Regional and sectoral development of investment is more relevant for a developing country like India. Investment of funds should be developed in those sections or sectors, which have linkages with other sectors in general and rural economy in particular. To this end, public sector banks can modestly help by maintaining balance between credit advanced in different regions and to different sectors. If this can be achieved, credit to agriculture and small scale industries would increase consequently giving a fillip to rural development (Kapoor, 2004).

In fact, the capital movement of commercial banks at times tends to increase regional disparities. The trouble arises when wealth produced in a poor state is used to finance the luxurious consumption of rich states. In regions which are developed, increased demand stimulates investment which in turn leads to increase in income and demand and ultimately to subsequent rounds of investment and so on.

Here in this context, it is important that a close look at the emerging banking policy regime and its implications in the achievement of the goal of widening credit delivery arrangements, sectorally and regionally should be discussed.
Broadly speaking, bank credit can be either relating to priority or to non-priority sector. Priority sector is sine-qua-non for the economy. However, in the post 1991 period with the increase in various components of priority sector, probably the prime focus on the core components of these lending i.e. agriculture, small scale industries etc. has diluted and the major emphasis has shifted on certain newly added components of priority sector lending i.e. transport, retail and housing etc.

Here, in this context, there are certain important issues which must be taken up and analyzed. For example, first is that how priority sector lending has been growing as an aftermath of reforms. Secondly, how the structure of priority sector credit has been changing over a period of time and third, equally important issue is to know the regional allocation of these lending.

Hence, in this background, it is important that a state-wise study of priority sector lending during the pre and post-reform period in India should be made. An analysis of structure of priority sector is important because that will reveal whether the real or core priority sectors are still important or relevant in context to banking operations or in the wave of market forces have lost their relevance.

It is a million dollar question that whether the different states have been able to satisfy the overall norms of priority sector credit or not. To what extent, during the pre and post reform period, the banks have been governed by the market oriented approach and have deviated from the decided norms, remains to be analyzed thoroughly. The issue of inter-state disparities seems to have lost its relevance in era of globalization, privatization and liberalization. However in reality, the issue of inter-state equality today also is as important and relevant as it was prior to the reforms. Therefore, it is high time that a state-wise study analyzing the growth and structure of priority sector lending in India should be undertaken to appraise the actual quality of priority sector lending.

3.2 SCOPE OF THE STUDY

The present study seeks to analyze growth and structure of priority sector lending in different states during the pre and post-reform period in India. Further, an attempt is also made to probe the trends in disparities in priority sector lending across the selected states of India. The scope of the study is confined to priority sector
lending by the public sector banks only. Since public sector banks represent majority of the commercial banking activities in India, the overall trend can be easily determined by analyzing the data of priority sector lending of these banks alone. Public sector banks are those, which are included in the second schedule of Reserve Bank of India Act 1934. However, the regional rural banks are not included in the present study.

The study is based upon secondary data and all the required information is collected from the various relevant issues of Statistical Tables Relating to Banks in India, Report on Currency and Finance, Report on Trend and Progress of Banking in India, Banking Statistical Returns, all published by the Reserve Bank of India. Some information is also collected from Database on the Indian Banking published by Indian Banks Association (IBA). The other important source from where relevant information is collected is Agricultural Census, conducted by Ministry of Agriculture from time to time. A part of data relating to small scale industries has been collected from the various publications of Development Commissioner of Ministry of Small and Medium Enterprises (MSME), New Delhi. In addition, some information is also collected from the different relevant issues of Economic Survey and Statistical Abstracts, both published by the Government of India. At some places the relevant data published in some books and journals has also been used. Some relevant information is also collected from the websites such as www.indiastat.com and www.rbi.com.

The study is stretched over the period 1981 to 2010. The study period is largely divided into two parts i.e. pre-reform and post-reform period. The pre-reform period includes the years 1981 to 1990. However, the post-reform period includes the years 1991 to 2010. The full fledged financial sector reforms in the economy were started in the year 1992-1993, yet, in view of the fact, that the limited liberalization had initiated even before the full blown deregulation in the banking sector in 1991 itself, therefore, in the present study post-reform period includes the period 1991 to 2010. In tune with limited liberalization initiated in industry and trade, certain policy changes had been affected in the financial system under the influence of financial liberalization and deregulation, thus further strengthening the case of inclusion of the year 1991 in the post-reform period. The introduction of flexible lending and deposit rates aimed at improving the flexibility and competition in the provision of finance
had started even prior to the introduction of full fledged financial sector reforms. Besides these interest rate changes, certain other steps also had been taken by the Government to bring about transformation in the character and composition of financial institutions before the year 1992-1993 itself.

Otherwise, also since, the overall, economic reforms had started from the year 1991 in all the important sectors of the Indian economy, therefore, 1991 can be taken as benchmark year and from this, ushering of a new era of the financial sector seems to have begun.

Further, the post-reform period is sub-divided in to two parts i.e. early reform period and later reform period. Whereas the early reform period includes the years 1991 to 2000, later reform period is stretched over the years 2001 to 2010. The main rationality to divide the post-reform period in to two parts lies in the fact that immediately after the reforms, banks must have taken some time to adjust in the new economic environment and expectations and therefore, the initial few years after the introduction of reforms must be studied separately (Shajahan, 1998).

However, as per the expectations by the year 2001, the banks must have completely adjusted their financial operations in lieu of financial sector reforms. Another rationality to divide the time period in to two parts lies in the fact that with the coming up of second Narasimhan Committee Report in the year 1998, the public sector banks would have gone for further re-hauling of their credit policies by the year 2000. In the present study at times, the pre reform period (1981 to 1990) is referred as the first phase of the study. Similarly, early (1991 to 2000) and later reform period (2001-2010) is called as the second and third phase of the study respectively.

In the present study an analysis of growth and structure of priority sector lending in 21 major states of the country is attempted. The major states which are included in the study are; Jammu and Kashmir, Haryana, Punjab, Rajasthan, Uttar Pradesh, Himachal Pradesh, Meghalaya, Nagaland, Assam, Tripura, Manipur, West Bengal, Andhra Pradesh, Karnataka, Gujarat, Maharashtra, Bihar, Madhya Pradesh, Orissa, Tamil Nadu and Kerala. Since these states constitute a major chunk of credit of public sector banks, it is expected that an analysis of these can reveal certain important trends of priority sector lending in the economy. Otherwise also from population and geographical coverage point of view, an analysis of priority sector
lending in these states can reveal the various emerging trends in the area of lending in India.

Agriculture sector, small-scale industries and ‘other priority sector’ is crucial for overall sustainable economic development of the economy. As an aftermath of reforms, how much of the priority sector credit has flown to these strategic sectors of the economy across different states, has been thoroughly probed in the present work.

Though the overall data of lending to agriculture, small scale industries and ‘other priority sector’ is available since the year 1981 onwards, yet, information on detailed structure of these components was not available since the year 1981.

Village, cottage and tiny industries are significant in context to overall socio-economic realities of the Indian economy. Till today RBI has failed to provide detailed comprehensive information on the same, and whatever little data is available in its publications is just a partial one only. Worst is the case with respect to information regarding ‘other priority sector’ lending. Though the overall information on overall lending to ‘other priority sector’ is available, yet, in view of the fact that certain new categories were added under this head during the post-reform period itself, hence, the detailed information regarding the loans provided to education, housing, retail trade, small business, self help group etc. is not available since the year 1981. The RBI started publishing the detailed information on various components of ‘other priority sector’ lending since the year 1996 only. Thus, in order to have an objective picture of ‘other priority sector’ credit, an attempt is made to study the structure of these lending during the period 1996 to 2010 only.

Therefore, the analysis of overall structure of priority sector lending is confined to its broad three components itself. However, in view of the great policy implications of the structure of particular components of ‘other priority sector’ lending, all the relevant details which were available for the third phase are analyzed and interpreted. For example, some information of cottage, village and tiny industries is available for the third phase only and this has been duly incorporated in the study. Similarly, some detailed data of ‘other priority sector’ lending in terms of education, housing, retail trade, self help groups and miscellaneous lending is available for the third phase and that too has been analyzed and interpreted to derive objective results.
Basically, there are two important issues, which arise in context to priority sector lending. Firstly, how the overall priority sector credit has been flowing to different states and secondly, whether the stipulated targets are met or not. The real impact of priority sector lending on the overall economic development ultimately depends upon the fact, that how much of credit is deployed under a particular head and to what extent it is crucial for the economic up-liftment of the masses. Since an overall figure of priority sector lending in various states/sectors cannot ascertain sufficiency or scarcity of these lending, therefore there is a need to explain the behavior of priority sector lending in terms of certain indicators.

An attempt is made to frame the priority sector indicators in a manner so as to cover up all the dimensions of these lending, for example, geographical, demographic, type of area covered, nature of beneficiaries' etc. The ultimate success of any lending programme to a large extent also depends upon the employees’ productivity and hence to consider this side of lending, priority sector credit deployed per bank employee is also relevant.

However, the indicators on the basis of which priority sector lending to agriculture sector is studied are as follows;

1) Ratio of agriculture credit to SDP
2) Agriculture credit per account
3) Number of agriculture accounts per branch
4) Agriculture credit per rural branch
5) Agriculture credit per 1000 hectare of net sown area
6) Agriculture credit per marginal holding
7) Agriculture credit per small holding
8) Agriculture credit per cultivator
9) Agriculture credit per agricultural labour
10) Agriculture credit per bank employee
11) Agriculture credit per 1000 of rural population.

Thus an attempt is made to cover all the diverse dimensions of priority sector lending to agriculture sector.
Similarly to study the state-wise priority sector credit to small scale industries (SSIs) following indicators are formulated:

1) Ratio of SSIs credit to SDP
2) SSIs credit per account
3) Number of SSIs accounts per branch
4) SSIs credit per branch
5) Credit deployed per SSI unit
6) Credit deployed per SSI employee
7) SSIs credit per bank employee
8) SSIs credit per 1000 sq. km. of area.

Thus, in case of priority sector lending in small scale industries an attempt is made to cover all the aspects of lending, right from branch efficiency, to employee efficiency and to geographical area.

Further, in order to study the growth of credit flowing to ‘other priority sector’ credit, following indicators have been formulated:

1) Ratio of ‘other priority sector’ credit to SDP
2) ‘Other priority sector’ credit per account
3) Number of ‘other priority sector’ accounts per branch
4) ‘Other priority sector’ credit per branch
5) ‘Other priority sector’ credit per bank employee
6) ‘Other priority sector’ credit per 1000 sq. km. of area
7) ‘Other priority sector’ credit per 1000 of population.

As far as overall priority sector credit is concerned, here also certain indicators have been formulated. The indicators explaining overall priority sector lending are as follows:

1) Ratio of priority sector credit to SDP
2) Priority sector credit per account
3) Number of priority sector accounts per branch
4) Priority sector credit per branch
5) Priority sector credit per bank employee
6) Priority sector credit per 1000 sq. km. of area
7) Priority sector credit per 1000 of population

Thus, an attempt is made to cover all the varied dimensions of priority sector lending in different sectors, whether, it is agriculture, small scale industries or 'other priority sector' lending. With a view to have an objective index, branch based, employee based, account wise and geographical area wise indicators are formulated.

In addition to this, an analysis of credit flowing to weaker sections in various states is also made. Credit flowing to small and marginal farmers, cottage village and tiny industries, self help groups, to SC/ST segment of population etc. is also analyzed.

The growing level of non-performing assets (NPAs) is considered as one of the important reasons of poor performance of the public sector banks in India. In terms of prudential norms, NPAs are defined as a credit facility in respect of which interest remained 'past due' for a period of four quarters during the year ending March 31, 1993, three quarter during the year ending March 31, 1994 and two quarter during the year ending March 31, 1995 onwards (Veerakumar, 2012). The levels of NPAs across different banks for the first time were published in the year 1996-97 by the Reserve Bank of India.

One of the important objectives of the financial sector reforms was to revive the financial health of the commercial banks by controlling the level of NPAs. There is a common apprehension that the major source of non-performing assets of public sector banks is priority sector lending only. Therefore, in view of this, in the present study a rough attempt is made to analyze the growth of non-performing assets of public sector banks in terms of priority and non-priority sector lending. An analysis of NPAs of public sector banks in terms of its origin can reveal some important evidence that whether the major source of these assets is priority sector or non-priority sector lending.

An important question which arises in context to priority sector non-performing assets is that which sector viz. agriculture, small scale industries or 'other priority sector' is the major source of NPAs of public sector banks? Lately, RBI has started providing sector-wise information of the level of non-performing assets in different public sector banks. Therefore, in the present study, sector-wise non-
performing assets of public sector banks for the period 2001 to 2010 have also been examined.

3.3 OBJECTIVES OF THE STUDY

The main objective of the study is to analyze the level and structure of priority sector lending in India during the pre and post reform period. How with economic reforms, the growth and composition of priority sector lending has been affected needs to be analyzed. Further, to what extent the different stipulated targets of priority sector lending are met also remains to be examined. Whether, priority sector credit is evenly disbursed across different states/sectors or is confined to few states/sectors remain to be studied. However, following are the specific objectives of the study:

(1) to study the growth of priority sector lending during the pre and post-reform period;

(2) to examine the structure of priority sector lending during the period under study;

(3) to analyze the extent of inter-state disparities with respect to priority sector lending; and

(4) to study the incidence of non-performing assets (NPAs) in priority sector lending of the public sector banks.

3.4 HYPOTHESIS

(1) The priority sector lending in all the sectors (agriculture, small scale industries and ‘other priority sector’ lending) and the various indicators thus framed exhibited an increasing rate of growth throughout the period under study, because the bank finance is indispensable for the overall economic development of the Indian economy.

(2) The share of core sectors (agriculture and small scale industries) in total priority sector lending has declined and that of ‘other priority sector’ is on an increase due to expanding scope of this component of lending.
The inter-state disparities with respect to priority sector lending have throughout been on an increase due to certain inherent disparities in the economy.

Agriculture and small scale industries are not the main source of NPAs in the banking system.

### 3.5 METHODOLOGY

In order to ascertain a realistic magnitude of the growth and extent of inter-state disparities with respect to overall priority sector lending various indicators relating to agricultural, small scale industries credit and credit deployed to 'other priority sector' are framed. With a view to analyze the growth of various components and indicators of priority sector lending, exponential growth rate has been calculated for the first, second and third phase of the study for different states. Exponential growth rate is calculated as follows:

\[
Y_i = a_0 \cdot b_i^t \\
\ln (Y_i) = \ln (a_0) + t \cdot \ln (b_i) \\
g = (b-1)
\]

Where, \( Y_i \) is the value of \( i \)th indicator,
\( a \) = constant,
\( b_i \) = regression co-efficient of \( i \)th indicator,
\( t \) = time period,
\( \ln \) = common log value,
\( g \) = growth rate.

The indicators relating to accounts, branches, bank employees, 1000 sq. km of area and 1000 of population are computed as follows:

\[
\text{Indicator} = \frac{V_{ijt}}{V_{djt}}
\]

Where, \( V_{ijt} \) is the \( i \)th variable relating to \( j \)th state during the year ‘t’.

\( V_{djt} \) is the variable for accounts, branches, bank employees, 1000 sq. km of area and 1000 of population of \( j \)th state during the period ‘t’.
Research Design

The average value of an indicator is calculated separately for pre, early and later reform period. The average value of indicators is computed by taking the total of the numerator variable and dividing by the total of the denominator variable.

The combined mean = \[ \frac{n_1X_1 + n_2X_2 + \ldots + n_nX_n}{n_1 + n_2 + \ldots + n_n} \]

Where, \( n_i \) stands for number of observations and \( X_i \) stands for mean value.

The behavior of inter-state inequalities in priority sector lending is explained with the help of co-efficient of variation (C.V.). The trend in co-efficient of variation depicts the direction of inter-state disparities with respect to an indicator over the period of time. The value of C.V. is ascertained as follows:

\[ C.V. = \frac{\sigma_i}{\bar{X}_i} \]

Where, \( C.V. \) stands for co-efficient of variation,
\( \sigma_i = \) Standard deviation of \( i \)th indicator,
\( \bar{X}_i = \) Mean value of \( i \)th indicator.

However, the C.V. fails to reveal the behavior of all the selected indicators taken together. The selected indicators of priority sector lending have different units, some of these were in rupees and some were expressed in simple ratios. Thus, in order to find the overall level of priority sector lending in a particular state the various indicators cannot be merged together. In order to have an overall index of priority sector lending, the first important step required is to standardize all the indicators to make them unit free. In order to standardize the indicators, Z-sum technique is used, having mean value zero and standard deviation unity. The Z scores are calculated as follow:

\[ Z_{ij} = \frac{X_{ij} - X_a}{S_a} \]
Where,  \( Z_{ijt} \) = Z score if \( i^{th} \) indicator for the \( j^{th} \) state in a year \( t \)

\( X_{ijt} \) = value of \( i^{th} \) indicator for \( j^{th} \) state in a year \( t \)

\( X_{it} \) = mean score of \( i^{th} \) indicator in a year \( t \)

\( S_{it} \) = standard deviation

'\( i'\) refers to the indicator (\( I = 1, 2, 3...6 \))

'\( j'\) refers to the state (\( j = 1, 2, 3...2t \)).

Now, the question that arises, is all the indicators of priority sector lending are equally important in determining the overall index of priority sector lending, the answer is no. Hence, we have to assign weight to each indicator of these lending. In the present study, weights are calculated for each indicator year-wise with the help of Principal Component Analysis (PCA).

In the Principal Component Analysis, the correlation matrix is the basic matrix for extracting principal component. In the present study, two principal components are computed that explained an ‘adequate variance’ of the total variance. In most of the empirical works factor loading of the first principal component are used as weights. In the present study, value of communalities (\( h^2 \)) is used as weights. It is so because use of first principal component ignores a portion of variance, which it (data) seeks to explain. Thus, it becomes necessary to use more than one component as weight. Secondly, if the Z score of a state is negative and at the same time, value of a factor loading is also negative, its weighted score will be positive, whereas it should be negative. Thirdly, a variable having stronger inter-relations with other variables in a group should have a higher weight, thus, communalities (\( h^2 \)), which remove all the above drawbacks, are used as weights.

The weighted scores of agriculture sector lending are obtained as follows:

\[ Z_{ejt} = \sum W_{ijt} Z_{ijt} \]

Where, \( W_{ijt} \) = the weight for \( i^{th} \) agriculture sector indicator for the \( j^{th} \) state during the year ‘\( t'\).

\( Z_{ijt} \) = the score value of \( i^{th} \) indicator of \( j^{th} \) state during the period ‘\( t'\)

\( Z_{ejt} \) = the sum of weighted Z score of agriculture sector indicator for \( j^{th} \) state during the time period \( t \).
The weighted scores of SSIs sector lending are obtained as follows:

\[ Z_{ijt} = \sum W_{ijt} Z_{ijt} \]

Where, \( W_{ijt} \) = the weight for \( i^{th} \) SSIs sector lending indicator for the \( j^{th} \) state during the year \( 't' \).

\( Z_{ijt} \) = the score value of \( i^{th} \) indicator of \( j^{th} \) state during the time period \( 't' \),

\( Z_{ijt} \) = the sum of weighted Z score of SSIs sector lending indicator for \( j^{th} \) state during the time period \( t \).

The weighted scores of ‘other priority sector’ lending are obtained as follows:

\[ Z_{kjt} = \sum W_{ijt} Z_{ijt} \]

Where, \( W_{ijt} \) = the weight for \( i^{th} \) ‘other priority sector’ lending indicator for the \( j^{th} \) state during the year \( 't' \).

\( Z_{ijt} \) = the score value of \( i^{th} \) indicator of \( j^{th} \) state during the year \( 't' \)

\( Z_{kjt} \) = the sum of weighted Z score of ‘other priority sector lending’ indicator for \( j^{th} \) state during the time period \( t \).

The weighted scores of overall priority sector lending are obtained as follows:

\[ Z_{bjt} = \sum W_{ijt} Z_{ijt} \]

Where, \( W_{ijt} \) = the weight for \( i^{th} \) overall priority sector indicator for the \( j^{th} \) state during the year \( 't' \).

\( Z_{ijt} \) = the score value of \( i^{th} \) indicator of \( j^{th} \) state during the year \( 't' \)

\( Z_{bjt} \) = the sum of weighted Z score of overall priority sector indicator for \( j^{th} \) state during the time period \( t \).

Finally, all the states on the basis of their performance as judged through composite indices with respect to priority sector lending are grouped in to four categories viz. ‘very good’ (A), ‘good’ (B), ‘average’ (C) and ‘below average’ (D) states.

The ‘very good’ (A) states are those whose composite weighted score with respect to priority sector lending lie in the 25 per cent extreme right side of the normal
distribution curve. The states whose composite weighted scores lie between $X$ and $X+KS$ are placed in the ‘good’ category (B). While, the states whose composite weighted scores lie between $X$ and $X-KS$ have been placed in the ‘average’ (C) category of states. The ‘below average’ (D) states are those whose composite weighted score with respect to priority sector lending lie in the 25 per cent extreme left area of the normal distribution curve. Here, $X$ is the mean value of the composite weighted score of all the indicators in a particular state and ‘S’ is the standard deviation of the composite weighted Z score. ‘K’ is the value, which divides the area under normal distribution curve into 25 per cent and its value 0.67 is taken from the normal distribution tables (S. Gupta, 2000).

The elasticity of priority, non-priority and public sector NPAs to total NPAs is calculated by using the formula:

$$Y = b_0 X^{b_1}$$

Log $Y$ (priority, non-priority and public sector NPAs) = $\log b_0 + b_1 \log x$ (total NPAs).

Also, the elasticity of priority sector, agriculture, SSIs and ‘other priority sector’ NPAs to priority sector, agriculture, SSIs and ‘other priority sector’ lending is calculated by using the formula:

$$Y = b_0 X^{b_1}$$

Log $Y$ (priority sector, agriculture, SSIs and ‘other priority sector’ NPAs) = $\log b_0 + b_1 \log x$ (priority sector, agriculture, SSIs and ‘other priority sector’ lending).
3.6 LIMITATIONS OF THE STUDY

Taking into consideration the objectives of the study and its coverage in terms of time span and different components of priority sector, the study is prone to many limitations. Some of the important limitations of the study are listed below:

1. The study concentrates only on the analysis of quantitative financial data. The qualitative aspects of progress of priority sector lending in India have not been analyzed. The emerging trends in qualitative aspects of priority sector lending that how it has actually helped in improving the economic status of the people has not been studied. There can be various other dimensions also, determining the quality of priority sector lending. The sufficiency and procedure followed in loan disbursements are important in this regard. But, in the present study priority sector lending are judged on the basis of its quantum alone.

2. The study is based on the financial data as reported by the various banks. In such a case, the limitations of financial accounting are likely to remain inherent in the study. One serious limitation i.e. change in price level is a major problem. If the various indicators are deflated to the base year, the conclusion drawn by the study may change. The growth rates based upon current prices are definitely going to be misleading to some extent.

3. There has been a lot of window-dressing in presenting final accounts by the commercial banks to hide the actual position. At times the data relating to deposits and advances shoot up at the end of the accounting year because of un-scrupulous practices followed by the managers. This fact becomes amply clear when the data at the end of the year is compared with the same on other dates of the year. The data relating to advances and credit deployment is knowingly inflated to meet the targets. In such a situation the performance of the banks with respect to priority sector lending cannot be truly assessed.

4. Another limitation of the present endeavour is in context to sources of data. Different books/reports present different data of the same time. This creates the major hindrance and belies the actual results. Therefore, minor variations are possible in the final results in some cases.
5. Another limitation pertaining to the present study is that, the information relating to credit deployed to cottage, village and tiny industries segment of the small scale industries was not available from the year 1981 onwards. As per the required format of this study, the concerned information should have been available from the year 1981 onwards itself. Thus, this sub-component of priority sector lending could not be analyzed in the required details.

6. The data relating to different components of ‘other priority sector’ was also not available since the year 1981. The study would have been more meaningful, if a comparison between credit to different components of ‘other priority sector’ in the pre and post-reform period could be attempted. In view near absence of reporting of data relating to different components of ‘other priority sector’ in the pre-reform period, any precise exercise evaluating the impact of reforms on ‘other priority sector’ could not be carried out.

7. The study would have been more meaningful, if a comparison between levels of NPAs in the pre and post-reform period could also be attempted. In view of absence of reporting of data relating to NPAs in the required format in the pre-reform period, any precise exercise evaluating the impact of reforms on the levels of NPAs could also not be carried out.

8. Since the objectives, policies and practices of the banks as well as the components of priority sector were different in the pre-reform period as compared to the post-reform one, therefore an objective comparison between two periods cannot be made. But, in spite of this, an attempt is made to compare the performance of public sector banks with respect to priority sector lending in both the periods.

In spite of the above mentioned limitations, sincere efforts have been made to make the study meaningful and relevant.

3.7 FORMAT OF REPORTING

The format of reporting adopted for the study comprises of three sections. The first section is largely related with what is called the problem formulation stage of research study.
First chapter deals with the role of commercial banks in the economic development and genesis of priority sector lendings in India. The rational of financial sector reforms and the subsequent financial sector reforms and the issue of non-performing assets (NPAs) in priority sector lendings are also discussed in this chapter. The review of literature conducted is reported in the second chapter. The third chapter starts with the explanatory phase of the study, which carries on from the need, scope, objectives, limitations and methods of investigations used in the study.

In the fourth and fifth chapter performance of public sector banks in financing agriculture and small scale industries has been analyzed respectively. In the sixth chapter, performance of banks with respect to 'other priority sector' lending has been evaluated. In the seventh chapter, performance of public sector banks with respect to overall priority sector has been examined. The growth and structure of NPAs in priority sector lending is also examined in the seventh chapter.

Eighth chapter provides the summary, findings and conclusions of the present research and traces various policy implications and offer suggestions for improving the quality of priority sector lending.
REFERENCES


