PERFORMANCE EVALUATION OF SCHEDULED COMMERCIAL BANKS IN FINANCING AGRICULTURE IN PUNJAB

A

Thesis

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By

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April, 2019

DEDICATED

TO MY

LOVING SISTER RAJNI

AND MY KIDS

MEHAK AND RAMIT

DECLARATION

I declare that the thesis entitled **"Performance Evaluation of Scheduled Commercial Banks in Financing Agriculture in Punjab"** has been prepared by me under the guidance of Dr. Surinder Kumar Singla, Assistant Professor and Head, D. A. V. College, Bathinda, Punjab and Dr Neeru Sidana, Assistant professor, Lovely Professional University, Phagwara. No part of this thesis has formed the basis for the award of any degree or fellowship previously.

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CERTIFICATE

This is to certify that this thesis entitled, **"Performance Evaluation of Scheduled Commercial Banks in Financing Agriculture in Punjab"** embodies the work carried out by **Amarpreet Kaur** herself and under our guidance and supervision. To the best of our knowledge, the present work is the result of her original investigation and study. No part of this work has ever been submitted for any other degree at any university. The thesis is worthy of consideration and fulfilment of the conditions for the award of degree of Doctor of Philosophy in Economics.

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LIST OF ABBREVIATIONS

Sr. No.	Description	Abbreviation
1	Adjusted Net Bank Credit	ANBC
2	All India Rural Credit Review Committee	AIRCRC
3	Analysis of Variance	ANOVA
4	Cash Reserve Ratio	CRR
5	Casual Labour	CL
6	Coefficient of Variation	CV
7	Commercial Banks	CBs
8	Commission Agents	CAs
9	Compound Annual Growth Rate	CAGR
10	Compound Growth Rate	CGR
11	Cooperative	COOP
12	Cooperative Societies	COOP SOC
13	Credit Deposit Ratio	CD Ratio
14	District Cooperative Central Banks	DCCBs
15	Food and Agriculture Organization	FAO
16	Food Corporation of India	FCI
17	Foreign Direct Investment	FDI
18	Foreign Institutional Investors	FII
19	Global Partnership of Financial Inclusion	GPFI
20	Gross Domestic Product	GDP
21	Gross Value Added	GVA
22	Hectare	ha
23	Hisar Sirsa Kshetriya Gramin Bank	HSKGB
24	Kisan Credit Cards	KCC
25	Linear Growth Rate	LGR
26	Mahatma Gandhi National Rural Employment Guarantee Act	MGNREGA
27	Micro Finance	MF
28	National Bank for Agriculture and Rural Development	NABARD

Sr. No.	Description	Abbreviation
29	Net Sown Area	NSA
30	Non-Banking Financial Companies	NBFCs
31	Non-Banking Financial Institutions	NBFIs
32	Non-Government organizations	NGO
33	Non-Performing Assets	NPAs
34	Non-Resident Indian	NRI
35	Non-Significant	NS
36	Number	No
37	Oriental Bank of Commerce	OBC
38	Outstanding Ratio	OR
39	Permanent Labour	PL
40	Primary Agricultural Cooperative Credit and Service Society	PACCSS
41	Primary Agricultural Cooperative Societies	PACS
42	Public Sector Banks	PSBs
43	Punjab National Bank	PNB
44	Regional Rural Banks	RRBs
45	Reserve Bank of India	RBI
46	Rotating Savings and Credit Association	ROSCAS
47	Rural	R
48	Rural Infrastructural Developmental Fund	RIDF
49	Saving and Credit Cooperatives	SACCOS
50	Scheduled Commercial Banks	SCBs
51	Seasonal Agricultural Operations	SAO
52	Self-Help Groups	SHGs
53	Semi-urban	SU
54	Short Term	ST
55	Special Agricultural Credit Plans	SACP
56	State Bank of India	SBI
57	State Bank of Patiala	SBOP

Sr. No.	Description	Abbreviation
58	Statutory Liquidity Ratio	SLR
59	Total Credit	TC
60	Triennium Ending	TE
61	Urban	U
62	Urban Cooperative Banks	UCBs
63	World Trade Organization	WTO

ABSTRACT

Before the advent of planning era in 1951, rural credit was largely provided by informal channels such as money lenders, friends, relatives of farmers and to some extent by cooperatives and government. With the breakthrough in farming technology, the demand for production as well as investment credit has increased manifold. Several measures like strengthening of cooperatives, commercial banks, nationalization of banks, establishment of regional rural banks, finally the financial sectors reforms etc. were taken by the government from time to time to meet the growing demand of credit. In view of the importance attached to agriculture, as a promoter of overall economic development, and the urgent need for improving the provision of and access to finance for agriculture, this study reveals the status of agricultural finance in Punjab, with particular reference to SCBs. Secondary and primary data were collected for the study. The primary data were collected from the selected districts of three zones of Punjab from the selected banks and from the farmer borrowers of these banks. It was revealed that there was an increase in the number of SCBs which was more pronounced as compared to all the banks in totality. The SCB offices in Punjab increased from 679 in TE 1973, by nearly nine times, to 6220 by TE 2016. It was also found that there have always been more than 3 scheduled commercial banks offices for every co-operative bank office present in the state of Punjab all through the post nationalization era except for TE 2016 where there were more than seven scheduled commercial banks for every cooperative bank. The study of credit flow to agriculture in Punjab revealed that the amount outstanding at 2004-05 (constant) prices, to agriculture sector had increased from ₹1425.61crores in 1981 to ₹ 29941.97 crore in 2016 with a compound growth rate of 8 per cent per annum. The direct credit to agriculture in Punjab increased from ₹ 283 crore in 1981 to ₹58599.02 crore by 2016, registering a significant ($P \leq 0.05$) compound growth rate of 15.5 per cent per annum, as against the comparatively much slower growth rate of 8.14 per cent, when adjusted for price changes. It was further found that both the direct and indirect credit grew at an almost same CGR of approximately 8 per cent per annum. The proportion of direct credit ranged between 73 to 94 per cent and that of indirect credit was between 6 to 27 per cent. The more percentage of direct credit to agriculture clearly indicates that operations of SCBs are farmer centric. In other

words, the SCBs in Punjab were mostly associated directly with the farmers and their agro-economic well-being. Punjab had a rural network of 2671 branches as compared to 974 in case of India, for every 1000 branches of SCBs operating in the urban locations. The number of rural branches in Punjab, for every 1000 urban branches of SCBs went down to 1964 by TE 1993 and further to 1338 by the TE 2016. It was also revealed that in TE 1973, as many as ten per cent (406) of all rural branches in India happened to be in Punjab, agriculturally the most prosperous state. However, this proportion gradually declined to 4.6 per cent (931) by TE1983 and was 5.1 per cent during TE 2016 and the number of branches being 2394 in Punjab due to growth of rural branch network in rest of India. There was declining trend of semi-urban and rural branches which may be due to the urbanization.

The study of pattern of borrowing revealed that the percentage of institutional and non-institutional credit in Punjab during 2015-16 was 65 and 35 respectively. As regards the lending volume of both the SCBs in various locations of Punjab, during the study period, the rural branches made the minimum total credit disbursal (₹4115.61 lakhs per branch by SBOP and ₹1969.85 lakh by PNB) but the proportion of priority sector advances in total credit has been maximum (96.4 per cent by SBOP and 91.5 per cent by PNB) in case of rural branches, followed by semi-urban (79.1 per cent by SBOP and 53.7 per cent by PNB) and urban (65.8 per cent by SBOP and 40.5 per cent by PNB) branches. The agricultural credit constituted more than ninety per cent of the priority sector advances by rural branches of SBOP and was 88 per cent in case of PNB, whereas this percentage remained nearly fifty per cent for semi-urban branches of SBOP and 74 per cent in case of PNB and 26 per cent for urban branches of SBOP and a meagre 8 per cent in case of PNB. The analysis regarding the performance of all branches irrespective of their location concluded that these branches on an average were extending satisfactory quantum of credit to the priority sector and were following the revised guidelines regarding priority sector lending of the Reserve Bank of India suggested by M. V. Nair committee in the year 2011. So the selected financial institutions were found to be justifying the implementation the first objective of nationalization of banks. So far as the agricultural finance was concerned, rural branches clearly have an edge over the semi-urban and urban branches.

As regards the impact of credit on economic well-being of the borrower farmers, it was observed that there was a little increase in the number of tractors which was 18.8

in pre-disbursal period and it went to 21.2 in the post-credit disbursal period. The number of combines remained the same whereas a little change in the number of tube wells and tractor drawn implements was seen. A little increase in leased in land was also observed after the credit availability to farmers. The change in asset base and leased in land did not show a significant effect after the application of Paired t test which can be attributed to the fact that more than 85 per cent of the credit is short term credit which was used for meeting day to day expenses of cultivation of crops and the land rent is quite high in Punjab so there was no significant increase in the acreage of leased-in land. The income of the farmers showed a significant change (the t values being 2.369, 2.912, 2.571, 3.347, 3.194 and 3.985 for Gurdaspur, Ropar, Ludhiana, Patiala, Bathinda and Faridkot districts respectively) due to credit availability which on an average increased from ₹4.22 lakhs to ₹4.48 lakhs during the period 2015-16 wherein the income from livestock increased from ₹0.43 lakhs to ₹0.53 lakhs and income from crop farming rose from ₹2.62 lakhs to ₹2.68 lakhs. An improvement in confidence, financial management, and level of communication was also reported by the farmer borrowers. Despite the fact that credit flow to agriculture sector has increased, its share has been more or less the same over the past three decades. However, the SCBs in Punjab had always given much priority to agricultural sector in comparison to that in other states of the country. The analysis conclusively establishes that the rural branches of the SCBs cater to the demands of the agricultural sector in more efficient manner as compared to their semi-urban and urban counter parts.

Chapter-I
Introduction

CHAPTER I

INTRODUCTION

Agriculture, the backbone of any agrarian economy, encounters a number of natural risks like floods, droughts and attacks from wild animals which need to be taken care of by the farmer. Apart from this, the developing agrarian economies are marred by low productivity, low income and heavy losses, lack of capital and limited access to financial institutions particularly by the small and marginal land holders. Under these circumstances, the financial institutions feel reluctant to invest or finance in this sector despite the huge demand for capital investment in rural areas which is a pre requisite for global growth and food security. So, improved financial markets to support the pace of agricultural and rural growth are crucial for economic growth and poverty alleviation (Zeller, 2000).

There are many organizations working across the world with prime focus on rural welfare and reduction of poverty by improving the access of rural people to financial institutions, Indonesia, Salvador, and Bolivia to name a few. In addition to these there are many other institutions such as Rotating Savings and Credit Association (ROSCAS), Saving and Credit Cooperatives (SACCOS), Self-Help Groups (SHGs) and micro and rural financial institutions worldwide which are assisting to ensure access to financial services aimed at the rural areas, though the success rate differs in each case. There is a need to strengthen the framework of rural financial institutions with significant performance in providing credit to low-income households (Nagarajan, 2005).These challenges can be addressed by making significant investment on many fronts of which financial inclusion can be of great help, though the predominance of small and marginal land holders proves to be a hindrance in providing access to financial market system. According to Food and Agriculture Organization (FAO, 2016) estimates, the small and marginal farmers constitute 82 per cent of the total farmers. As far as the Financial Inclusion Action Plan is concerned, it requires bringing 2.5 billion people into the formal financial system, who are yet not included (GPFI, 2014). The G20 created a group called the Global Partnership for Financial Inclusion (GPFI) which has placed a strong focus on farm finance and rural agro-enterprise finance to resolve these issues and to check financial exclusion. It has also provided guidelines related to farm credits which are in

line with the G20 principles for innovative financial inclusion. The role of public sector banks and financial institutions has also been taken care of.

Agriculture plays a vital role in the progress of the nation's economy as it engages about 59 per cent of the total work force. The performance of this sector has strong spillover effects on the rest of the economy. In order to accelerate the growth of Gross Domestic Product (GDP) in the country and to maintain it at 8 to 9 per cent, agriculture sector has to be decisive driver, despite its reduced share in GDP from 51.9 per cent in 1950-51 (Ministry of Finance, 2017) to about gross value added (GVA) of 17.9 per cent in 2016-17 (Ministry of Agriculture & Farmers Welfare, 2017). Indian agriculture has progressed from subsistence farming to intensive technology led cultivation. The cropping pattern has been shifting from traditional crops to new crops and new markets due to diversification and commercialization in agriculture and it has emerged as a major driver of agricultural growth in recent years.

The agricultural development is dependent on the adoption of capital intensive new technologies, which in turn demands agricultural credit (Aroutselvam and Zeavdeen, 2000). So credit becomes the most important input for the development in agriculture sector. It furnishes the farming community for undertaking new investments and/or adopting new technologies. Therefore, technological up-gradation and commercialization of agriculture is facilitated by the crucial role of credit. Institutional finance to a considerable extent served as foundation in making green revolution a success in terms of package of inputs like fertilizers, irrigation etc. and private sector capital formation. Hence, banking system is the life line of the Indian economy and it has played a critical role in the development of agriculture sector. It is the most dominant segment of the financial system, which also serves as a strong repository of liquidity.

The significance of agricultural finance is further felt by its distinctive role in the macroeconomic charter in poverty alleviation. The history of rural credit delivery system in India dates way back to Moghul times when Taccavi loans were introduced. The other key milestones in the history of rural credit delivery system in India are establishment of co-operative banks in 1904 which can be considered the dawn of institutional involvement in the sphere of agricultural credit, establishment of the RBI in 1935, first central bank which have taken interest in the field of agriculture and agricultural finance and strengthening the process of institutional development for

matters related to farm finance, and it continues to do so. Further, several efforts like setting up of Agricultural Finance Sub-Committee in 1944 under the chairmanship of Prof. Gadgil, All India Rural Credit Review Committee (AIRCRC) under the Chairmanship of B.Venkatappaiah in 1969, Nationalization of twenty Commercial Banks in 1969 and 1980, establishment of Regional Rural Banks (RRBs) in 1975, establishment of National Bank for Agriculture and Rural Development (NABARD) in 1982 and the ongoing reforms in the financial sector since 1991, Special Agricultural Credit Plans (SACP) in 1994-95, Rural Infrastructural Development Fund Scheme (RIDF) in 1995-96, several initiatives like Kisan Credit Card Scheme (KCC) in 1998, High level Committee on Agricultural Credit through Commercial Banks under the chairmanship of R V Gupta in 1998, Task Force to study and to suggest measures for strengthening Co-operative Credit System under the Chairmanship of Jagdish Capoor in 1999, Expert Committee on Rural Credit under the Chairmanship of Prof. V S Vyas in 2001, Working group to suggest amendments in Regional Rural Banks Act,1976 under the Chairmanship of K Madhava Rao in 2002 etc, are put in place to increase the credit flow to agriculture sector. An important development in this regard is the phenomenal growth of Self-Help Groups (SHGs) since 1990's. These networks apart from working as financial intermediaries also play a key developmental role in the economy.

1.1 Overview of the study

The importance of agricultural credit had been realized far before the inauguration of planning era in India and hence, institutional framework got the prominence and consequently a large number of efforts in the form of above mentioned formal financial agencies like Co-operatives, Regional Rural Banks (RRBs), Scheduled Commercial Banks (SCBs), Non-Banking Financial Institutions (NBFIs), and Self-help Groups (SHGs), etc. helped to cater to the short and long-term needs of the farming community. The sole purpose behind these measures ,taken from time to time, have been to build up the institutional apparatus of rural credit system with the crucial objective of improving access of farmers to institutional finance. The positive growth of institutional credit to agriculture recorded in the recent past has been yielded due to the efforts made to increase the quantum of agricultural credit. It is pertinent to note that the institutional credit flow has increased progressively in rural areas of Punjab since the commencement of green revolution. In the post green

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revolution period too, the institutional credit flow has increased steadily. But the sharp increase in the flow of institutional credit has created an impression that, in Punjab, institutional credit has reached almost to all the sections of the farmers and other households such as agricultural labourers, rural artisans etc. However a recent study (Singh *et al*, 2008) on indebtedness of farmers brought out that percentage of outstanding debt coming from non-institutional sources was 39 in case of marginal farmers. In case of small farmers, non-institutional debt accounted for 35 per cent of the outstanding debt. This clearly brought out that even in the developed state like Punjab the lower strata of farming population has to depend on non-institutional sources and these excluded farmers are yet to be included in the formal credit system. There is a huge financial exclusion in the rural areas. Therefore, inadequate credit availability hinders the way to adopt modern technology and private capital investments, which results in lowering the production and crop yields and pushes the farmer to borrow from non-institutional sources. As a result, the demand for agriculture credit is dampened. Therefore, the rural credit institutions have to come forth to help resolve the financial crisis of the agriculture sector, while ensuring their sustainability and viability in operation.

The identification of credit deficit areas serves as a mentor to anticipate the policy of expanding branch network of commercial banks. While Gujarat is important in terms of co-operative credit, Punjab is important in terms of commercial banks (Dadibhavi, 1988). In the year 2015-16 the credit to the tune of ₹877527 crore had been disbursed to India's agriculture sector, with share of commercial banks, cooperative banks and regional rural banks being 68.9, 17.5 and 13.6 per cent (Indiastat, 2017) respectively. The total out-standing advances to agriculture sector by the scheduled commercial banks (SCBs) alone in Punjab were to the tune of ₹701409 million by 2016, (Indiastat, 2017) which gives an ample evidence of SCBs' significant contribution both in Punjab and country at large.

Punjab which is developed agricultural state has experienced fast transformation from traditional to modern agriculture after mid-sixties due to new farm technology. The state has been rightly recognized as a leader of the country in the agricultural development due to substantial increases in the agricultural productivity and production especially of food grains. The large scale adoption of these technologies, which resulted in the increases in agricultural productivity and

production, has been facilitated by the expansion of institutional credit. As the agricultural production process started getting modernized due to higher use of purchased current and capital inputs, it became a costly affair making it difficult for the farmers to cover even the small expenses of crop production. Though the total institutional agricultural credit flow has increased overtime, it was simply not enough due to which the presence of informal credit agencies has not diminished. The percentage share of institutional sources in total credit has been more. The small and marginal farmers were still in tragic situation. Major portion of credit demand of the farmers was provided by the money lenders and the cooperative credit institutions were meeting the rest of it.

Agriculture production and crop yields of Punjab have nearly stagnated. There is thus an urgent need to diversify state's agrarian economy. But for this farmers need market and credit for the disposal of produce and introducing new enterprises/crops. The aim should be to convert the static credit into dynamic credit, which means at the end of the period the borrower has increased his assets, productivity power and income. This is the real development in credit lending which leads to a gradual change in the structure of the farm household. To this effect there is a need for in-depth micro level studies to provide answers to the questions of how institutional credit can contribute towards agricultural growth. This study is an effort in this direction. In view of the importance attached to agriculture, as a promoter of overall economic development, and the urgent need for improving the provision of and access to finance for agriculture, present study has been envisioned to observe the status and performance of SCBs in providing credit to agriculture in Punjab. The specific objectives along with the research gap are given below:

1.2 Relevance of the study

Review of literature has provided the background regarding the various aspects and it has been noticed that the literature is replete with the studies quoting similar surveys but in piece meal i.e. taking some of the assessment parameters under consideration and none of the studies on scheduled commercial banks (SCBs) conducted earlier appraised their performance in financing agriculture in Punjab, particularly with respect to location specificity. No evidence could be found to substantiate the carrying out of any comprehensive study for Punjab at agro climatic

zonal level. This study comes out to be of great importance as the state of Punjab is agriculturally the most developed state in the country. So, it becomes essential to observe the status and performance of SCBs in providing credit to agriculture in Punjab. Such an in-depth study covering growth, equity and adequacy aspects of agricultural credit have not been attempted in the state. So, this study is carried out to focus on the disbursement performance of the credit agencies of Punjab and thus explores the growth of agricultural credit (from supply side) over time and appraises the performance of the selected banks of the Punjab state.

1.3 Objectives

The main objectives of the study were as follows:

1. To examine the overtime trends and pattern of scheduled commercial banks' credit advances in the context of Punjab agriculture.
2. To study the outreach of scheduled commercial banks in terms of rural presence.
3. To have an overview of the borrowing pattern of farming community of Punjab and the share of scheduled commercial banks thereof.
4. To evaluate the efficiency of selected scheduled commercial banks in agricultural sector lending.
5. To study the impact on economic well-being of borrower farmers and their satisfaction with agricultural credit system.

1.4 Hypotheses

In the context of the study objectives, following hypotheses were framed:

$H_0 1$: There has been no change in lending to agriculture sector by scheduled commercial banks over time.

$H_0 2$: The rural presence of scheduled commercial banks has not changed.

$H_0 3$: The share of institutional sources in financing to agriculture has remained the same in all the zones.

$H_0 4$: There is no impact of credit on economic well-being of the farmers.

1.5 Chapter scheme

Keeping in mind the above mentioned objectives the present study was conducted and divided in to nine chapters. Chapter I is devoted to the introduction of the study. Chapter II deals with the existing literature available. Chapter III deals

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with research methodology adopted to achieve the objectives of the study. Chapter IV deals with district wise growth of scheduled commercial banks in terms of number of branches in Punjab. The trends and patterns of scheduled commercial banks' advances have been given where the share of agriculture sector out of the total credit advanced has been worked out. Further, the attempt has been made to highlight the direct and indirect credit provided to agriculture sector. The district wise analysis has been done for this and compound growth rates were also computed. Chapter V deals with the presence of scheduled commercial banks in different locations of rural, semi-urban and urban in Punjab and this was compared with country at large. Chapter VI shows the percentage of institutional and non-institutional finance provided to the farmer borrowers. In chapter VII, an attempt has been made to evaluate the efficiency of the selected scheduled commercial banks in terms of lending volume and financial health. Different ratios were computed and the lending volume to agriculture sector was analyzed for this purpose. Chapter VIII highlights the impact of credit given to the farmer borrowers. The concluding chapter provides the summary of major findings of the study.

Chapter-II

Review of Literature

CHAPTER II

REVIEW OF LITERATURE

Institutional credit to agriculture has always been the matter of primary concern for the policy makers. A number of studies on financing agriculture have been conducted in various parts of the country and abroad from time to time. A review of the past studies related to financing agriculture was deemed necessary in order to have an insight into the research gaps left there in. This section presents the review of literature highlighting many studies which have tried to evaluate different aspects of lending agencies in different regions or country at large taking different time periods. The relevant studies of the present investigation have been reviewed and divided into four sub-heads as under:

2.1 Trends and growth in rural credit

2.2 Borrowing pattern in rural areas

2.3 Performance of financial institutions

2.4 Impact assessment of lending agencies

2.1 Trends and growth in rural credit

The history of rural credit delivery system in India was introduced at the Moghul times followed by the establishment of co-operative banks in 1904 which are considered to be the starting of institutional engrossment in the field of credit to agriculture and further followed by a series of development efforts taken from time to time by the government. This section deals with the magnitude of agricultural credit advanced by different financial institutions in India. There were some of the studies which dealt with the branch expansion network of different lending agencies for different periods. Singh (1990) studied the role of commercial banks in Indian rural development and concluded that the share of rural branches in total number of branches had gone up from 22.2 per cent in June 1969 to 64.9 per cent by June 1989. Similarly, the share of rural deposits to total bank deposits rose from 3.1 per cent to 14.4 per cent, while the share of rural credit to total bank credit had gone up from 1.5 per cent to 12.9 per cent during the above said period. Rao and Rao (1993) studied the trends and growth of cooperatives and reported that primary agricultural cooperative societies (PACS), which were 10266 in 1955-56, had increased to 14267 in 1975-76 but declined to 6785 by 1986-87 due to the policy of reorganization of cooperatives.

Whereas the same aspect was studied for the period 1969 to 1995 by Pandey (1997) and it was revealed that the number of commercial banks' offices in rural locations had improved and registered a linear growth rate (LGR) of 7.5 per cent as against a compound growth rate of 11.12 per cent. Patel (2004) reported that during the period of 1994 to 2002, the number of rural branches of SCB's in India had declined from 35329 to 32481 indicating the closure of 2848 branches and opening of 7253 new branches in semi-urban, urban and metro-centers. Markkandeyan *et al* (2004) reported that there was an eight-fold increase in the total number of bank branches at all India level between 1969 and 1991. This mass increase was on account of growth of branches in rural areas from 1833 in 1969 to 35206 in 1991. The rural spread of bank branches indicated complete alteration from class banking to mass banking during this period. Patil (2005) also reported in the study on rural banking that the proportion of rural branches to that of the total branches of the SCBs had suffered a decline during the period 1991 to 2001. The credit deposit ratio (CD ratio) of the rural offices of the scheduled commercial banks (SCBs) had suffered a non-stop percentage decline from 60 to 43 during the above said period. Besides this, even the number of rural credit accounts had declined during the same period.

There were some studies pertaining to the volume of lending of different financial institutions. The analysis of Vaish and Chhipa (1988) was given in a study on the regional commercial banking development in India which reported that during the period 1950-69, there was an uneven spread of the distribution of commercial bank offices, deposits and advances, which was biased heavily against the backward states of Orissa, Bihar, Assam, Rajasthan and Madhya Pradesh. While the urban centres accounted for 43 per cent of the total bank deposits, these claimed as much as 60 per cent of the scheduled commercial bank (SCB) credit during 1960-66. Increase in the scheduled bank credit as percentage of increase in deposits utilized by the urban centers was 86.3 per cent, with the incremental percentage progressively diminishing in case of rural centers. The commercial bank offices, deposits and advances were the three basic aspects of commercial banking development making it a multi-dimensional aspect. Theoretically, there existed a strong correlation between these three aspects. However, the levels of regional development of commercial banking in India were measured, during 1960-61 to 1980-81, in terms of composite indices using modified factor analysis. The impact of non-economic factors, like urbanization, on banking

development was estimated by multiple regression analysis. Gundannavar (1991) carried out a study on State Bank of India (SBI) for the period 1969-1991 highlighting that the banks advances to agriculture rose from ₹88 crores spread over 25000 accounts in 1969 to ₹4345 crores disbursed to more than 54 lakh accounts by March 1991. Direct advances to farmers rose from ₹8 crores to ₹4087 crores, while indirect advances to agriculture rose from ₹80 crores to ₹258 crores during the same period. Rao and Rao (1993) concluded that the loans advanced by PACS increased by forty times (₹250.59 crores) from 1955-56 to 1986-87. The loan outstanding of PACS had also increased by nearly 58 times during the same period. It was reported that the overdue position of PACS was much more serious than those of scheduled commercial banks (SCBs) and district cooperative central banks (DCCBs). Pandey (1997) used the period of 1969 to 1995 and highlighted that the increase was the highest in rural deposits followed by that in total deposits and total credit of nationalized banks. The percentage of rural deposit to total deposits increased from 6.3 per cent to 15.6 per cent during the study period. The rural deposits had increased registering a LGR of 13.25 per cent as against a CGR of 23.10 per cent during the same period. It was reported that the nationalized banks no doubt were doing a great job, but when compared with private banks or foreign banks, the real picture of their service was different. It was concluded that progress of commercial banks was indicated by a phenomenal increase in rural deposits, total deposits, total credit and other important banking parameters. Similarly, Pandey (1998) studied the flow of direct finance by commercial banks and found that nearly 50 per cent were the short term loans out of the total loans disbursed. The medium and long term loans for different activities like purchasing of pump sets, tractors and other agricultural inputs, watershed management, development of land, construction of wells etc. have also increased considerably from 50-52 per cent. The priority sector lending limits (17-18 per cent) of their total credit were not met sometimes only. The appraisal of the flow of institutional credit to weaker sections in Warangal district of Andhra Pradesh was studied by Renuka and Ali (1998) and it was found that the percentage increase in the institutional credit flow to agriculture sector rose to 97 in 1996-97 which was 75 in 1992-93.Pathania and Singh (1998) concluded that Himachal Pradesh State Co-operative Bank Ltd had shown a tremendous increase in the loan advancement which rose nearly four times during the period 1991-92 to 1995-96 and registered 31.56 per

cent of compound growth rate. The loan advancement per branch had also increased registering an increase of 198 per cent. It was further concluded that the mounting overdue could be considered as one of the serious problems, which affected the repaying capacity and also created obstacles in the recycling of funds. Patil and Ramesh (1999) studied the growth trends of urban cooperative banks in Goa with regard to the selected variables viz., membership, share-capital, deposits, advances, working capital and profits for the period 1964-65 to 1995-96, split into two sub-periods i.e., from 1964-65 to 1979-80 and 1980-81 to 1995-96 to study comparative growth trends. The results of the analysis revealed that during the second period, the growth rates of all the variables declined considerably as compared to the first sub period. Nair (2000) studied the trends in rural intermediation and revealed that the advances to agriculture in India by scheduled commercial banks increased steadily by 10 times during the period 1980-81 to 1997-98. While the percentage share of agricultural credit in total credit outstanding was 15.72 per cent between the period 1980-81 to 1988-89 but later on it declined to 10.69 per cent in 1997-98. A study by Thingalaya (2003) reported that by the year 2002, the rural India accounted for 47.7 per cent of branches, 30.2 per cent of deposit accounts, 14.0 per cent of deposit amount, 44.5 per cent of advances accounts and 14.0 per cent of advances amounts respectively. Patel (2003) in a study on the performance of rural branches of public sector banks (PSBs) brought out that the net credit to farm sector had remained almost stagnant at 15-16 per cent as against 18 per cent stipulated by RBI. It was revealed that despite the outstanding loans growing in absolute terms, the number of agricultural loan accounts of SCBs had gone down from 2.5 crore in 1994 to 2.02 crore in 2002. It was during post reforms era (1994-2000), the average deposit growth had become much faster (28.8 per cent) than the growth of advances (18.4 per cent). Patel (2004) concluded that the outstanding agricultural credit was less than the stipulated level of 18 per cent of net bank credit between the period 1994 to 2002 which accounted for only 9.8 per cent in the total outstanding credit of SCBs. Shah (2007) reported that the cooperatives were the major source of agricultural credit at the village level in Maharashtra as compared to commercial banks and RRBs. The compound growth rate of primary agricultural credit societies in the loan advances from 1991 to 2000 had been 9.36 per cent as compared to the 7.12 per cent of the apex co-operatives. Hence, cooperatives had a major share in rural credit delivery but the

cooperatives were shown to have maximum amount of non-performing assets, hence, were unable to face the market forces.

Abate *et al* (2002) reported in the study conducted in Karnataka that the maximum compound growth rate was seen in crop loans (17.2 per cent) followed by total agricultural loans (15.6 per cent) and term loans (13.1 per cent) disbursed to farmers by all the institutions for the period 1986-87 to 1998-99. The outstanding agricultural advances per hectare of gross cropped area by commercial banks had also increased considerably during the period 1984-85 1998-99 and registered a percentage growth of 12.86 compounded annually. The share of agriculture in net bank credit had shown a declining trend during the study period. Sahu and Rajasekhar (2005) analyzed that there had been a significant decline in the share of agricultural credit by scheduled commercial banks (SCBs) in the total credit during the period 1981 to 2000 especially after the financial sector reforms. Chavan and Ramakumar (2007) highlighted that it was the growing share of indirect finance which led to the increase in agricultural credit provided by commercial banks including regional rural banks. It was also found that direct credit to agriculture had also increased and a sharp increase in the portion of long term credit for financing enterprises related to agri-business could be seen, instead of the small and marginal farmers. Khan *et al* (2007) studied the per hectare institutional credit flow to agriculture in different regions of the country and showed that there was a tremendous increase in the agricultural credit in different regions of the country though in different degrees during the period of 1991-92 to 2001-02. Sidhu *et al* (2008) had also highlighted the same that the production and investment credit had grown over the period and it had been associated with the use of modern production inputs and private investments which was given in a study on dynamics of institutional credit in Punjab. The production credit increased at the rate of 9.54 per cent per annum in 2003-04 while the investment credit registered an increase of 5.1 per cent. Gaur and Khatkar (2010) pointed out that the agricultural credit provided by the scheduled commercial banks (SCBs) had increased substantially during TE 1972-73 to TE 2008-09 and share of RRBs had increased by almost 10 per cent in the institutional credit whereas the share of cooperative banks had consistently decreased during the above said period. The states with higher per unit disbursement of credit were Kerala, Tamil Nadu, Punjab, Haryana and states with lower disbursements were Assam, Rajasthan, Orissa and Jammu & Kashmir during

2007-08. Kisan credit card scheme provided loans for agriculture and allied activities, crop loans and consumption loans to the farmers where cooperative banks distributed the highest number of kisan credit cards during TE 2000-01 to TE 2008-09. The share of regional rural banks and scheduled commercial banks had also increased during the same period. The share of farmers with up to 2.5 acres of land in total formal credit had declined a bit during TE 1982-83 to TE 2005-06. However, the farmers having 2.5-5 acres of land got an increased share from 19 per cent in TE 1982-83 to 25 per cent in TE 2005-06. A significant progress could be witnessed in institutionalizing the rural credit and the supply of institutional credit to agriculture had grown year after year which had reduced the share of private money lenders from nearly 93 per cent in early 1950s to about 31 per cent by 1990. By seeing the low credit advanced per unit cropped area to farmers it was essential to increase the agricultural credit flow in rural areas. Kumar *et al* (2010) highlighted that the institutional credit to agriculture increased tremendously in real terms during the last four decades. A significant change could be witnessed in the structure of lending outlets and commercial banks had appeared to be the chief source of institutional finance in recent years. But the share of long term credit in total credit declined which might hamper the sustainable agricultural growth. There were a large number of socio-demographic factors which included occupation of household, family size, gender, caste, education etc. which affected the quantum of institutional credit availed by the farmers. The study suggested that the procedure should be simplified so that small holders and less-educated/illiterate farmers could have better access to agricultural credit. Rehman and Shereen (2011) brought out that the direct (short term and long term) and indirect institutional credit to agricultural sector had augmented significantly during the period of 1975-2005. The total direct short term credit to agriculture increased during the period 2002-03, while the long term credit for the same period was moderate. The total credit to agricultural sector increased massively during the year 1990-91 which grew moderately during 2001-02. Rangaswamy and Gopalappa (2011) highlighted the increased share of Commercial Banks (CBs) to be at 74 per cent in 2008-09. Although, the multi-agency outline of credit to agriculture in India worked well over the period yet the demand for agriculture credit was not met in the country. Mathew and Michael (2012) studied the agricultural credit flow in Kerala and found that there was a continuous increase in the

magnitude of agricultural credit both at current and constant prices during the study period 1997-98 to 2008-09. At state level, the institutional sources were able to meet only 17 per cent of the cost of cultivation (per hectare). The importance of agricultural credit was highlighted for the state of Kerala which was undergoing the rapid shift from food crops to cash crops, high cost of land, deterioration of capital formation in agriculture, rising cost of cultivation and severe shortage of labour. Gandhimathi (2012) highlighted that the co-operatives dominated the service in the agricultural credit disbursal till the year 2004-2005. In 2005-06 the direct amount of loan disbursement by the scheduled commercial banks was higher than that of the co-operative banks and regional rural banks. Bala and Reena (2015) in a study on disbursement of agricultural credit by regional rural banks in Sirsa district of Haryana found that the percentage disbursal to agriculture was the highest in the year 2005-06 but agricultural disbursement was less than the total disbursement which was 7.94 per cent and 9.28 per cent respectively and it increased at 1.1 per cent significant level. NABARD (2018) pointed out towards the increased share of credit to agriculture sector in gross value added of India at current prices which was 34 per cent in 2011-12 and had increased to 45.5 per cent in the year 2017-18. It was expected that this increased share could help in enhancing production of crop and meeting the credit demands of the farmers. Yadav (2019) highlighted that there were regional disparities in agricultural credit disbursement by the scheduled commercial banks in India during the period 2001- 2015 and pointed out that Southern region (Rs. 3670 billion) had the highest share followed by Northern region (Rs. 1812 billion), Central region (Rs. 1570 billion) Western region (Rs. 1139 billion), Eastern region (Rs. 753 billion) and North Eastern region (Rs. 99 billion). It was also concluded that the states with higher state domestic product received higher amounts of credit for agriculture sector and there seemed no signs to reverse this situation. Therefore, it would require Herculean Task by the government and effective leadership by the concerned regions to ensure that these gaps did not widen any further.

In nutshell, the studies concluded that the number of branches of scheduled commercial banks had been increasing and the number of rural branches had declined over the period as compared to those of semi-urban and urban branches. It was also found that the advances to agriculture by scheduled commercial banks had increased manifold since the nationalization of banks.

2.2 Borrowing pattern in rural areas

Various researchers dealt with the studies highlighting the borrowing pattern of multi-agency lending business covering SCBs, regional rural banks (RRBs), cooperative banks, public sector banks and private sector banks. Oberoi *et al* (1988) in a study on the trend of loans advanced and recovered by the commercial banks in a tribal vicinity of Himachal Pradesh for the period 1980 to 1983 found that the loan advancement in Kinnaur district, Lahaul and Spiti districts increased by 600 per cent and 240 per cent respectively. The commercial banks constituted nearly 35 per cent of the total amount of loans advanced by all other sources in 1980-81 and it increased up to 70 per cent by the year 1985-86. Goyal and Pandey (1988) concluded in a study on primary agricultural cooperative credit and service societies (PACCSS) in Hissar District of Haryana covering the period between 1984-85 to 1996-97 that the growth rate of loans advanced was reported to be 12.54 per cent, loans outstanding and over dues increased at the rate of 15.47 per cent and 16.89 per cent respectively. Sharma (1990) in a study on financing of agriculture by commercial banks in Bihar, covering the period June 1969 to June1983 concluded that outstanding advances in agriculture sector increased from 2.6 per cent to 24.1 per cent of total bank credit. Direct finance to agriculture increased from 0.5 per cent to 18.4 per cent of total bank credit, while the indirect finance to agriculture increased from 2.1 per cent to 5.7 per cent of the total bank credit during the same period. Satyasai and Viswanathan (1998) studied the short term and long term structures of cooperative credit system and found that both the short term and long term credit grew in absolute terms. Short term credit per hectare grew about 7 times during 1980-81 to 1994-95. The growth rate was faster in pre-integration period (9.04 per cent per annum) than the post-integration period (7.62 per cent per annum) while the term credit increased two times during the above said period. The growth rate was lower in post-integration period as compared to pre-integration period. Samal (2002) studied the agency wise share in credit disbursed in West Bengal and the results revealed that the average annual credit disbursement to agriculture in the state for commercial banks increased tremendously whereas a decline in the disbursement of co-operatives was witnessed during the period 1994-96. The RRBs showed a continuously increasing trend during the above said period. In case of all India status, the amount of credit disbursed increased by more than four times during the same period. The cooperative credit disbursement increased nearly

three times and that of regional rural banks increased by one per cent during the same period. The percentage change in credit disbursement was the highest for commercial banks in West Bengal (78.33 %) followed by cooperatives (28.7 %) and RRBs (15.38 %). The percentage figures showed a similar trend in all India scenarios as well. Khan *et al* (2007) revealed that in Punjab, the average amount of production credit as percentage of average cost of cultivation varied between three and five per cent. While in other regions like Kerala the increase was witnessed up to 39 per cent from 20 per cent, and in North East region the increase was perceived to be 3.3 per cent from 0.1 per cent during the period 1991-92 to 2001-02.

In addition, the share of different financial institutions in total lending was also highlighted in some of the studies. The study related to the share of institutional and non-institutional finance by Mohanty and Haque (2003) highlighted the flow of institutional credit in India and found that the percentage share of institutional credit to total credit increased significantly over time in almost all the regions of the country except for Andhra Pradesh, Haryana, Himachal Pradesh, Maharashtra, Orissa and Rajasthan where there was a marginal decline. The share of loans from institutional to total cash loans increased from 61.2 per cent in 1981 to 66.0 per cent in 1991. However, the percentage share of non-institutional credit declined remarkably on most of the regions of the country. Singh and Toor (2005) studied the sources of credit of farm households in Punjab and concluded that more than fifty per cent (58.13 %) debt of farmers was coming from the non- institutional credit agencies, while the debt from commercial banks was 28.75 per cent followed by co-operative banks with 13.12 per cent of the total credit. Atibudhi (2005) conducted a study in Orissa on the factors influencing the flow of institutional agricultural credit and highlighted a decline in the agricultural credit flow by the institutional sources in the state during the period of early nineties. Among the agencies, the commercial banks and regional rural banks showed the prominent negative growth than that of cooperatives. The cooperative agencies were still the leading sources with regard to the agency wise credit disbursement followed by the commercial banks and the regional rural banks. The factors that determine the credit flow were mainly the commercialization of agriculture, increasing cropping intensity and per hectare increasing consumption of fertilizer. Jeromi (2007) studied the farmers' indebtedness and suicides in Kerala and revealed that the main source of borrowings by the farming community in rural areas

were the formal credit agencies rather than the informal agencies. In 2003, formal agencies accounted for about 82.3 per cent of the outstanding loans of farmers. The credit was mainly availed for non-agricultural purposes. The share of non-farm business in total loans borrowed was much higher than the share of expenditure on farm related activities which constituted only 21.4 percent of the borrowings in the year 2003. Only around 44 per cent was utilized for non-production purposes like consumption, social functions etc. Mishra and Mohapatra (2017) highlighted in the study on agricultural finance that the share of money lenders had been declining over the period 1952 to 2010. It was also mentioned that the scheduled commercial banks led in providing short term credit but the amount outstanding was also found to be the highest in case these banks. There had been stagnant share of agriculture sector after 1980s. It was suggested that more schemes like kisan credit cards (KCC) should be there and training to the borrowers regarding procedural formalities could help improve the access to institutional finance.

Some studies highlighted the problems faced by the borrowers and gave recommendations to improve the system. Rajasekhar and Suvarchala (1991) studied the institutional credit and overdue and concluded that, in the rural areas politically influential borrowers took away the major share of subsidies and easy money and the over dues with the banks were increasing. It was highlighted that the loan policies and procedures of lending agencies had weakened the borrowers' ability to get sufficient incremental returns which could enable them to repay their loans which resulted in the mounting over-dues. While stressing these points, the gap between actual implementation and the set guidelines was also noticed. Likewise, there had been variation between the actual unit cost and amount disbursed in various categories of loans, which again emphasized that these shortfalls had contributed to the default. Thus the concentration was on the causes of non- willful default. Swaminathan (1991) reported that the directed credit policies in India had been used to promote agriculture and small-scale industry. The targeted approach towards agriculture was justified because agriculture was a risky endeavor and moreover, the rural households were credit rationed by the formal banking sector. Gill (2004) highlighted the exploitation of cultivators at the hands of money lenders cum commission agents (CAs) in Punjab which was the class of moneylenders/CAs operated by interlinking the credit and output markets. The consequences thus of such transactions had been analyzed in a

region-specific analytical study. Clearly, institutional credit was not increasing according to the demand. The reform measures were evaluated and it was revealed that there was a gap between the requirement and the supply of credit and some of the alternative policy measures were needed. Dutta (2012) pointed out towards the stagnation in Punjab which occurred during post green revolution phase of 1980 to 1990, indebtedness and suicides in the late 1990s. Further, the practices of monoculture, increasing costs of production due to the use of expensive chemicals, mechanization, labour and irrigation eventually made the farmers debt ridden to various formal and informal credit institutions. On the other hand, in the post liberalization phase of economic policy of the country, the marginal importance given to farmers hindered the way to cope up with the system of free and open market and hence increasing the incidence of indebtedness at an alarming rate which resulted in farmers' suicides across the state. Selvaraj and Palajikumar (2015) conducted the study on the role of commercial banks in lending to agriculture sector in which the borrowers were divided into two groups of defaulters and non-defaulters and used the discriminant analysis. It was concluded that bad debts were increasing due to willful defaulters in the selected area. The commercial banks were promoting agricultural inputs to the borrowers to help ease the finances and were also trying to motivate the borrowers to adopt intensive cultivation. NABARD (2018) reported that the credit flow to agriculture sector by commercial banks was to the tune of 75 per cent out of the total institutional credit in India followed by the constant share of both regional rural banks (12 per cent) and cooperative banks (13 per cent) during the two year period of 2016-17 and 2017-18. The flow of credit to agriculture sector increased at the compound growth rate of 16 per cent per annum during the period 2008-09 to 2017-18.

In nutshell, the studies concluded that the institutional credit provided by commercial banks, regional rural banks and cooperatives had been increasing. The share of non-institutional credit had been declining since the post reform period in the country. It was found that the long term credit in Punjab had led to over capitalization in agriculture in the state. The credit was being used for non-farm and unproductive purposes leading to suicides. In the post reform period the farmers got marginal

importance and could not cope up with the free and open market system and hence the incidence of indebtedness increased leading to suicide in the state of Punjab.

2.3 Performance of financial institutions

Shah (1986) conducted the study of selected branches of Bank of Baroda zone and concluded that as size of the branches in terms of the volume of business increased in rural and urban areas; unit-operating cost had a tendency to decline. It was concluded that there was further scope for the economies of scale to increase the efficiency of the branches, but more particularly in case of rural branches. It was also expressed that in order to probe further into the scope of economies of scale in banking business, activity wise or service wise cost analysis at branch level would be more helpful. Jain (1988) examined the operation of economies of scale which was empirically examined at branch level and at bank level and was in full agreement with the comments of Chakravorthy Report that the concept of operational efficiency of a commercial bank in India was associated with diverse aspects of cost effectiveness, profitability, customer services, priority sector lending, and mobilization of deposits and deployment of credit in rural and backward regions. Singh and Chahta (1990) presented the rural credit issues discussed by various authors in national seminar held in India and highlighted the emerging issues and challenges during the 1990s in the sphere of rural credit by these authors. V. S. Vyas pointed out that various facets of rural credit such as institutional viability, efficacy of the operational policies and role of credit in encouraging equitable growth in rural areas were being seriously questioned and in the coming years these questions would become more relevant as demographic, institutional and economic scenarios change perceptibly in an autonomous way as well as in response to changes taking place all over the world. R. N. Malhotra raised the issues of viability of primary agricultural credit societies, regional rural banks and commercial banks and the new strategy of rural lending called the service area approach. C. N. Nair (Rural credit: emerging issues and challenges) touched upon the major areas of concern regarding the rural credit system and argued that the system as a whole was weak and deposit mobilization was less than the optimum level. A. K. Gupta (Banking for rural transformation: issues for the nineties) dealt with the major transitions that banking had experienced and also listed the challenges in agricultural technology systems, emerging organizational constraints

including the problem of viability, overdues, banking, non-farm sector and backward regions. B. K. Ghose and K. V. Patel (Institutional credit for farm sector in India with particular reference to marginal and small farmers) argued that the varied groups and purposes covered posed a great management problem for the credit institutions. G. P. Bhave (The role of rural credit delivery system in the nineties) pointed out that the issues for the 1990s were mandatory development of resources, interest rate policy, and wholesale write-offs. D. Rajasekhar and V. Vyasulu (The rural credit delivery system: a study in Pali District of Rajasthan) observed that the growth of overdue was alarming and that factors like inadequate field staff and transport affected loan management. Kahlon (1991) focused on the problems from the borrowers' angle that the mounting overdues were due to the defective loan policies and lending procedures of the institutions rather than the rural borrowers. A study by Gadgil (1992) suggested that there should be formulation and working of committees framed by the government from time to time to review the performance of financial institutions and the recommendations should be made by them on modifying the rural banking structure, interest rates on agricultural loans and direct programmes of rural credit and discussed their likely impact. Among the aspects examined in this study, the most important was the upward revision of interest rates on agricultural and other priority sector rural loans. Another study by Sidhu and Poonia (1994) focused on the financial performance of commercial banks as a critical issue related to agricultural credit disbursal and reported that the overhead cost of commercial banks operating in the rural areas was very high due to highly paid professional staffing structure resulting into high transaction costs for agricultural credit, whereas the rate of interest charged on the priority sector was lower than that charged on non-priority sector loans, which made the servicing of small-sized large number of agricultural loans very costly and uneconomical for these credit institutions and forced them to erect non-price credit rationing barriers in the form of long and complex application procedures, time consuming loan approval procedures and loan collaterals. Parmar and Patel (1994) in a study of ccommercial banks revealed that the recovery, as per cent of total demand, in agriculture sector varied between 30 and 59 per cent. It was revealed that the performance of different banks with respect to recovery varied significantly. The variations in the recovery performance across the years were not found to be

significant, in spite of increasing trend in recovery presented over the years. It was suggested that organized and well-planned serious efforts should be made to recover the loan arrears and at the same time, the quality of lending called for improvement. Desai (1994) concluded that institutional credit for agriculture could facilitate growth in employment and output but the process also required land and labour augmenting technological change. Das (1997) examined the efficiency of the Public Sector Banks (PSBs) in India since nationalization using longitudinal data and compared the efficiency of the banks prior to deregulation with the efficiency after deregulation using a non-parametric programming approach and used labour and loanable funds (deposits plus borrowings) as inputs and margin and commission, exchange, brokerage etc. as output measure. It was found that the inefficiency that existed in these banks was merely the result of technical rather than allocative efficiency. Badatya and Satyasai (2000) focused on restructuring of the rural credit system which should aim at reducing the cost of credit for the satisfaction of the ultimate borrower as well as the cost reduction per unit of business. It was suggested that this could be achieved by integrating short and long-term wings, rationalization of co-operative structure by removing one of the tiers, exploiting scope and scale economies available in rural lending. The co-operative system should work in line with commercial banks/RRBs. Co-operatives should try to bag an advantage of their ability for the close interface with the clientele to enjoy the real success. Kaur *et al* (2001) conducted a study on cooperative credit institutions in Punjab and reported that there had been inevitable need for credit in input intensive agriculture of Punjab since late 1980's. Reviewing of the lending policies had been suggested in order to reduce the prevalent informal agencies in the agricultural credit markets. Prasad (2003) analyzed the performance of RRB's in India during both the pre (1975-90) and post (1991-2002) financial sector reforms era. The performance analysis revealed that the profit margin of RRBs to the tune of ₹1.14 crores in 1980 turned into a loss of ₹81.31 crores by the year 1990 and again to a profit of ₹608 crores by 2002. It was also concluded that the increase in the deposits and improvement of recovery of loans played an important role in operational efficiency attained by RRBs. It was indicated that the ratio of loans and advances to agriculture and non-agriculture had been almost reversed during last decade. It was also concluded that all these changes were due to the implementation of

a major step of financial sector reforms viz., diversification of business activities including financing of non-targeted groups. Mohan (2006) reviewed the performance of agricultural credit in India and reported that there was an increase in the overall institutional credit flow during 1970-71 to 2003-04 and noted that several gaps had emerged during the course of time in the system like; limited deposit mobilization, paucity of medium and long-term lending and inadequate provision of credit to small and marginal farmers. To bridge these gaps, it was suggested that, in the changed scenario, the agricultural financial institutions needed to be made strong and viable to provide for the financial requirements in building the necessary agricultural infrastructure both institutional and marketing.

While at the same time, some authors dealt with the efficiency and profitability of different lending institutions. Noulas and Ketkar (1996) examined the technical and scale efficiency of Indian public sector banks (PSBs) for the year 1993 using a non-parametric production function frontier approach. The intermediation approach of measuring output was followed, and labour, capital and funds as inputs of production were taken. Overall technical inefficiency was approximately 3.75 per cent, of which only 1.5 per cent was on account of pure technical inefficiency and 2.25 per cent inefficiency was due to scale inefficiencies. Most of the banks were found to enjoy the increasing returns to scale. Thus, it was concluded that the efficiency of the Indian PSBs could be further enhanced by increasing the scale of operations. De (2004) empirically investigated the ownership-liberalization efficiency issue of Indian banking industry using a panel data set for the years 1985 to 1995-96. The results had shown that the efficiency of banking industry had improved after liberalization. Among the public sector banks, the State Bank of India had gained the most in terms of technical efficiency in post liberalization era. Raja (2005) reported that the several factors that determine the operating efficiency and profitability were level of advances, level of deposits, level of customer service, level of capital and reserves, number of branches operating etc. It was concluded that for enhancing the profitability of a bank, the burden rate (difference between operating expenses and other income) should be reduced while the spread rate (difference between interest received and interest paid) should be increased. Prita (2013) pointed towards the basel norms designed by The Bank for International Settlements in an attempt to set international

norms for risk management in banks which emphasized on the role played in creating awareness of the importance of capital in managing banking risk, forms of capital recognized in capital adequacy measures and the norms emerged against the background of the global banking crisis of 2007 in first, second and third basel respectively. Basel III especially aimed at strengthening the banks' capital to help the banks do away with short-term credit, improving risk management measures and governance and strengthening of transparency and disclosure of banks funding.

Some scholars highlighted the performance of different lending agencies in terms of advances and deposits. Chippa (1986) conducted a study and revealed the levels of rural banking development in the selected states of India by constructing the composite indices of rural banking development by the technique of modified factor analysis. It was concluded that agricultural development and infrastructural development were the main influencing factors of rural banking in the country. Punjab emerged as the only highly developed state in rural banking based on the findings of the study, for the period 1972-79. Bhatt *et al* (1989) carried out a case study of Junagarh District Central Cooperative Bank from 1975-76 to 1986-87 and reported that the growth rates of deposits and net outstanding (net outstanding were worked out by deducting the overdue amount from the total outstanding) were almost same. Whereas there was deviation between growth of deposits and total outstanding. A study in Cuddapah District, Rayalaseema, Andhra Pradesh was conducted by Reddy and Reddy (1997) on the overdue and recovery performance of institutional agricultural credit especially cooperatives, commercial banks and government in 1993-94. The farm sizes and overdue of institutional credit showed a positive relationship for both types of village (canal irrigated and non-canal irrigated). The ANOVA results showed no significant difference between the institutions regarding the level of default and building up of overdue across different categories of borrowers. The repayment of commercial bank credit and farm size had shown a positive relationship whereas an inverse relationship was observed between repayment of cooperative credit and farm size in the two villages. Selvaraj and Gayathri (2004) studied the overall performance of Thalapathisamuthiram primary agricultural cooperative bank during the period 1996-2002 by analyzing the deposit mobilization, financial performance, pattern of deposits and their growth. It was concluded that the

bank had recorded an increase of ₹84 lakhs in total deposits. Goyal and Mehta (2006) conducted a study on Hisar Sirsa Kshetriya Gramin Bank (HSKGB) covering the period 1986 to 2003-04 and concluded that there was a significant growth in all the performance indicators like staff, deposits, loans advanced, except number of branches and credit deposit ratio. More than two thirds of the total advances had gone for agriculture and allied activities. The recovery position had been found quite satisfactory, which stood at 88 per cent.

Reddy (1993) carried out a study on performance of Public Sector Banks (PSB's) in financial assistance to priority sectors for the five year study period (1988 to 1992) and revealed that the amount of advances, with major share to agriculture, had been increasing whereas the percentage share of priority sector lending to total bank credit had been declining. It was reported that there was a need for monitoring the various schemes offered by banks in priority sector lending and steps were needed to be taken to improve the performance of PSBs. Parimalarani (2011) analyzed the performance of the commercial bank in lending to priority sector for a period of 14 years (1995–1996 to 2009–2010) and found that these advances were in increasing trend which were 13.99 times for public sector banks, 35.63 times for private sector banks and 69.09 times for foreign banks. A study by Rajarajeswari (2016) highlighted the problems behind agricultural credit using the secondary data from 2002 to 2012. It was concluded that the mass illiteracy of people in India especially rural people was the main reason behind the problems of agricultural credit. There was a lack of awareness on the part of farmer borrowers about various sources of farm credit which were being supplied at a lower rate of interest. Hence, it became difficult for the farmers to judge the source of credit, which supplied the credit at a lower rate than the one collected by the private money lenders. It was also found that even if the farmers were aware of the institutional sources, the poor resource base does not permit them to offer anything as security which was essential in credit transactions of financial institutions. The village money lenders took advantage of this situation by advancing liberal security but compensating the service with higher rates of interest and the farmers were left with the only option of forced sale of the produce.

A lot of authors conducted studies which discussed about the priority sector targets given by the Reserve bank of India to the financial institutions. Selavan and

Samwel (1999) reported that the priority sector lending for urban cooperative banks (UCBs) was fixed at 60 per cent while that of lending to weaker sections was fixed at 15 per cent of the total advances made. It was also reported that the UCBs always exceeded the 60 per cent target fixed by the RBI. The percentage of priority sector advances outstanding to total outstanding in Kodaikanal Urban Cooperative Bank was more than 85 during 1991-92 to 1996-97. Further, Uppal and Juneja (2012) studied the relative performance of public sector banks with respect to their priority sector lending and concluded that the performance of old private sector banks was much better than nationalized banks. There was a great percentage increase in the advances to priority sector by SBI and its associates and new private sector banks on one hand and on the other hand were more successful in achieving their targets in 2011 as compared to other bank groups. Kumar and Kumar (2016) pointed out in the study of public and private sector banks that the stipulated target given by the Reserve Bank of India for agriculture sector was not achieved during the two phases of the study, 2001-2007 and 2008-2014. It was further highlighted that the share of credit to agriculture sector seemed to be stagnant which needed attention of the policy makers and efforts were needed for the financial inclusion by the public sector banks as the private sector banks were more interested in maximizing the profit. Solanki (2016) conducted the study on Central Bank of India using secondary data and concluded that there was no significant difference in the actual and expected ratio of the total agricultural lending, direct and indirect lending to agriculture but the selected bank failed to fulfill the target of 18 per cent of priority sector advances to agriculture set by the Reserve Bank of India during the study period. Meutia *et al* (2017) conducted a survey in different countries and revealed that the agricultural banks and cooperatives in China, Iran and Sudan had adopted a different nature of business where these banks advanced credit when farmers needed it and offered flexible repayment schedules of time and payment amounts. To accommodate the nature of this agricultural business which was a risky endeavour, some of these agricultural banks had offered partnership financing, where banks received a share of profits and were willing to bear the risk of bank losses. Kapur (2018) concluded that the thrust of the policy makers had always been towards implementing major programs in agriculture and allied sectors which include National Food Security Mission, Rashtriya Krishi Vikas Yojana, Macro Management of Agriculture, Integrated Scheme of Oilseeds, Pulses, Oil Palm and Maize and National

Mission for Sustainable Agriculture. The important factors that were required for agricultural production were technology, seeds, irrigation, fertilizers and agricultural credit although these areas had witnessed progression earlier. Singh (2019) concluded in a study on Punjab that crop diversification had been part of Punjab's supposed agricultural policy for several decades, but progress had been well below targets. The recommendations of the second Johl committee on crop diversification in 2002 suggested that one million hectares be shifted from wheat and rice to other crops, especially pulses and oilseeds. Innovation through diversification of agricultural production placed demands on the knowledge base of farmers, as well as their risk-bearing capacities, that acted as barriers to such innovation. The physical and institutional infrastructure had not developed in Punjab which was required for crop choice innovation and diversification. This could not be created by the individual farmers but required a mix of public and private participants to act together. There was a need of infrastructure which was more complex, sophisticated and expensive than what was created in the 1950s and 1960s.

In nutshell, the studies concluded that that there was a tremendous increase in the institutional credit to agriculture in real terms during the past four decades. The agricultural output was affected positively and significantly by the direct agricultural credit. The private sector and public sector banks need to emphasize on financial inclusion to fulfill the target of Reserve Bank of India regarding agriculture sector advances. It was found that there was a lack of awareness on the part of farmer borrowers about various sources of farm credit, which were being supplied at a lower rate of interest. Hence, it became difficult for the farmers to judge the source of credit, which supplied it at a lower rate than the one collected by the private money lenders. The studies suggested that the procedure should be simplified so that small holders and less-educated/illiterate farmers could have better access to agricultural credit. On the other hand it was concluded that for enhancing the profitability of a bank, the burden rate (difference between operating expenses and other income) should be reduced while the spread rate (difference between interest received and interest paid) should be increased. Some studies highlighted the effect of monetary distortions on financial stability in the tributary of institutional quality. It was also suggested that cooperative credit institutions need to review their policies to curb the share of non-institutional credit and should work in line with the commercial banks and regional rural banks.

2.4 Impact assessment of lending agencies

A wide range of scholars dealt with the studies which highlighted the impact of credit disbursed by the different lending agencies in different regions of the country. Some studies were related to role of institutional credit in financing agriculture in the post reform period. Sidhu *et al* (1999) in a study conducted on institutional agricultural credit in Punjab reported that the supply of institutional agricultural credit grew substantially during 1970-71 to 1995-96, and the small and marginal farmers had better access to institutional agricultural credit than medium and large farmers. It was also reported that the Punjab agriculture has become more input intensive since late eighties, resulting into greater credit requirements but the credit supply to input use growth had deteriorated during the period. The institutional credit availability, which was less than 20 per cent of the operational costs of crops like wheat and paddy, failed to meet fertilizer cost alone. This had led to the increased dependence of farmers on the commission agents for their financial needs. On the other hand, growth in the investment credit was more than the capital requirements of the farming sector leading to over-capitalization of the state agriculture. Therefore, it was suggested that the formal credit agencies should review their lending policies in order to cater to the credit needs of the farmers and to reduce the presence of informal agencies in the agricultural credit market. Thingalaya (2003) in a study on performance of banking sector reported that the efforts made to reach out to villages had resulted in growing number of rural customers availing services of the banks. Satish (2006) examined that there had not been uniform growth of institutional credit and it was not in line with the demand for such credit during the post green revolution and post nationalization phase which resulted in increasing indebtedness in the state of Punjab. The use of debt was for unproductive purposes resulting in suicides. Though indebtedness could not be considered the only cause of suicides but it was one of the major causes of suicides. No direct fundamental relationship was found between indebtedness, suicides and institutional credit in Punjab but the problem of indebtedness and suicides were only symptoms of a large unhappiness which needed to be seen in the light of dissipation of economic and rural infrastructure, rising level of unemployment in rural area and stagnation of agriculture. Sahu (2007) pointed out towards the magnitude of inter-state variations in supplying the institutional credit for agriculture in India using data for the period 1981-2000 which was confined to 14

major states and found that the rate of growth of agricultural credit was more during the pre-reform period as compared to that of the reform period in majority of the states. The uneven growth of agricultural credit during the sub-periods as well as across the states was also observed. The percentage of irrigated area to gross cropped area and the density of bank branches per 1000 farmers were acknowledged as the most important factors influencing the supply of agricultural credit across states and it was also found that an increase in credit-deposit ratio need not necessarily ensure more supply of credit to the agricultural sector. Khan *et al* (2007) revealed that in the year 1980-81, there was 83.4 per cent extent of coefficient of variation (CV) in the flow of per hectare institutional short term credit to agriculture across the states which increased to 135.92 per cent in 1990-91 (pre-liberalization period). The magnitude of these variations declined in the post-liberalization period of 2001-02. The flow of short-term institutional credit per hectare was the highest in case of Tamil Nadu and the lowest in Assam during the above said period. Another study conducted by Satish (2007) discussed that the negative policy had been prevalent since the beginning of the post-reform era related to credit for agriculture and other priority sectors and it had marked itself in three broad areas: the enervation of the institutional architecture for rural credit, disincentivisation of credit flow to agriculture through the mechanical application of Basel norms and the squeezed on resources available for agricultural credit operations. It argued that the successful promotion of the deepening of rural financial markets, which would ensure uninterrupted flow of credit to agriculture, would require systematic rather than isolated efforts, with related actions being undertaken on several fronts. Shah *et al* (2007) reviewed the problems faced by the poor which included dependence on moneylenders and the operation of a deeply exploitative grid of interlocked, imperfect markets. It was found that the nationalization of banks had a positive impact on rural credit and development. There were certain excesses which led to the reforms of the 1990s and did increase bank profitability but at the cost of the poor and backward regions. The microfinance institution model was not felt to be sustainable but there was a positive impact of self-help group-bank linkage approach on security and empowerment of the disadvantaged. The main focus of the study was directed towards improving the micro finance to overcome the problems that had persisted over the last 100 years. Shukla *et al* (2010) made an attempt to analyze the inter-state disparities separately for short

term (ST), term and total credit, using secondary data for the period 1971-72 to 2005-06 and found that during the period of liberalization policy, these disparities increased in case of scheduled commercial banks. Likewise, the effect of liberalization policy on term credit flow to agriculture was not in a favourable direction. Gaur and Khatkar (2010) indicated towards the new products that the banking institutions had developed to meet the challenge of increasing flow of credit in the farming sector like Kisan Credit Cards, Self-Help Groups (SHGs) - Bank linkage programmes, Micro finance, etc. to shrink the role of informal channels like money lenders and improving the access of rural cultivators to institutional sources. Rangaswamy and Gopalappa (2011) focused on multi agency network of credit disbursal to agriculture sector to evaluate its trends and composition during pre and post liberalization era by using time series data from 1990-91 to 2009-10. The institutional credit was noticed to be more popular source of finance to the farmers in rural India and it had a positive trend during the post liberalization period. It was found that the share of Commercial Banks (CBs) increased and stood at 74 per cent in 2008-09. Although, the multi-agency framework of agriculture credit system in India worked well over the period yet there was unmet demand for agriculture credit in the country. Das (2012) tried to examine the impact of reforms process on growth of credit delivery to the real sectors and an equitable distribution of banking fund to the different sectors of different states using the information for the period between1972 and 2008. It was found that the agriculture and industrial sectors had gradually lost their importance while the service sector received the major chunk so far as credit delivery was concerned leaving behind both industrial and agriculture sectors during the post reform period. Sastry (2013) compared the quantum of institutional credit advanced especially before and after introducing economic reforms in the country and highlighted the extent to which agricultural credit met the needs of small and marginal farmers. It was suggested that agricultural credit had to be provided for the trustworthy persons as it was a matter that affected millions. It was also stressed that awareness of people regarding borrowing, their participation and opinion could help in shaping the government policy. Ease in the credit availability and affordability eventually led to better agricultural performance by the Indian farmers. Godara *et al* (2014) highlighted the concerns and issues of small and marginal farmers to whom the banking system seemed to be hesitant to provide credit. Even in the post nationalization period and

transformation in banking policies there had not been equitable and satisfactory delivery of agricultural and rural credit, which was due to the decline in public capital formation in the rural and agriculture sector and the persistent indifferent attitude of rural bankers towards institutional financing, the planners and policymakers thought microfinance to be a suitable supplement to formal banking in rural India. An attempt was made in a study by Kumar *et al* (2017) to compare the formal credit and social safety net programs like the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) and it was found that the former might increase both the net farm income and per capita monthly household consumption expenditures. The findings of the study also showed that in India, formal credit was indeed playing a critical role in doing so. This was done by investigating the impact of institutional farm credit on farm income and farm household consumption expenditures based on a unique farm and household level dataset using two-stage least squares estimation methods.

Some studies presented measures to improve the rural credit delivery system. Meshram (1995) concluded in a study conducted in Bhandra District in Maharashtra state that there were various factors responsible for the proper utilization of credit facilities including government policies and programmes related to rural credit at the micro level. It was also noticed that rural credit systems were important in eliminating rural poverty in India and also in the provision of employment opportunities. Jayaraman and Puhazhendhi (1999) highlighted that due to the working of commercial banks and establishment of regional rural banks and further the financial sector reforms aiming at improving the outreach and access to credit in rural areas, increase in agricultural production and the reduction of poverty could be witnessed. The pace of capital formation in agriculture, development of infrastructure with emphasis on transportation and marketing, ensuring credit discipline should be accelerated which would enable the rural sector to absorb more credit from institutional sources. There should be strategic attention to tackle issues of sustainability and viability, operational efficiency, recovery performance, small farmer coverage and balanced sectoral development.

The factors responsible for financial crisis were discussed by some of the scholars. Sahu and Rajasekhar (2005) reported that in spite of the efforts like fixing the lending targets, clubbing direct and indirect finance, deregulation of interest rates and simplification of lending procedure in the credit delivery system, the banks could

not achieve the set targets for agricultural lending. Despite the increase in consensus to extend credit facility to agriculture, banks could not meet the target of lending to these activities with high social return, which had been traditionally marginalized in the credit market. The study done by Shankar and Pochaiah (2009) highlighted that there were different natural factors (drought, cyclones and floods) and institutional factors (inputs, credit, markets, etc) which were found to be responsible for indebtedness and feelings of distress among farmers in India. It also led to the capital dependence of farmers. The authors further suggested some measures to be taken by the government and provided recommendations to overcome the crisis like forming farmers' groups, reducing input costs by adopting non-pesticidal management, addressing market inconsistency and providing counseling and confidence-building measures in distress hot spots. A study in four states namely Maharashtra, Andhra Pradesh, Punjab and West Bengal by Das *et al* (2009) on the role of direct and indirect agricultural credit in the agricultural production was conducted by taking into account the regional disparities in agricultural credit disbursement and agricultural production in an econometric framework using Arellano-Bond regression. This analysis found that agricultural output was affected positively and significantly by the direct agricultural credit which led to the increase by 0.11 per cent due to one per cent change in direct agricultural credit. The impact of number of indirect agricultural accounts was significant at 10 per cent level and positive at first lag. The percentage of indirect credit was higher than the mandatory 18 per cent of the bank credit. Mukherji *et al* (2010) found that it was due to the financial inclusion campaign of the Reserve Bank of India that the provision of institutional finance had been progressing at differential rates across the country. It was found that a number of empirical regularities emerged in terms of the importance of having assets like land for borrowing, which undermined the basic philosophy of financial inclusion. The study by Semia (2011) also highlighted the factors responsible for financial crisis and pointed out that it were not only the monetary and real factors determining the financial crisis but institutional quality was also one of the determinants. The conduct of an expansive monetary policy always adversely affected the financial stability as it led to an increase of inflation. On the other hand, a restrictive monetary policy could never be taken as a guarantee against financial instability as it caused financial imbalances and monetary distortions that took the

form of credit boom. So, the institutional quality should be given much more importance. A panel data model for the period 1990 to 2007 was applied to a sample of developing countries in order to ascertain the effect of monetary distortions on financial stability in tributary of institutional quality. Another study done by Sukanya and Vishwanath (2011) covering the period of 1991 to 2001 concluded that a review of non-performing assets was required which emerged due to excessive financing to priority sectors by commercial banks and highlighted that an ideal or optimum level of profit for banks should be defined, periodic review of the components of the priority sector and related policy measures should be done. Parimalarani (2011) revealed that there was a creation of non-performing assets (NPA) because of the priority sector advances for the period 2005-06 to 2009-10 and found that non-priority sector advances showed lesser NPA as compared to those of priority sector during the period 2005-06, but in the succeeding period there had been decline in the share of priority sector advances to the total advances. The study revealed that still 3 public sector bank, 2 private sector banks and 3 foreign banks had not achieved the overall priority sector target. Kumar (2018) studied the impact of self help group bank linkage programme on the beneficiaries and it was concluded that it helped in reducing the incidence of poverty and to build asset base through increasing the income. The impact was also seen through the expense on education, women empowerment by enhancing their contribution to family income and involving them in decision making. The rate of child mortality was reduced which was improved through better nutrition, housing and health care system. It has also contributed towards reduced dependence on money lenders and other non-institutional credit agencies. Prathap *et al* (2018) conducted a study in Karnataka on impact of microfinance on poverty alleviation and it was concluded that there was a significant impact of microfinance activity on the improvement of standard of living, employment and poverty alleviation among the poor families both in social and economic terms in rural areas. It was noticed that 61 per cent of the respondents started their business by having credit from self help group/micro finance institution and a positive response was shown for variables such as income and standard of living.

In nutshell, it was highlighted that the magnitude of coefficient of variation had declined in the post-liberalized period as compared to that of pre-liberalization

period in terms of providing institutional finance for agriculture sector. It was brought out that the new products like kisan credit cards, self-help groups and micro finance could help in reducing the share of non-institutional credit in India. Among those, self-help group bank linkage programme came out with a positive impact on security and empowerment of the disadvantaged. It was suggested that there was a need for monitoring the various schemes offered by banks in priority sector lending and steps were needed to be taken to improve the performance and the non-performing assets of different financial institutions. It was also noticed that rural credit systems were important in eliminating rural poverty in India and also in the provision of employment opportunities.

Thus, the literature reveals that none of the studies on scheduled commercial banks (SCBs) conducted earlier evaluated their performance in lending credit to agriculture in Punjab, particularly with respect to location specificity. The present study is an attempt towards bridging this research gap.

Chapter-III

Methodology

CHAPTER III
METHODOLOGY

There is always a need for scientific methodology for adding accuracy, clarity and validity to the findings relating to the research problem. This chapter, therefore, systematically explains the plan of sampling and analytical tools employed to achieve the objectives of the study entitled, "Performance Evaluation of Scheduled Commercial Banks in Financing Agriculture in Punjab". The methodology is presented under the following heads.

3.1 Description of area under study

3.2 Nature and sources of data

3.3 Methodological procedures

3.4. Analytical techniques employed

3.5 Concepts used in the study

3.1 Description of area under study

The present study deals with the performance of scheduled commercial banks in financing agriculture in Punjab state. Punjab is situated in North West India and covers an area of 50362 Sq km, constituting 1.57% of the total geographical area of the country. The population of the state as per 2011 census estimates was 27.74 million and it constituted 2.4 per cent of the total population of the country. The density of population per Sq Km. was at 551 as against 382 recorded at all India level. The urban and rural population is in the ratio of 37:63 as against the India figures of 31:69 respectively.

Punjab state can broadly be divided into three agro climatic zones (Gill *et al*., 2010) viz. Sub Mountainous Zone (Zone I), Central Alluvial Zone (Zone II) and South Western Zone (Zone III). These zones differ significantly with respect to cropping pattern, input use and endowment of natural resources which are very important for agricultural production as well as agricultural growth of a region. For example, Zone I known as Kandi area is located at the foot of Shivalik hills and covers the sub mountainous undulating plain. It comprises of Gurdaspur, Hoshiarpur and Rupnagar districts. The annual rainfall is more than 1000 mm. The region is dominated largely by wheat–maize rotation, has relatively low amount of input use and deeper ground water tables and almost no access to canal irrigation.

Zone II, the Central Zone (sweet water zone) comprising the major parts of the state is highly productive and has well-knit system of irrigation mainly in terms of tube wells. It comprises of Amritsar, Kapurthala, Jalandhar, Ludhiana, Patiala and Sangrur districts. The land is very fertile and the increased coverage of area under HYVs, use of fertilizers, irrigation coupled with high mechanization has raised the productivity and cropping intensity in this area. This zone is dominated by wheat-rice cropping pattern where the ground water availability is very rich. However, the over exploitation of ground water resources has resulted into fastest depletion of ground water resources pushing the farmers to shift to submersible pumps than the centrifugal pumps in the last about two decades. Such a phenomenon has resulted in to very high private investments by the farmers for well deepening and converting to submersible pumps. It has also contributed to farmers' indebtedness which is a serious issue for Punjab.

Zone III, the South Western Zone, is popularly known as cotton belt comprises of Bathinda, Faridkot and Firozpur districts. This region is dominated by wheat-cotton cropping pattern and also suffers from water logging. Most of the canal water supply in the state has been diverted to this region to facilitate agricultural production. The copping pattern especially cotton encounters relatively higher level of production and marketing risks. This crop is also affected more by insects, pests and diseases and accounts for the largest share of agro-chemical use in Punjab agriculture which requires higher expenditure from the farmers. This high risk has also contributed towards the issue of farmers' suicides in the state. The fast declining productivity of cotton due to emerging water logging problem and menace of pests has resulted in shifting of area from cotton to rice cultivation.

Keeping in view, the cropping pattern, input use, natural resource endowment and production as well as marketing risks, which vary significantly across these three regions, it is clear that the credit needs as well as supply may vary significantly across these three regions. Due to different crop rotations, the estimates of cost of cultivation also vary which largely determine the credit needs of the farmers. The long term credit needs of the farmers are determined by the investment made by the farmer which is more likely to be on machinery such as tractors and electric tube wells etc. As these three regions differ significantly in terms of usage of ground water for irrigation, the investment needs for tube wells differ significantly across these three regions. Also, the level of mechanization of operations differs significantly across wheat-maize, wheat-

rice and wheat-cotton rotations which signify that these investments needs also differ significantly.

3.2   Nature and sources of data

Both primary and secondary data were collected. The primary data were collected from the selected branches of scheduled commercial banks (SCBs) and from the farmer borrowers of these banks from the three zones of Punjab. In order to study the first objective i.e. over time trends and patterns of SCBs' credit flow to agriculture and the second objective regarding pattern of rural presence, the secondary data were obtained for the information on pertinent variables from the various issues of:

I.   Statistical Abstract of Punjab

II.   Statistical Abstract of India

III.   RBI bulletin

IV.   Report on Currency and Finance, Statistical Elements Volume –II,

V.   Handbook on statistics on Indian economy

The time series data from 1971 onwards on the presence of SCBs in various locations and credit flow to agriculture were collected. The selection of 1971 as the starting point has a reference to the nationalization of banks. Secondary data were used for studying the first and second objective of the study.

Primary data have been used for studying the third, fourth and fifth objective. To examine the percentage of institutional and non-institutional credit for the third objective and to study the impact of credit provided to the farmer borrowers for the fifth objective, primary data were collected from the farmer borrowers of the selected scheduled commercial banks. To study the location specific financial efficiency, outreach and lending volumes of SCBs for the fourth objective, the data were collected from the selected branches of SCBs. The data on the requisite aspects like income profile were collected from these selected branches. Sampling units were the branches of the selected SCBs. The time period to study the primary data was the financial year 2015 to 2016.

3.3   Methodological procedures

3.3.1   Rationalization of district wise data

Time series district wise data of more than thirty years were used to study performance of SCBs in financing agriculture in Punjab from twelve districts. Presently Punjab state is divided into twenty two districts as nine new districts namely

Nawanshahar, Fatehgarh Sahib, Mansa, Muktsar, Moga, Tarn Taran, S. A. S. Nagar, Barnala and Fazilka were carved out of the existing districts in the state during 1992 to 2011. For feasible comparison, these nine districts were merged with parent districts to form twelve original districts. As some of districts were formed by extracting area from more than one parent districts, the data related to different variables related to these districts were merged into the parent districts after adjusting for area extracted for carving out new districts.

Table 3.1: Co-efficients used to standardize data for the original 12 districts

Districts	Original districts	Proportion of the different variables in the new district merged with the original district
Nawanshahar	Hoshiarpur	0.33
	Jalandhar	0.67
Fatehgarh Sahib	Ludhiana	0.15
	Patiala	0.77
	Sangrur	0.08
Mansa	Bhatinda	1.00
Muktsar	Faridkot	1.00
Moga	Faridkot	1.00
Tarn Taran	Amritsar	1.00
S.A.S. Nagar	Rupnagar	1.00
Barnala	Sangrur	1.00
Fazilka	Firozpur	1.00

Source: Singh *et al* (2002), Impact of Minimum Support Price on Agricultural Economy in Punjab

3.3.2 Selection of bank

The Scheduled Commercial Banks (SCBs) operating in Punjab are State Bank of India (SBI), State Bank of Patiala (SBOP), Punjab National Bank (PNB), Punjab and Sind Bank, Oriental Bank of Commerce (OBC), to name a few. To maintain uniformity while selecting the banks, two banks were selected on the basis of penetration in terms of number of branches in all the corners of the state which were 668 in the case of PNB and 519 in case of SBOP.

3.3.3 Selection of bank branches

The selection of branches of the PNB and SBOP in Punjab state involves a multi stage sampling technique, with the selection of districts at the first stage on the basis of zonal average, selecting one district above the zonal average and one district below the zonal average (a total of six districts) and selection of branches from rural, semi-urban and urban locations (taking three branches from each district) at the second stage on the basis of simple random sampling which makes it a total of 36 branches (18 branches of PNB and 18 branches of SBOP) and farmers at the third stage by systematic sampling. Systematic sampling has few advantages as it can be taken as an improvement over a simple random sampling in as much as the systematic sample is spread more evenly over the entire population. Lists of farmer borrowers pertaining to the years 2015 and 2016 were collected from the selected branches and the respondents were selected by dividing the total number with the sample size. Thus only first respondent was selected randomly and thereafter all the respondents were selected after regular/fixed intervals. So a total of 180 farmer borrowers were selected by taking five farmer borrowers from each branch of the selected 36 branches of PNB and SBOP.

Table 3.2: Details of the selected districts

Zones	Districts	Number of branches
Zone I (221)	Gurdaspur	272
	Rupnagar	144
Zone II (407)	Ludhiana	827
	Patiala	384
Zone III (174)	Bathinda	278
	Faridkot	118

Figures in parentheses indicate zonal averages in terms of number of branches
Source: Economic and Statistical Organization, 2015

3.4 Analytical techniques employed

3.4.1 Tabular analysis

The tabular analysis of the data collected from primary and secondary sources were done through the computation of averages and percentages. The averages and percentages were calculated for all the five objectives of the study. The compound

growth rates were also worked out and their significance was tested by t statistic and these were done to fulfill the first two objectives of the study. The trends in institutional credit were worked out both at current prices (nominal terms) and constant prices (real terms) by developing the wholesale price index taking the base year of 2004-05 as 100.

The growth of institutional credit was studied through compound growth rates (CGR), which was calculated by the formula,

$$\log Y = \log a + t \log b$$

Where Y- Variable whose CGR is to be calculated

a- Constant term

t- Time variable

b- Regression coefficient of limits

The significance of CGR was tested through t-test i.e.

$$t - value = \frac{CGR}{S.E.\ of\ CGR}$$

For the third objective, Paired t test was applied to check the significance of institutional sources as compared to that of non-institutional sources in level of agricultural finance delivery. One way analysis of variance (ANOVA) was carried out to see whether the difference in branches with respect to various parameters in income profile were statistically significant or not. For the fourth objective, Paired t test was applied to assess the statistical significance of difference in the average values of variables under study (asset base, leased in land and income) in pre and post credit disbursal situation.

3.4.1.1 Profitability ratios

The profitability ratios measure the input-output efficiency of the total bank business by relating the expenses to gross income. These ratios are calculated to measure the performance of any business operation by studying income profile. This was done by working out operating ratios, fixed ratios and gross ratios to serve the purpose for the fourth objective of the study.

3.4.1.2 Operating ratio

It is the ratio of operating expenses to gross income.

Operating Ratio = (Total Operating Expenses) / (Gross Income)

3.4.1.3 Fixed ratio

It is the ratio of fixed expenses to gross income

Fixed Ratio = (Fixed Expenses) / (Gross Income)

3.4.1.4 Gross ratio

The operating and fixed ratios comprise the gross ratio

Gross Ratio = (Gross Expenses) / (Gross Income)

3.4.1.5 Credit deposit ratio

The ratio of credit advanced to deposits collected is defined as the Credit Deposit Ratio (CD ratio). This was done for the fourth objective of the study.

Credit Deposit Ratio = (Credit Advanced) / (Deposits collected)

CD indicates whether the planning for efficient and effective management of deposits of the bank has been done with recovery having its own role. It ranges between zero and infinity, but an organization is considered to be the efficient in managing its resources if this ratio is equal one. It indicates the excess of overdue if it exceeds one, while the ratio less than one indicates the reserved nature of the banks in advancing credit.

3.4.1.6 Adjustment for price changes

In order to measure the real change (increase/decrease) in the monitored variables i.e., amount disbursed and outstanding etc in the present study, the values have been adjusted by wholesale price index at 2004-05 prices. It has been done to account for the inflationary trend over the period in the economy and this was done for the first objective of the study.

3.4.1.7 Analysis of variance

The one way analysis of variance was carried out to test the significance of the difference in branches at different locations of rural, semi- urban and urban with respect to the variables in income profile such as lending volumes, income and expenditure. This was done to complete the fourth objective of the study.

3.5 Concepts used in the study

3.5.1 Advances or total bank credit is the amount of loan extended by the bank during a particular year.

3.5.2 Amount outstanding refers to the sum of the principal amount and the amount of interest which is yet to be recovered.

3.5.3 **Average** is the mean of the current and previous year's value for a particular indicator i.e., from income profile, indicator is taken as an average of current and previous year's value.

3.5.4 **Deposits** are the amount of money deposited with any institution during a particular period, usually a year. The deposits vary on different dates, depending upon the fresh deposits and with drawls.

3.5.5 **Direct finance** also referred to as direct agricultural advances denote advances given by banks to the farmers directly for agricultural purposes which include short-term loans for raising crops i.e. for crop loans. In addition, advances up to ₹5 lakh to farmers against pledge/hypothecation of agricultural produce (including warehouse receipts) for a period not exceeding 12 months, where the farmers are given crop loans for raising the produce, provided the borrowers draw credit from one bank. It also includes medium and long-term loans together known as term loans (Provided directly to farmers for financing production and development needs) for the purchase of agricultural implements and machinery, development of irrigation potential, reclamation and land development schemes, construction of farm buildings and structures, etc. Some other types of direct finance to farmers include loans for plantations, development of allied activities such as fishery, poultry etc and also establishment of bio-gas plants, purchase of land for agricultural purposes by small and marginal farmers and loans to agro-clinics and agri-business centers.

3.5.6 **Fixed expenses** are the total fixed costs. The depreciation that occurs on the fixed costs during a particular year is considered as an expense and is therefore included in fixed expenses.

3.5.7 **Gross income** is the sum of all the revenues earned by the bank in a particular year.

3.5.8 **Income profile** is a statement of income earned and the expenses incurred for earning that revenue. An excess of revenues over expenditures shows a profit and if the expenditure exceeds the income then there will be a loss. It includes other parameters as well like deposits, advances, priority sector advances, agricultural advances etc.

3.5.9 **Indirect finance** refers to the credit provided by banks to farmers indirectly, i.e., through other agencies which include items such as loans to state electricity boards, loans for financing distribution of inputs like cattle feed,

poultry feed, fertilizers, pesticides, loans for energizing wells and pump sets, loans for rural infrastructure development fund maintained by NABARD, subscription bonds issued by NABARD, loans for drip irrigation/sprinkler irrigation/agricultural machinery, loans to commission agents, loans to non-banking financial companies (NBFCs) etc. for lending to agriculture.

3.5.10 Investment credit comprises of medium term loans (payable within 15 months to 5 years) and long term loans (payable within 5 years to more than 20 years). It is the credit required by the farmer for making strategic changes on the farm like permanent improvements on the land, like leveling and reclamation, construction of farm buildings, purchase of tractors raising orchards etc. and for purchasing implements, electric motors, milch cattle etc.,

3.5.11 Loan is a type of debt instrument.

3.5.12 Priority sector advances comprise the following sub-sectors such as agriculture, consumption loans, education, housing, state sponsored organizations for Scheduled Castes/Scheduled Tribes, small business not exceeding ₹20 lakh, small road and water transport operators, small scale industries, retail trade, professional and self-employed persons, self help groups (SHGs), Non-Governmental Organizations (NGOs), software industry, agro processing units etc. Loans given to these sectors are referred to as priority sector advances.

3.5.13 Production credit is meant for increasing the production of crops. It is also called as Seasonal Agricultural Operational (SAO) loans or crop loan because duration of the crop decides the length of repayment period. It is also called as short term loans with the repayment period ranging from 6 months to 18 months in lump sum. This type of loan is required by the farmer to meet the day to day expenses like sowing, fertilizer application, plant protection measures, payment of wages to casual labourers, etc. He is supposed to repay the loan after the sale of the crops raised.

3.5.14 Profit/loss: If the residual left after deducting total expenditure from total income is high it is considered as profit, the otherwise is considered as loss.

3.5.15 Scheduled commercial banks are the banks which are eligible for inclusion in the Second Schedule to the Reserve Bank of India Act, 1934, and when included are known as 'Scheduled Commercial Banks'. To conduct the

business of banking in India they require paid up capital and reserves of an aggregate real and exchangeable value of not less than ₹5 lakhs, they have to make sure to the Reserve Bank of India that they carry their business in a manner which is not detrimental to the interest of their depositors. These banks enjoy certain privileges such as free concessional remittance facilities and financial accommodation from the Reserve Bank of India (RBI). They also have certain obligations like minimum cash reserve ratio (CRR) to be kept with RBI and Statutory Liquidity Ratio (SLR) to be kept in India.

3.5.16 **Service area approach** was implemented by RBI in 1989 after the recommendations made by the committee formed under Dr. P. D. Ojha to improve the productivity of bank credit in rural areas. Through this approach, the branch managers have to look for the potential areas for banking business and to prepare credit plans of the villages developing under their jurisdiction. This approach primarily emphasizes grass root level planning involving the branch managers and block or village level officials of the government to envisage systematized credit planning and supervision and to remove the regional imbalances in the credit lending.

3.5.17 **Total expenses** are fixed expenses plus total operating expenses.

3.5.18 **Total operating expenses** are the total variable costs**.**

3.5.19 **G20** or Group of Twenty is an international forum for the governments and central bank governors from nineteen countries and the European Union. Founded in 1999, the G20 aims to discuss policy pertaining to the promotion of international financial stability. It seeks to address issues that go beyond the responsibilities of any one organization.

3.6 **Limitations of the study**

In case of fourth objective, the efficiency of whole banking business of the selected branches of scheduled commercial banks was evaluated instead of agricultural lending because it was difficult to apportion costs.

Chapter-IV

Growth and share of agricultural credit of scheduled commercial banks in Punjab

CHAPTER IV

GROWTH AND SHARE OF AGRICULTURAL CREDIT OF SCHEDULED COMMERCIAL BANKS IN PUNJAB

This chapter assesses the growth and share of scheduled commercial banks in providing credit to the agriculture sector in Punjab. This chapter constitutes the growth of scheduled commercial banks in terms of number of branches, total agricultural credit and direct and indirect credit being extended to this sector.

4.1 Trends and pattern of scheduled commercial banks' credit advances in Punjab

Credit is vital for every business without which no business is possible and banking system is the lifeline of the nation's economy. The growth of credit institutions is of great importance for the growth of any economy.

The information pertaining to growth performance of different types of banks in terms of number of offices has been presented in Table 4.1 for the five triennia i.e. TE 1973, TE 1983, TE 1993, TE 2003 and TE 2016. The highest number of branches recorded was of post office savings banks except for TE 2016 which are meant exclusively for savings and not for lending purposes. For the other banks, the number of scheduled commercial banks (SCBs) offices is far more than the cooperative banks (COOP). The percentage of COOP bank branches declined and the number fell from 840 to 802 registering a negative decennial change of -4.5 per cent per annum during the period TE 2003 to TE 2016. The non-scheduled commercial banks which were three at the beginning of the period of study i.e. TE 1973 completely disappeared from the scene by the end of the study period. But the SCBs being the front runner accounted for 57.1 per cent of the total banks with an increase of 134.5 per cent over the period of thirteen years during TE 2016. The total number of branches of all banks in Punjab increased from 2131 in TE 1973 to 10888 in TE 2016. So the increasing branch network of SCBs made it capture more than fifty per cent share of the total branches of all types of banks. So it is clear from the table that of all the banks established in the state, the scheduled commercial banks (SCBs) have always been the major sources of institutional credit to agriculture.

Table 4.1: Growth performance of different types of banks in Punjab, 1971 to 2016

Type of Bank	TE 1973		TE 1983		TE 1993		TE 2003		TE 2016	
	No.	%	No.	%	No.	%	No.	%	No.	%
Scheduled Commercial Banks	679	31.9	1790 (163.6)	32.1	2168 (21.1)	32.2	2652 (22.3)	35.5	6220 (134.5)	57.1
Non Scheduled Commercial Banks	3	0.1	1 (-66.7)	0.0	1 (0.0)	0.0	1 (0.0)	0.0	0.0 (-100.0)	0.0
Foreign Banks	3	0.1	3 (0.0)	0.1	3 (0.0)	0.0	4 (33.3)	0.1	6 (58.3)	0.1
Cooperative Banks	202	9.5	606 (200.0)	10.9	679 (12.0)	10.1	840 (23.7)	11.3	802 (-4.5)	7.4
Post Office Savings Banks	1244	58.4	3169 (154.7)	56.9	3879 (22.4)	57.7	3964 (2.2)	53.1	3859 (-2.6)	35.4
All Banks	2131		5569 (161.3)		6730 (20.8)		7461 (10.9)		10888 (45.9)	

% indicate percentage to total

Figures in parentheses indicate decennial increase in per cent (Thirteen years change in case of TE 2003 to TE 2016)

Source: Economic and Statistical Organization, Various issues

The performance of scheduled commercial banks (SCBs) vis-à-vis other banks during past five decades i.e. TE 1973, TE 1983, TE 1993, TE 2003 and TE 2016, in terms of the growth in number of offices in Punjab, can be observed from the Figure 4.1, wherein the compound growth rates, per cent per annum for the period 1971 to 2016 have been plotted.

Figure 4.1: Growth performance of different types of banks in Punjab, 1971 to 2016
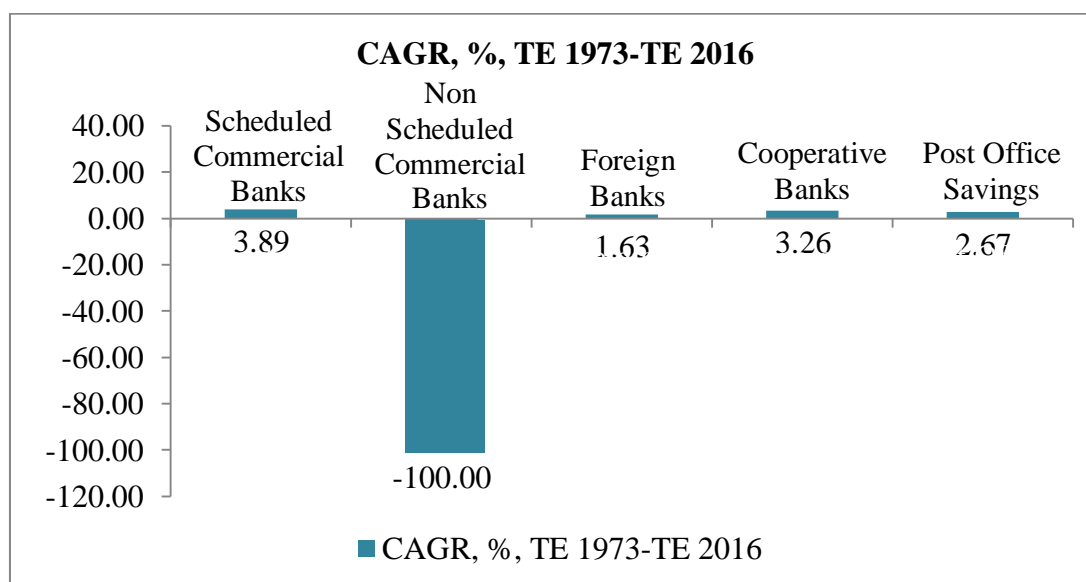
Source: Economic and Statistical Organization, various issues

The Fig. 4.1 illustrates that the number of offices of SCBs registered a compound growth rate of 3.89 per cent per annum during the period 1971 to 2016, whereas the growth of number of offices of co-operative banks recorded a compound growth rate of 3.26 per cent per annum during the same period because their number went down to 802 in TE 2016 from 840 during TE 1973. The Post Office Saving Bank offices, which had been occupying the major proportion of all the bank offices, recorded the highest number up till TE 2003 but in the coming triennium this number started declining so it registered a growth rate of 2.67 per cent per annum during the same period in Punjab. The little growth rate of Foreign Banks (1.63 per cent) can be attributed to the less number of branches, which summed up to only 8 by the year ended 2016.

The year to year growth of scheduled commercial banks (SCBs) with reference to all the banks in totality can be seen from Table 4.2 in which indices have been presented with TE 1973 figures as base.

Table 4.2: Growth performance of SCBs vis-à-vis all banks in Punjab, 1971 to 2016

Year ending	SCBs		All banks	
	Number	**Index (Base TE 1973)**	**Number**	**Index (Base TE 1973)**
1971	637	93.8	2033	95.4
1975	1057	155.7	2683	125.9
1980	1542	227.1	3961	185.9
1985	1989	292.9	6358	298.4
1990	2136	314.6	6629	311.1
1995	2409	354.8	7019	329.4
2000	2578	379.7	7361	345.4
2005	2815	414.6	7567	355.1
2006	2946	433.9	7699	361.3
2007	3051	449.3	7768	364.5
2008	3320	489.0	7979	374.4
2009	3587	528.3	8269	388.0
2010	3831	564.2	8488	398.3
2011	4239	624.3	8892	417.3
2012	4734	697.2	9386	440.5
2013	5422	798.5	10076	472.8
2014	5895	868.2	10553	495.2
2015	6217	915.6	10880	510.6
2016	6567	967.2	11230	527.0

contd…

Year ending		SCBs		All banks	
		Number	**Index (Base TE 1973)**	**Number**	**Index (Base TE 1973)**
CAGR, %	**1971-80**	11.9364** (11.942)	-	8.2917** (35.965)	-
	1981-90	2.7703** (9.022)	-	2.9639** (2.589)	-
	1991-00	2.4079** (10.898)	-	1.1602** (17.875)	-
	2001-16	6.9686 (14.926)**	-	2.9943** (11.272)	-
	1971-2016	3.8910** (19.563)	-	3.0422** (13.452)	-

** Significant at 5 per cent probability level
Figures in parentheses indicate t values
Source: Economic and Statistical Organization, Various issues

The table shows that the SCBs and all types of banks grew at compound growth rate (CGR) of 3.89 per cent and 3.04 per cent per annum respectively during 1971 to 2016 and the t values of which were statistically significant at the probability level of five per cent. It has also been observed that in 1971, scheduled commercial banks accounted for 31 per cent (637) of the total bank offices (2033) operating in the state (Table 4.2). This percentage however increased to around 58 per cent (6567) of the 11230 bank offices operating in all in 2016. The index value (TE1973=100) for SCB offices increased from 93.8 in 1971 to 379.7 by 2000 and further to 414.6 by 2005 and to 967.2 by 2016. The index value for all the banks in totality increased from 95.4 in 1971 to 345.4 by 2000 and further to 355.1 by 2005 and 527.0 by 2016. It can well be inferred that the increase in the number of scheduled commercial banks was more pronounced in comparison to all the banks in totality.

Figure 4.2: Growth performance of SCBs vis-à-vis all banks in Punjab, 1971 to 2016
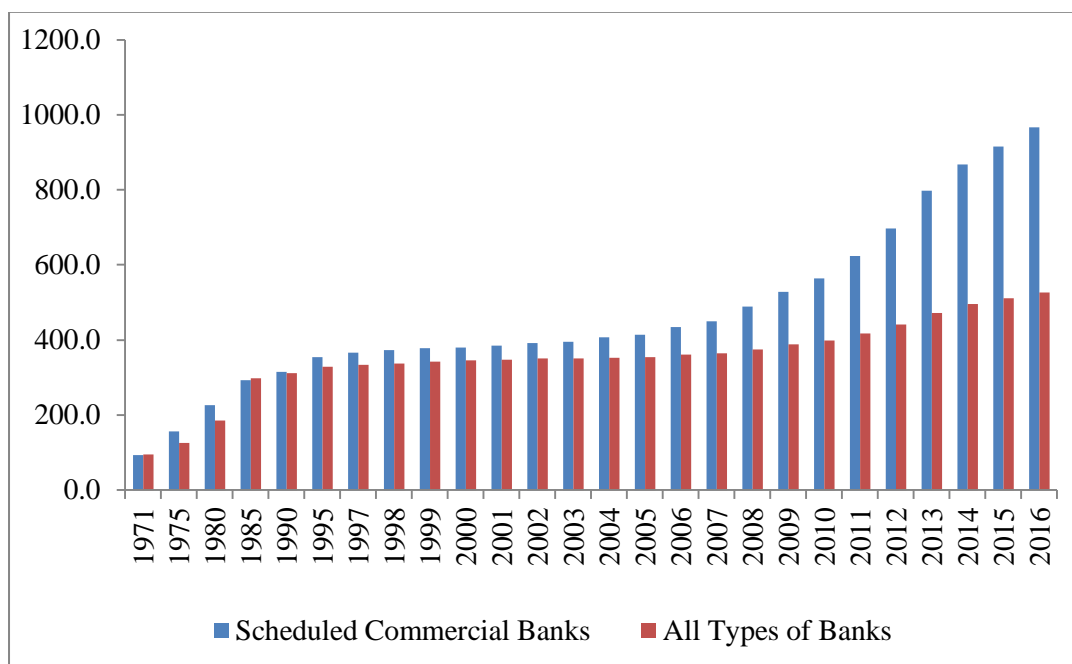
Source: Economic and Statistical Organization, Various Issues

The perusal of Fig. 4.2 reveals that the growth performance (in terms of number of offices) of all banks began to plateau normally from 1995 and started increasing post 2008, whereas the growth of scheduled commercial banks was very much prominent, with the number of offices rising all through the period.

It is a well-established fact that the scheduled commercial banks (SCBs) have always been the prime source of institutional credit to the agriculture sector. In the figure that follows, an attempt has been made to show the presence of SCBs vis a-vis co-operative banks. It can be seen that the number of co-operative bank offices increased from 202 in TE 1973 to 802 in TE 2016, whereas the number of offices of SCBs increased from 679 to 6220 during the same period. So increase in the number of SCBs clearly indicates their significant contribution made in financing agriculture. Another noteworthy revelation is that there have always been more than 3 scheduled commercial banks offices for every co-operative bank office present in the state of Punjab all through the post nationalization era except for TE 2016 where there were more than seven scheduled commercial banks for every cooperative bank.

Figure 4.3: Proportion of SCBs vis-à-vis cooperative banks in Punjab, 1971 to 2016
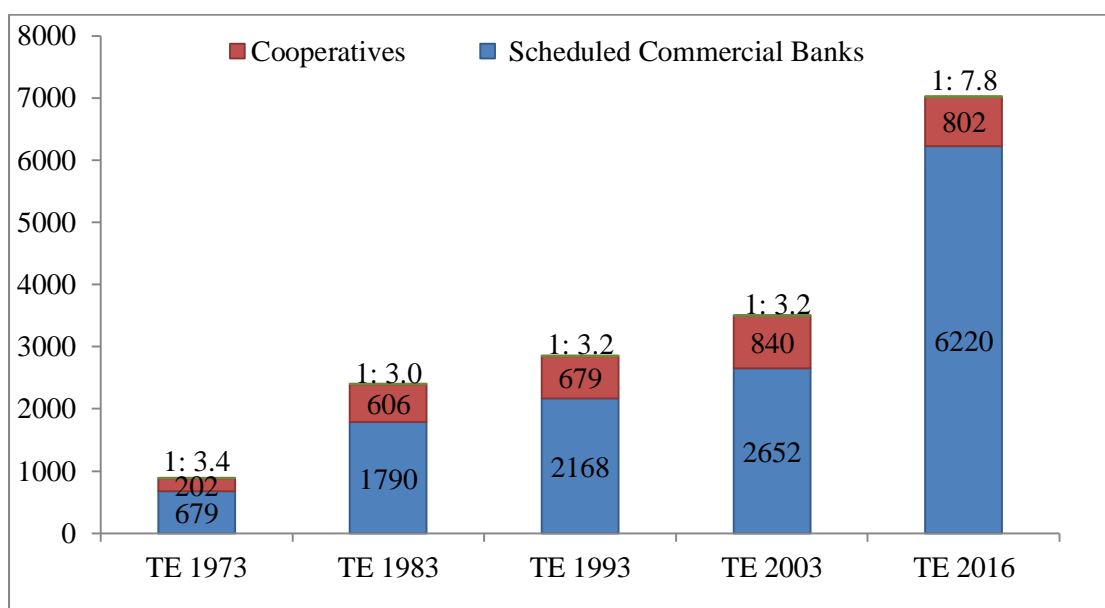
Source: Economic and Statistical Organization, Various Issues

The information pertaining to district wise presence of SCBs in Punjab has been shown in Table 4.3 which revealed that the total number of SCBs increased from 679 during TE 1973 to 6220 during TE 2016 with an increase of 134.5 per cent over the period of thirteen years. The districts with highest number of branches during TE 1973 were Jalandhar with 114 branches followed by Amritsar district with 100 branches and Ludhiana with 99 branches. During the next triennium of 1983 Ludhiana gained the second position with 250 branches, Jalandhar remained at the top with 282 branches but Amritsar district was at third place with 243 branches out of the total of 1790 branches in the state. The decennial growth during TE 1973 to TE 1983 was 163.6 per cent. Similar scenario could be seen during TE 1993 and TE 2003 where Jalandhar district remained at the top with 312 and 397 branches respectively whereas Amritsar district regained its second position during TE 1993 with 302 branches and Ludhiana district was at third place with 278 branches but in TE 2003 Ludhiana district came at second place with 385 branches and Amritsar district again came at third position with 341 branches. The districts with maximum number of SCBs in Punjab during TE 2016 were Jalandhar (891), Ludhiana (869), Amritsar (729), Patiala (551) and Rupnagar(520). The percentage of branches to total branches of these districts was 14.3, 14.0, 11.7, 8.9 and 8.4 respectively. However, the districts with

Table 4.3: District-wise growth performance of scheduled commercial banks in Punjab, 1971 to 2016

District	TE1973	TE1983	Decennial increase, %	TE1993	Decennial increase, %	TE2003	Decennial increase, %	TE2016	Thirteen years increase, %
Hoshiarpur	41 (6.0)	113 (6.3)	175.6	146 (6.7)	29.2	185 (7.0)	26.7	428 (6.8)	131.4
Jalandhar	114 (16.8)	282 (15.8)	147.4	312 (14.4)	10.6	397 (15.0)	27.2	891 (14.3)	124.4
Ludhiana	99 (14.6)	250 (14.0)	152.5	278 (12.8)	11.2	385 (14.5)	38.5	869 (14.0)	125.7
Firozpur	32 (4.7)	100 (5.5)	212.5	141 (6.5)	41.0	134 (5.1)	-5.0	344 (5.5)	156.7
Amritsar	100 (14.7)	243 (13.5)	143.0	302 (13.9)	24.3	341 (12.9)	12.9	729 (11.7)	113.8
Gurdaspur	48 (7.1)	134 (7.5)	179.2	164 (7.6)	22.4	171 (6.4)	4.3	401 (6.5)	134.5
Kapurthala	27 (4.0)	68 (3.8)	151.9	84 (3.9)	23.5	121 (4.5)	44.0	273 (4.4)	125.6

contd…

District	TE1973	TE1983	Decennial increase, %	TE1993	Decennial increase, %	TE2003	Decennial increase, %	TE2016	Thirteen years increase, %
Bathinda	42 (6.2)	114 (6.4)	171.4	135 (6.2)	18.4	161 (6.1)	19.3	282 (4.5)	75.2
Patiala	61 (9.0)	163 (9.1)	167.2	201 (9.3)	23.3	255 (9.6)	26.9	551 (8.9)	116.1
Sangrur	39 (5.7)	109 (6.1)	179.5	146 (6.7)	33.9	165 (6.2)	13.0	424 (6.8)	157.0
Rupnagar	28 (4.1)	75 (4.2)	167.9	99 (4.6)	32.0	138 (5.2)	39.4	520 (8.4)	276.8
Faridkot	48 (7.1)	139 (7.8)	189.6	160 (7.4)	15.1	199 (7.5)	24.4	508 (8.2)	155.3
Punjab	679	1790	163.6	2168	21.1	2652	22.3	6220	134.5

Figures in parentheses indicate percentage to total
Source: Economic and Statistical Organization, Various issues

the highest decennial increase in terms of number of branches were different from those with the highest absolute number which were Rupnagar with the highest increase of 276.8 per cent, Sangrur (157.0 %), Firozpur (156.7 %), Faridkot (155.3 %) and Gurdaspur (134.5 %) during the period of thirteen years between TE 2003 to TE 2016. Although the absolute number of branches has been increasing during all the periods of the study, the decennial increase was maximum during the period TE 1973 to TE 1983 which was 163.6 per cent which dipped largely in the coming TE 1993 with 21.1 per cent and then again started increasing with 22.3 per cent during TE 2003 and it increased to a great extent (134.5 %) during the last period of TE 2016. Hence, it can be inferred that the number of SCBs has been increasing in almost all the districts of Punjab during the period TE 1973 to TE 2016.

As illustrated in Fig. 4.4, the highest growth rate has been recorded in the district Rup Nagar (7.0 per cent) followed by Sangrur and Firozpur (5.7 per cent each) and Faridkot and Hoshiarpur (5.6 per cent each) during the period 1971 to 2016. The least growth rate of 4.5 per cent per annum was recorded by district Bathinda. The district of Amritsar has the CGR of 4.7 per cent and it stands third in terms of number of offices of SCBs all through the period TE 1973 to TE 2016 except for TE 1993.

Figure 4.4   District-wise growth performance of scheduled commercial banks in Punjab, 1971 to 2016
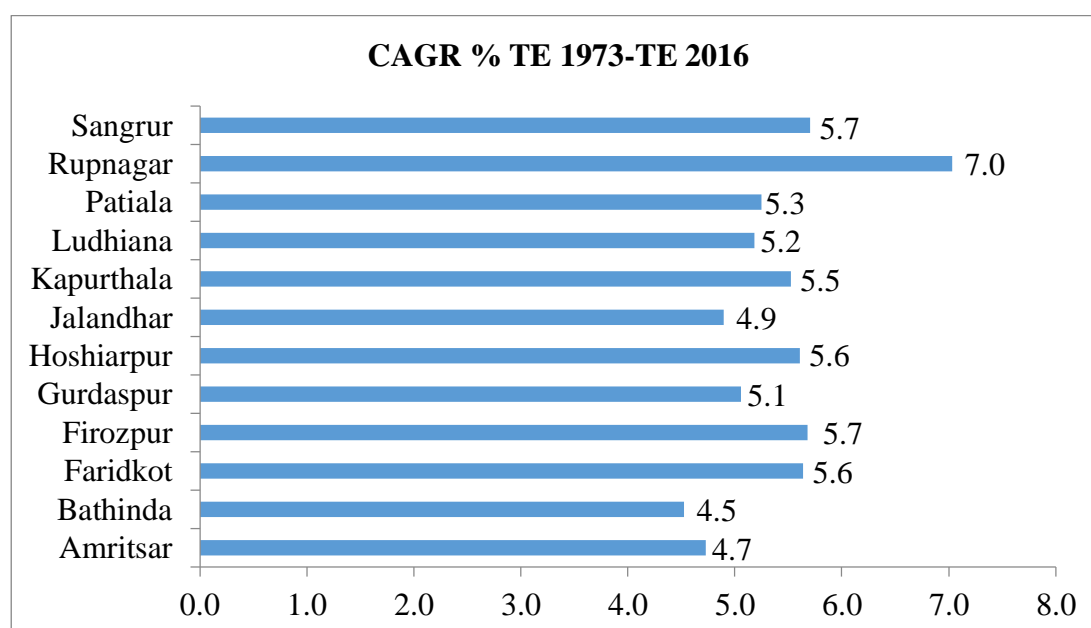
Source: Economic and Statistical Organization, Various issues

The detailed information pertaining to the flow of credit to agriculture by scheduled commercial banks in Punjab has been presented as under.

Agriculture sector forms a major sub-sector of the total priority sector. The Section 54 of Reserve Bank of India (RBI) Act enjoined the RBI to set up an Agricultural Credit Department and it was Section 17 which empowered it to provide the agricultural credit through scheduled commercial banks (SCBs) besides state co-operative banks engaged in the business of agricultural credit.

The importance given to agriculture by the SCBs is reflected well in Table 4.4, wherein the amounts outstanding of total credit as well as that in case of credit to agriculture sector accounts in Punjab for the period 1981-2016, have been presented. The amount outstanding is a better measure to gauge the injection of institutional finance to agricultural sector as it shows the financing effort cumulatively over the past quite many number of years instead of just one year as shown by the loans advanced during the year (Kahlon and Singh, 1984).

The data presented shows that the amount outstanding to agriculture as well as the total amount outstanding exhibited an increasing trend throughout the period with some of the years having a little less credit than the previous ones which can be attributed to the government policies to restrict credit due to increase in bad loans otherwise the percentage of credit remained nearly the same. The results further revealed that the total amount outstanding in Punjab at current prices had increased from ₹1102.17 crores in 1981 to ₹5361.39 crores in 1991 and further to ₹207972.19 crores over the period by 2016. When seen in real terms, the total amount outstanding (at 2004-05 constant prices) increased from ₹4720.21 crores to ₹100313.96 crores with the CGR of 8.8142 per cent per annum during the above said period. The amount outstanding at 2004-05 constant prices, to agriculture sector had increased from ₹1425.61 crores in 1981 to ₹29941.97 crores in 2016 with the CGR of 8.006 per cent per annum. The percentage share of agriculture remained more or less the same which was 30.20 per cent and 29.85 per cent respectively during the above said period. This might be attributed to the fact that agriculture and industrial sectors had gradually lost their importance while the service sector received the major chunk so far as credit delivery was concerned leaving behind both industrial and agriculture sectors during the post reform period (Das 2012).

Table 4.4: **Share of agriculture in scheduled commercial banks' total credit in Punjab, 1981 to 2016**

| Year ending | Amount outstanding (₹Crore) | | | | Share (%) of agriculture in total bank credit |
| | Total | | Agriculture | | |
	at current prices	at constant prices	at current prices	at constant prices	
1981	1102.17	4720.21	332.88	1425.61	**30.20**
1983	1259.84	4789.13	443.52	1685.99	**35.20**
1984	2676.98	9502.65	1006.25	3571.95	**37.59**
1986	2526.67	8054.73	776.62	2475.78	**30.74**
1987	2893.76	8573.88	883.97	2619.10	**30.55**
1988	3260.37	8996.50	921.54	2542.85	**28.26**
1989	5354.04	13841.88	1008.38	2606.98	**18.83**
1990	4973.59	11762.33	1213.81	2870.61	**24.41**
1991	5361.39	11051.51	1356.61	2796.40	**25.30**
1992	5597.28	10483.37	1355.04	2537.91	**24.21**
1993	6213.70	10740.86	1418.08	2451.26	**22.82**
1994	7749.98	12084.59	1600.64	2495.89	**20.65**
1995	9491.23	14618.87	1764.21	2717.32	**18.59**
1996	12925.74	18684.22	2388.17	3452.11	**18.48**
1997	15618.75	21761.28	3046.81	4245.06	**19.51**
1998	18718.68	24918.35	3521.70	4688.09	**18.81**
1999	21713.59	27516.54	4022.71	5097.78	**18.53**
2000	24689.88	29700.68	4736.13	5697.33	**19.18**
2001	18276.33	21474.99	3437.86	4039.55	**18.81**
2002	22049.85	24759.46	4022.70	4517.04	**18.24**

contd…

| Year ending | Amount outstanding (₹Crore) | | | | Share (%) of agriculture in total bank credit |
| | Total | | Agriculture | | |
	at current prices	at constant prices	at current prices	at constant prices	
2003	24689.88	26289.96	4736.25	5043.19	**19.18**
2004	28165.81	28165.81	5592.54	5592.54	**19.86**
2005	32663.45	26657.51	7307.69	5964.00	**22.37**
2006	40971.47	30082.14	8809.83	6468.36	**21.50**
2007	55279.61	39088.96	13176.21	9317.08	**23.84**
2008	76201.56	49860.17	15352.39	10045.37	**20.15**
2010	97242.76	58080.60	20329.88	12142.52	**20.91**
2011	141952.21	80546.62	51801.71	29393.36	**36.49**
2012	176780.95	93155.37	31207.51	16444.91	**17.65**
2013	157579.84	78361.83	40422.28	20101.33	**25.65**
2014	186975.58	91081.78	49981.11	24347.40	**26.73**
2015	201069.49	100497.20	57180.80	28579.72	**28.44**
2016	207972.19	100313.96	62076.07	29941.97	**29.85**
CAGR, % 1981-2016	**16.2432 (46.184)**	**8.8142 (26.069)**	**15.3797 (27.790)**	**8.0059 (14.460)**	

At 2004-05 prices
Source: Economic and Statistical Organization, various issues

The share of agriculture started declining in late nineties due to the increase in non-institutional credit up till 2006 but it again started increasing afterwards which was attributed to the state directed programme to double the credit between the period 2007-2012 and as a result the credit increased tremendously touching the ever high figure of 36.49 per cent in the year 2011. So, sometimes it is the policy of state governments to encourage more injections in terms of credit when the percentage of non-institutional credit starts going up.

4.2 Direct and indirect credit to agriculture by SCBs in Punjab

Loan advanced directly to farmers for their production and development needs by the institutional agencies is categorized as direct credit to agriculture, while the loan advanced to the enterprise activities, which indirectly benefit the farmers, is categorized as indirect credit to agriculture.

The growth pattern of agricultural credit delivery system of SCBs has been presented in Table 4.5 which shows the direct and indirect lending by scheduled commercial banks to the agriculture sector during the period 1981 to 2016. The total accounts of direct credit increased from 306 thousand in 1981 to 1470 thousand in the year 2016 which increased with the compound growth rate of 2.77 per cent per annum. Similarly the total amount of direct credit when the amount was adjusted for price changes rose from ₹1212.4 crore in 1981 to ₹28264.8 crore in 2016 with the CGR of 8.14 per cent per annum. The accounts of indirect credit were 8 thousand in 1981 and went up to 73 thousand in 2016 and registered a CGR of 4.60 per cent per annum. It can be seen from the table that total amount of both the direct and indirect credit grew at an almost same CGR of approximately 8 per cent per annum. The proportion of direct credit remained between 73 to 94 per cent and that of indirect credit was between 6 to 27 per cent. The more percentage of direct credit to agriculture clearly indicates that operations of SCBs are farmer centric. In other words, the SCBs in Punjab were mostly associated directly with the farmers and their agro-economic well-being.

Table 4.5: Growth of direct and indirect credit to agriculture by SCBs in Punjab, 1981 to 2016

Year ending	Direct credit to agriculture			Indirect credit to agriculture			Proportion, (%)	
	Accounts number ('000)	Amount (₹ in crores)		Accounts number ('000)	Amount (₹ in crores)		Direct credit	Indirect credit
		Current prices	Constant prices		Current prices	Constant prices		
1981	306	283.1	1212.4	8	49.8	213.3	85	15
1983	419	374.1	1422.1	9	69.4	263.8	84	16
1984	500	875.5	3107.8	5	130.7	463.9	87	13
1986	598	603.2	1922.9	9	173.4	552.8	78	22
1987	648	721.9	2138.9	10	162.0	480.0	82	18
1990	651	912.1	2157.1	21	96.2	227.5	90	10
1991	767	1095.2	2257.6	25	118.6	244.5	90	10
1992	768	1194.8	2237.8	13	161.9	303.2	88	12
1993	672	1215.5	2101.1	8	139.5	241.1	90	10
1994	629	1319.8	2058.0	8	98.3	153.3	93	7
1995	634	1463.5	2254.2	8	137.1	211.2	91	9
2000	589	2643.4	3179.9	15	403.4	485.3	87	13
2001	712	2519.6	2960.6	16	918.2	1078.9	73	27
2002	668	3303.4	3709.3	14	719.3	807.7	82	18
2003	571	4063.3	4326.7	12	672.9	716.5	86	14

contd….

Year ending	Direct credit to agriculture			Indirect credit to agriculture			Proportion, (%)	
	Accounts number ('000)	Amount (₹ in crores)		Accounts number ('000)	Amount (₹ in crores)		Direct credit	Indirect credit
		Current prices	Constant prices		Current prices	Constant prices		
2004	605	4810.1	4810.1	14	782.5	782.5	86	14
2005	683	6160.1	5027.5	14	1147.6	936.6	84	16
2006	720	7732.7	5677.5	14	1077.1	790.9	88	12
2007	870	11034.4	7802.6	22	2141.8	1514.5	84	16
2008	850	11986.6	7843.1	17	3365.8	2202.3	78	22
2009	928	13533.4	8549.6	19	3280.4	2072.3	80	20
2010	938	16357.1	9769.7	25	3972.8	2372.8	80	20
2011	1194	47533.4	26971.5	26	4268.3	2421.9	92	8
2012	995	26166.7	13788.6	27	4392.0	2314.4	86	14
2013	1143	33139.6	16479.8	28	7282.6	3621.5	82	18
2014	1268	44152.0	21507.8	55	5829.2	2839.6	88	12
2015	1389	52773.7	26377.0	41	4407.1	2202.7	92	8
2016	1470	58599.0	28264.8	73	3477.1	1677.1	94	6
CAGR, % 1981-2016	2.7742 (8.227)	15.5247 (22.770)	8.1429 (12.016)	4.5954 (7.456)	15.2526 (16.813)	7.8956 (8.951)		

At 2004-05 prices

** Significant at 5 per cent probability level

Figures in parentheses indicate t -values

Source: Economic and Statistical Organization, various issues

An effort has been made to see the growth of SCBs' credit advanced to agriculture, direct as well as indirect on per account and per hectare basis and the results are presented in Table 4.6. It has been done to see if the overtime increase in the number of accounts, net sown area (NSA) and amount outstanding have been in consonance with each other where an increase in both amount ₹ per account and amount ₹ per ha of NSA in direct and indirect credit can be visualized clearly. The direct and indirect credit ₹ per account increased with CGR of five and three per cent per annum and that of per ha of NSA hovered around eight per cent per annum of CGR. The CGR of total amount of direct and indirect credit worked out at constant prices of 2004-05 also remained around eight per cent per annum. It can be seen from the table that the total amount outstanding at 2004-05 prices in direct finance to agriculture by SCBs increased from ₹1212.42 crores in 1981 to ₹28264.84 crores by 2016. The amount outstanding in direct credit per farmer by SCBs increased from ₹39622 in 1981 to ₹192254 in 2016. The lower growth rate in ₹ per account in direct credit per farmer (5.10 per cent) in contrast to that of the total amount outstanding in direct credit (8.14 per cent) can be attributed to the increase in the number of beneficiaries during the period.

The indirect finance to agriculture by SCBs had increased from ₹213.28 crores in 1981 to ₹1677.13 crores by 2016.

Table 4.6 Growth of SCBs' credit per account and per hectare of NSA in Punjab, 1981-2016

At constant prices@

Year ending	Direct credit			Indirect credit		
	Total amount, (₹crores)	₹/Account	₹/ha of NSA	Total amount, (₹ crores)	₹/Account	₹/ha of NSA
1981	1212.42	39622	2880	213.28	273431	507
1983	1422.10	33940	3376	263.82	306763	626
1984	3107.82	62194	7419	463.95	892220	1108
1986	1922.93	32183	4576	552.78	588063	1316
1987	2138.91	32987	5145	479.99	470576	1155
1988	2289.98	33820	5446	252.76	280841	601
1990	2157.08	36246	5590	227.51	118419	590
1991	2257.55	33756	6145	244.47	110427	665
1992	2237.79	32089	5950	303.23	260724	806
1993	2101.08	33887	5402	241.14	311042	620
1994	2057.97	36281	5419	153.28	217845	404
1995	2254.16	36000	5518	211.17	257567	517
1997	2211.97	45041	5769	246.19	228708	642
1999	2533.99	60159	6832	492.45	597621	1328
2000	3179.88	62519	8637	485.27	387620	1318
2001	2960.60	41606	6937	1078.95	681757	2528
2002	3709.31	55517	8782	807.73	573425	1912
2003	4326.67	75727	10299	716.54	575301	1706

contd…

Year ending	Direct credit			Indirect credit		
	Total amount, (₹crores)	₹/ Account	₹/ha of NSA	Total amount, (₹ crores)	₹/ Account	₹/ha of NSA
2004	4810.07	79546	11453	782.47	568160	1863
2005	5027.45	73571	12056	936.55	691844	2246
2006	5677.50	78803	13570	790.86	563573	1890
2007	7802.55	89640	18693	1514.52	681450	3628
2008	7843.06	92305	18804	2202.31	1277888	5280
2009	8549.55	92149	20498	2072.32	1091556	4968
2010	9769.68	104100	23496	2372.84	955518	5707
2011	26971.45	225929	66074	2421.91	747526	5933
2012	13788.62	138512	32226	2314.37	844691	5577
2013	16479.79	144220	39758	3621.54	1316924	8737
2014	21507.83	169648	52216	2839.57	513484	6894
2015	26377.02	189917	63759	2202.70	538558	5324
2016	28264.84	192254	68438	1677.13	229744	4061
CAGR, % 1981-2016	8.1429 (12.016)	5.1014 (10.513)	8.0935 (12.438)	7.8956 (8.951)	2.9538 (3.227)	7.8397 (9.411)

@At 2004-05 prices
** Significant at 5 per cent probability level
Figures in parentheses indicate t- values
Source: Economic and Statistical Organization, various issues

The amount outstanding in indirect finance per account was nearly 7 times (₹2.7 lakh) the direct finance per farmer in 1981 and was nearly 1.2 times (₹2.3 lakh) by the end of 2016. This high amount outstanding per account in indirect finance to agriculture by the SCBs was due to huge disbursements made to the less number of operating accounts because of high collateral securities. While the low amount outstanding in direct finance per farmer can be attributed to the disbursal of more

number of seasonal agricultural operational (SAO) loans, which amount to less. The total amount outstanding at 2004-05 prices, in case of direct finance per hectare of NSA, increased from ₹2880 in 1981 to ₹68438 by 2016 with a compound growth rate of 8 per cent per annum. In case of indirect finance, the amount outstanding per hectare of NSA had increased from ₹507 in 1981 to ₹4061 by 2016 and registered an annual compound growth rate of nearly 8 per cent.

4.3 District wise credit flow to agriculture by SCBs in Punjab

This section includes the district wise portrayal of the credit flow to Punjab agriculture. It is evident from district wise scenario of direct credit by scheduled commercial banks (SCBs) presented in Table 4.7 that the variation in number of accounts remained between 30 to 40 per cent in all the trienniums whereas a huge difference in direct amount is visible which was ₹10730.08 lakh in TE 1983 and went up to ₹208018.53 lakh in TE 2016. During TE 2016 the leading districts in terms of direct credit were Ludhiana (₹309429 lakh), Faridkot (₹285374 lakh), Patiala (₹274932 lakh), Amritsar (₹250229 lakh) and Sangrur (₹238050 lakh) but these leading districts were different from the periods of TE 1983 and TE 1993. During TE 2003 Sangrur district was having highest credit of ₹47437.03 lakh followed by Patiala, Faridkot, Firozpur and Ludhiana with ₹46947.64 lakh, ₹42776.11 lakh, ₹38581.69 lakh and ₹37413.63 lakh respectively. The opening up of new branches every year may be the reason for the increase in the direct credit by SCBs in Punjab.

The inter-district variability, as measured by Coefficient of Variation per cent, has been observed to be more in case of amount outstanding as compared to that in case of number of beneficiaries, however it had been declining throughout the period. The inter district variability which remained almost same during the past four decades can be attributed to the implementation of 'Service Area Approach' in the year 1989. This recommendation emerged out from the report submitted to RBI by the committee headed by Dr. P.D. Ojha in 1988, where in specific service area is assigned to each branch of the SCB with a specific objective of removal of regional imbalances in credit lending and to envisage systematized credit planning and supervision.

Table 4.7: District wise direct credit to agriculture by SCBs in Punjab, 1981-2016

At constant prices@

Districts	TE 1983		TE 1993		TE 2003		TE 2016	
	Amount (₹ Lakhs)	Accounts (Number)	Amount (₹ Lakhs)	Accounts (Number)	Amount (₹ Lakhs)	Accounts (Number)	Amount (₹ Lakhs)	Accounts (Number)
Amritsar	12723.88	31611	16715.52	62359	35755.13	62612	250229.45	149491
Bathinda	14189.26	41319	23514.51	65932	37328.37	71032	210562.19	142411
Faridkot	15399.36	37663	27545.75	84507	42776.11	69970	285374.00	148162
Firozpur	15814.23	33748	27209.36	89412	38581.69	58540	209039.77	117077
Gurdaspur	5948.89	21493	11642.75	58434	20650.61	40009	157234.47	94144
Hoshiarpur	4520.44	16476	8189.22	36837	19756.90	40904	140898.94	82957
Jalandhar	10726.96	35331	13242.84	50545	28689.50	44274	226109.65	86492
Kapurthala	4308.03	11309	4901.19	21684	9995.31	17292	99881.31	39246
Ludhiana	14526.36	40356	22496.75	78016	37413.63	58136	309428.91	125419
Patiala	14268.97	35919	25205.93	69653	46947.64	78177	274932.27	142785
Rupnagar	2799.34	17380	7955.09	30497	12966.75	23455	94481.18	54509
Sangrur	13535.28	39905	31270.95	87627	47437.03	85958	238050.21	166869
State average	**10730.08**	**30209**	**18324.15**	**61292**	**31524.89**	**54197**	**208018.53**	**112463.50**
C. V. (%)	45.65	35.09	49.00	36.93	40.87	39.36	34.13	36.18

@ At 2004-05 prices
Source: Economic and Statistical Organization, Various Issues

The district wise direct credit per account and per ha of NSA has been portrayed in Table 4.8. It can be viewed from the table that the Firozpur district had the maximum direct per account credit which was to the tune of ₹47292.23 and the Rupnagar district was at the bottom (₹16000.15) in terms of ₹ per account of credit during the period TE 1983. The picture is different than that of per account in per ha of NSA where Ludhiana district leads the state by providing the per hectare credit to the tune of ₹4435.24 and Hoshiarpur comes at the bottom with ₹1789.98 during the above said period. During the next triennium i.e. TE 1993, Bathinda district topped the state with ₹36397.92 in case of amount per account and Gurdaspur district secured the last rank with ₹20781.32. In case of amount per ha of NSA Rupnagar district came at the top with ₹6944.44 and Hoshiarpur district secured the last rank with ₹3265.61 during the above said period. During TE 2003 Firozpur district topped the state in case of amount per borrower with ₹68603.45 and Hoshiarpur district had the last rank with ₹50006.61. In case of amount per ha of NSA Patiala district topped the state with ₹12357.11 and Gurdaspur district had the minimum amount of ₹7037.56. The leading district in case of amount per borrower during TE 2016 was Jalandhar with ₹261111.71 and the district with minimum amount was Sangrur with ₹142008.63. In case of amount per ha of NSA Ludhiana district led the rest with ₹98544.24 and Bathinda district had the minimum amount of ₹43432.93. The amount outstanding per hectare of NSA accounts for the inter-district variability in the NSA. As regards the amount outstanding (at 2004-05 prices), the per beneficiary direct finance by SCBs in Punjab increased by around 6 times from ₹34624.23 in TE 1983 to ₹190745.40 in TE 2016 whereas the inter-district variability can be attributed to the implementation of service area approach from 1989.

Table 4.8: District-wise direct credit by SCBs per account and per hectare of net sown area (NSA) in Punjab, 1981-2016

At constant prices@

Districts	TE 1983				TE 1993				TE 2003				TE 2016			
	₹/ account	Rank	₹/ha of NSA	Rank	₹/ account	Rank	₹/ha of NSA	Rank	₹/ account	Rank	₹/ha of NSA	Rank	₹/ account	Rank	₹/ha of NSA	Rank
Amritsar	40648.93	3	3043.99	5	26834.81	7	3822.26	10	57634.12	7	7944.08	8	167025.49	9	57222.40	8
Bathinda	34512.75	7	2830.40	9	36397.92	1	4839.71	7	53948.88	10	7590.60	10	146805.99	11	43432.93	12
Faridkot	41758.68	2	2927.64	7	32740.31	4	5625.47	5	61774.43	4	7693.76	9	191585.82	5	51984.35	10
Firozpur	47292.23	1	3184.47	4	30413.15	5	5333.26	6	68603.45	1	8122.46	6	177552.00	6	44408.00	11
Gurdaspur	27830.14	10	2293.00	10	20781.32	12	4139.88	9	52488.43	11	7037.56	12	166126.35	10	61180.73	5
Hoshiarpur	27615.20	11	1789.98	12	22644.09	10	3265.61	12	50006.61	12	8089.70	7	169460.45	8	59848.72	6
Jalandhar	30843.78	9	3556.20	3	26249.30	8	4263.11	8	67807.59	2	9428.58	5	261111.71	1	73111.29	4
Kapurthala	38669.35	5	2879.60	8	22540.41	11	3641.11	11	60137.07	6	7345.86	11	256827.16	2	75114.61	3
Ludhiana	36209.64	6	4435.24	1	28860.96	6	6923.49	2	65821.97	3	11666.58	2	245878.44	3	98544.24	1
Patiala	39704.44	4	3636.12	2	36171.57	2	6442.82	4	60685.29	5	12357.11	1	192272.22	4	81326.73	2
Rupnagar	16000.15	12	2220.96	11	26082.61	9	6944.44	1	55747.34	9	10590.63	3	172290.29	7	59798.21	7
Sangrur	34405.44	8	2946.13	6	35678.46	3	6887.13	3	56119.35	8	10482.86	4	142008.63	12	53471.20	9
State average	**34624.23**		**2978.64**		**28782.91**		**5177.36**		**59231.21**		**9029.15**		**190745.40**		**63286.92**	
C.V. (%)	23.83		23.58		19.22		26.56		10.14		20.11		21.68		25.41	

@ At 2004-05 prices

Source: Economic and Statistical Organization, Various Issues

The percentage of direct amount, direct accounts and net sown area (NSA) has been presented in Table 4.9 which shows that in case of direct amount Ludhiana district leads the state with 12.4 per cent of direct amount and in case of direct accounts Sangrur district is having maximum number of accounts which were 12.4 per cent. The distribution of NSA shows that Faridkot has the maximum net sown area which was 13.3 per cent during the year 2016.

Table 4.9: District-wise proportion of NSA, outreach and amount outstanding of direct credit to agriculture in Punjab, TE 2016

(Per cent)

Districts	TE 2016		
	Direct amount	**Direct accounts**	**NSA**
Amritsar	10.0	11.1	10.6
Bathinda	8.4	10.6	11.7
Faridkot	11.4	11.0	13.3
Firozpur	8.4	8.7	11.4
Gurdaspur	6.3	7.0	6.4
Hoshiarpur	5.6	6.1	5.7
Jalandhar	9.1	6.4	7.5
Kapurthala	4.0	2.9	3.2
Ludhiana	12.4	9.3	7.6
Patiala	11.0	10.6	8.2
Rupnagar	3.8	4.0	3.8
Sangrur	9.5	12.4	10.8

Source: Economic and Statistical Organization, Various Issues

The provision of district wise indirect credit by scheduled commercial banks (SCBs) during 1981 to 2016 has been depicted in Table 4.10. During TE 1983 the highest indirect credit was provided by Patiala (₹5622.23 lakh) and the lowest credit was provided by Kapurthala (₹323.92 lakh) but the districts with maximum account numbers was Ludhiana with 1673 accounts and Rupnagar remained the lowest in terms of accounts (134). In the next triennium of 1993 the highest and lowest indirect credit was provided to the tune of ₹9112.21 lakh and ₹711.75 lakh in Sangrur and

Table 4.10: District-wise indirect credit to agriculture by SCBs in Punjab, 1981-2016

At constant prices@

Districts	TE 1983		TE 1993		TE 2003		TE 2016	
	Amount (₹ Lakhs)	Accounts (Number)	Amount (₹ Lakhs)	Accounts (Number)	Amount (₹ Lakhs)	Accounts (Number)	Amount (₹ Lakhs)	Accounts (Number)
Amritsar	1186.38	904	1182.01	1644	4404.67	955	17973.53	3456
Bathinda	1868.83	632	1614.34	1371	3416.37	1248	11458.59	5222
Faridkot	3350.55	1311	1068.38	1109	4708.92	1586	16119.05	6667
Firozpur	3404.46	514	854.50	1573	4334.36	1797	30061.56	4698
Gurdaspur	1031.44	394	1229.38	1746	1087.51	605	11663.58	2716
Hoshiarpur	744.64	409	711.75	746	1395.87	787	4434.02	3163
Jalandhar	960.63	729	881.34	1816	9427.29	1138	16110.37	7478
Kapurthala	323.92	198	1160.75	440	1323.48	597	4760.20	2139
Ludhiana	2040.39	1673	1866.43	1749	5232.97	1427	34827.68	8823
Patiala	5622.23	381	5487.27	1643	32127.18	2152	45748.84	3954
Rupnagar	398.84	134	1123.42	789	6073.52	248	15254.80	2978
Sangrur	2914.81	930	9112.21	895	4771.09	1582	13741.34	4715
State average	**1987.26**	**684**	**2190.98**	**1293**	**6525.27**	**1177**	**18512.80**	**4667**
C.V. (%)	79.42	66.93	115.38	36.79	128.55	47.68	66.57	44.18

@ At 2004-05 prices
Source: Economic and Statistical Organization, Various Issues

Hoshiarpur districts respectively whereas Jalandhar and Kapurthala had the maximum and minimum number of accounts of 1816 and 440 respectively. During TE 2003 the indirect credit provision was maximum in Patiala district and the minimum was in Gurdaspur with ₹32127.18 lakh and ₹1087.51 lakh respectively. Here again Patiala district is leading in terms of number of accounts (2152) but the district with minimum number of accounts is different from that of minimum amount provided which is Rupnagar with 248 accounts. During the last period of TE 2016, Patiala secured the top position with ₹45748.84 lakh in case of providing indirect credit whereas Hoshiarpur had the minimum amount (₹4434.02 lakh) provided indirectly for agriculture. But the number of accounts was maximum in Ludhiana district (8823) and Kapurthala had the minimum number of accounts which were 2139. So, no peculiar trend in case of indirect credit disbursal could be seen as in every triennium there were different districts disbursing maximum credit and having maximum account numbers. On the whole, it can be seen that there had been massive increase in the provision of credit throughout all the trienniums across all the districts. The inter-district variability was measured with the coefficient of variation (CV) being 66.57 and 44.18 in case of indirect amount and number of accounts respectively in TE 2016. The amount of indirect credit at 2004-05 prices increased by almost nine times from ₹1987.26 lakh in TE 1981 to ₹18512.80 lakh in TE 2016 in Punjab and the corresponding variability ranged between 66.57 to 128.55 during the above said period. In case of number of accounts, the CV ranged between 36.79 to 66.93 during the above said period. This inter-district variability can be attributed to some extent to the uneven distribution of agencies involved in indirect finance.

The results pertaining to the indirect credit outstanding in SCBs per account and per hectare of NSA presented in Table 4.11 revealed a large amount of variation in the districts of Punjab during TE 1983 to TE 2016. During TE 1983 the amount per borrower was maximum in Patiala district (₹1465812.63) and the minimum was in Ludhiana district (₹121253.01). The amount of indirect credit per ha of NSA was again the highest in case of Patiala district but the minimum amount was (₹216.94) provided by Kapurthala district during the above said period. District Patiala lost its first position to district Sangrur as reflected by the figures corresponding to TE 1993. So the leading district in case of amount per borrower was Sangrur district (₹1278013.47) and Firozpur district provided the minimum amount of ₹62258.06.

Table 4.11: District-wise indirect credit by SCBs per account and per hectare of net sown area (NSA) in Punjab, 1981-2016

At constant prices @

Districts	TE 1983				TE 1993				TE 2003				TE 2016			
	₹/ account	Rank	₹/ha of NSA	Rank	₹/ account	Rank	₹/ha of NSA	Rank	₹/ account	Rank	₹/ha of NSA	Rank	₹/ account	Rank	₹/ha of NSA	Rank
Amritsar	134209.30	10	283.82	11	83292.63	10	270.45	10	467049.20	4	977.97	6	535609.59	3	4108.06	7
Bathinda	299314.50	6	373.22	7	132264.93	5	332.24	7	296491.87	9	696.20	10	318439.03	9	2359.67	11
Faridkot	301417.00	4	636.99	3	99689.74	8	216.51	11	294921.49	10	846.78	9	339507.02	8	2936.05	10
Firozpur	720422.86	2	686.00	2	62258.06	12	167.48	12	321263.65	7	912.50	8	816652.51	2	6386.85	4
Gurdaspur	261989.75	7	397.66	6	88337.94	9	434.80	6	213943.83	11	370.64	12	446910.15	5	4538.36	6
Hoshiarpur	211349.77	8	295.16	10	103064.85	7	281.25	9	194307.72	12	567.48	11	140462.01	12	1884.14	12
Jalandhar	132130.32	11	319.04	8	69750.55	11	283.84	8	828963.17	3	3098.94	3	225371.92	11	5222.96	5
Kapurthala	163551.38	9	216.94	12	615016.76	2	865.26	4	393292.23	5	974.20	7	288812.31	10	3581.38	8
Ludhiana	121253.01	12	622.83	5	121265.28	6	574.48	5	364485.28	6	1631.45	4	395555.46	7	11091.62	2
Patiala	1465812.63	1	1432.79	1	402593.05	3	1403.74	2	1509003.46	2	8445.37	1	1236177.10	1	13514.17	1
Rupnagar	300502.54	5	314.59	9	157378.72	4	983.87	3	2978830.89	1	4925.11	2	509996.51	4	9654.94	3
Sangrur	581546.60	3	634.43	4	1278013.47	1	2015.92	1	301948.67	8	1054.95	5	408336.12	6	3085.54	9
State average	391124.97		517.79		267743.83		652.49		680375.12		2041.80		471819.14		5696.98	
C. V. (%)	98.45		64.19		133.93		87.43		119.25		117.52		62.75		65.90	

@ At 2004-05 prices

Source: Economic and Statistical Organization, Various Issues

Here again Sangrur and Firozpur districts had the maximum and minimum amount of per ha of NSA with ₹2015.92 and ₹167.48 respectively for the above said period. During TE 2003 Rupnagar district topped the state in case of amount per account and Hoshiarpur district provided the minimum amount. Patiala district led the state in case of amount per ha of NSA and Gurdaspur district was at the bottom in providing this credit during the same period. The indirect finance per account at 2004-05 prices in Punjab during TE 1983 increased by 1.2 times from ₹391124.97 to ₹471819.14 in TE 2016. The inter district variability measured as coefficient of variation (CV) in case of amount outstanding with respect to indirect finance per account decreased from 98.45 per cent in TE 1983 to 62.75 per cent in TE 2016. The amount outstanding at 2004-05 prices in SCBs through indirect finance per hectare of net sown area (NSA) in Punjab increased by around 11 times from ₹517.79 in TE 1983 to ₹5696.98 in TE 2016. The inter district variability in indirect finance per hectare of NSA has increased from 64.19 per cent in TE 1983 to 65.90 per cent in TE 2016.

The districts did not follow the consistent pattern as far as the ranking was concerned. However, as per the figures observed for TE 2016 corresponding to the amount outstanding in indirect finance per account, district Patiala secured the highest rank and the district Hoshiarpur the lowest one. Concerning the amount outstanding in indirect finance per hectare of NSA, the rank was the highest again for district Patiala and the lowest again for district Hoshiarpur in TE 2016.

The Table 4.12 shows the proportion of amount and accounts outstanding of indirect credit and NSA in all the districts in Punjab during the period TE 2016. It is clear from the table that Patiala district is the fore runner in terms of indirect amount outstanding of 20.6 per cent with 8.2 per cent of NSA and 7.1 per cent of indirect accounts of the state. Ludhiana district tops the state in terms of indirect accounts of outstanding credit with 15.8 per cent, 7.6 per cent of NSA and 15.7 per cent of the state's amount outstanding. Similarly Faridkot district has the maximum NSA of 13.3 per cent with 11.9 per cent indirect accounts and 7.3 per cent of amounts in the state. So, it can be concluded that the distribution with maximum indirect amount are not the same as those of three components in the state of Punjab, thereby highlighting the inequitable distribution.

Table 4.12: District-wise proportion of NSA, outreach and amount outstanding of indirect credit to agriculture in Punjab, TE 2016

(Per cent)

Districts	TE 2016		
	Indirect amounts	Indirect accounts	Net sown area
Amritsar	8.1	6.2	10.6
Bathinda	5.2	9.3	11.7
Faridkot	7.3	11.9	13.3
Firozpur	13.5	8.4	11.4
Gurdaspur	5.3	4.8	6.4
Hoshiarpur	2.0	5.6	5.7
Jalandhar	7.3	13.4	7.5
Kapurthala	2.1	3.8	3.2
Ludhiana	15.7	15.8	7.6
Patiala	20.6	7.1	8.2
Rupnagar	6.9	5.3	3.8
Sangrur	6.2	8.4	10.8

Source: Economic and Statistical Organization, Various Issues

The findings corresponding to district wise proportion of SCBs' direct and indirect finance to agriculture in Punjab have been presented in Table 4.13 during the period TE 2016. It can be illustrated from the table that the ratio of direct credit to indirect credit stood at 92:8. In case of Firozpur, Rupnagar and Patiala districts, the proportion of direct credit stood at 89, 86 and 86 per cent respectively. The rest of districts (except for Ludhiana) such as Bathinda, Gurdaspur, Hoshiarpur, Jalandhar, Kapurthala, Faridkot, Amritsar and Sangrur are having the proportion of direct credit more than the state level figure of TE 2016. Hoshiarpur district is having the least share of indirect credit (3.0 %) and Patiala and Rupnagar are leading in terms of indirect credit (14.0 % each) to agriculture during the above said period. The higher percentage of direct lending implies that the SCBs are in direct contact with the farming community and hence helping them solve the problem of finance.

Table 4.13: District-wise proportion of direct and indirect credit to agriculture by SCBs in Punjab, TE2016

Districts	Proportion, (%) in TE 2016	
	Direct credit to agriculture	Indirect credit to agriculture
Amritsar	93	7
Bathinda	95	5
Faridkot	95	5
Firozpur	89	11
Gurdaspur	93	7
Hoshiarpur	97	3
Jalandhar	93	7
Kapurthala	95	5
Ludhiana	90	10
Patiala	86	14
Rupnagar	86	14
Sangrur	95	5
Punjab	92	8

Source: Economic and Statistical Organization, Various Issues

Summary

It is very clear from the above discussion that the branch expansion of scheduled commercial banks (SCBs) has been up to the mark and has been increasing throughout the period of TE 1973 to TE 2016. The amount outstanding of agricultural credit from the total amount outstanding in Punjab has been on the rise since the year 1981 which was ₹1425.61 crore and went up to ₹29941.97 crore in the year 2016. Similarly the direct and indirect credit to agriculture has been rising with the compound growth rate of around 8 per cent each during the period of 1981 to 2016. The significance of compound growth rates at five per cent level of probability hereby leads to the rejection of the set hypothesis. So the efforts of scheduled commercial banks in improving the access of institutional credit can well be justified from the given data in the tables of this chapter.

Chapter-V

Outreach of Scheduled Commercial Banks in Terms of Rural Presence

CHAPTER V

OUTREACH OF SCHEDULED COMMERCIAL BANKS IN TERMS OF RURAL PRESENCE

This chapter represents the number of scheduled commercial banks located at different rural, urban and semi-urban places of the state during TE 1973 to TE 2016.

5.1 Rural presence of scheduled commercial banks in Punjab

Since two third of the country's population lives in villages, looking for the strategies to effectively meet the credit needs of the rural masses should be accorded top priority. In this context, the present section has been planned to study the rural presence of SCBs. Results presented in Table 5.1 revealed that the number of offices of SCBs in Punjab went up from 816 in TE 1973 to 6056 by TE 2016. The number of urban branches kept on increasing throughout the period with 152 branches during TE 1973 and 1789 branches during TE 2016. Although the number of semi-urban branches have been increasing during the above said period but the percentage of these branches remained almost the same which was 31.6 per cent during TE 1973 and it was 31.0 during TE 2016. The proportion of rural offices to that of total offices of SCBs in the state was 50 per cent (offices being 406) in TE 1973. However, over the decades, the proportion of rural offices of SCBs in Punjab increased to 54 per cent, the number of offices being 931 in TE 1983 and then it dwindled down to 39.5 per cent by TE 2016, although the number of offices increased to 2394.

The number of urban branches in India has increased from 4180 to 41845 during the period TE 1973 to TE 2016 with almost similar proportion of 33.7 and 33.5 per cent branches respectively for the same period. A similar trend as that of Punjab can be seen in case of semi-urban branches which were increasing in absolute terms and had gone up from 4165 to 35694 during the above said period and the percentage of these branches had gone down from 33.5 to 28.6 during the period TE 1973 to TE 2016. In India, the total number of offices of SCBs had been recorded at 12415 in TE 1973 and those were, more or less equally distributed in rural, semi-urban and urban locations. But over the decades, the proportion of rural offices of SCBs in India increased to 52 per cent in TE 1983 and still higher to 58 per cent, the total number of offices being 60653, by TE 1993. At the country level, the proportion of rural offices to total offices of the SCBs stood at 37.9 per cent (47265) by TE 2016, the total offices increasing to 124804 (Table 5.1).

Table 5.1: Location-wise presence of SCBs in Punjab vis-à-vis India, 1971-2016

Year	TE1973		TE1983		TE1993		TE2003		TE2016	
Punjab										
Location	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Urban (U)	152	18.6	346	20.0	583	25.9	815	30.8	1789	29.5
Semi-urban (SU)	258	31.6	455	26.3	519	23.1	711	26.8	1873	31.0
Rural (R)	406	49.8	931	53.7	1145	51.0	1124	42.4	2394	39.5
Total Offices (U+SU+R)	816		1732		2247		2650		6056	
Ratio (U:SU:R)	**1000:1697:2671**		**1000:1315:2691**		**1000:890:1964**		**1000:872:1379**		**1000:1047:1338**	
India										
Urban (U)	4180	33.7	9953	25.5	13977	23.0	20774	30.4	41845	33.5
Semi-urban (SU)	4165	33.5	8787	22.5	11388	18.8	14980	22.0	35694	28.6
Rural (R)	4070	32.8	20248	52.0	35288	58.2	32457	47.6	47265	37.9
Total Offices (U+SU+R)	12415		38988		60653		68211		124804	
Ratio (U:SU:R)	**1000:996:974**		**1000:883:2034**		**1000:815:2525**		**1000:721:1562**		**1000:853:1130**	

Source: 1) Reserve Bank of India, Master Office File on Commercial Banks, Mumbai, Various Issues

2) Economic and Statistical Organization, Various Issues

This increase in the number of rural branches, both in Punjab and country at large, can be attributed to two spells of nationalization of 14 and 6 private sector banks in 1969 and 1981, respectively by the then Prime Minister Smt. Indira Gandhi with the objective of expansion of banking facilities to meet the credit needs of rural masses by setting up of rural branches.

However, by TE 2016, there were 37.9 per cent (47265) rural offices, 28.6 per cent (35694) semi-urban offices and 33.5 per cent (41845) urban offices in India. In case of Punjab, there were 39.5 per cent (2394) rural offices, 31.0 per cent (1873) semi-urban offices and 29.5 per cent (1789) urban offices. The decline in both the proportion and absolute figures pertaining to rural branches can be attributed to increasing urbanization during the period.

The number of branches of SCBs has been ever escalating in Punjab as well as country at large, but for every 1000 urban branches, the number of semi-urban branches had witnessed a continuous decline from 1697 in TE1973 to 1047 in TE 2016 in Punjab. Similarly, it dwindled down from 996 to 853 in India, during the same period. It is pertinent to note that the number of semi-urban branches for every 1000 urban branches had always been greater in Punjab in contrast to country at large.

In Punjab as well as India, the number of rural branches of SCBs was more as compared to those of urban branches all through the past four decades. In India, the number of rural branches for every 1000 urban branches of SCBs went up from 974 in TE 1973 to 2034 in TE1983 and still higher to 2525 by TE1993 and dwindled down to 1130 by TE 2016, which can be attributed to urbanization. In TE1973, Punjab, agriculturally the most progressive state had a rural network of 2671 branches as compared to 974 in case of India, for every 1000 branches of SCBs operating in the urban locations. However in Punjab, the number of rural branches, for every 1000 urban branches of SCBs went down to 1964 by TE 1993 and further to 1338 by the TE 2016.

The following figures clearly depict the comparison of Punjab state with rest of India regarding branch expansion network with their locations in urban, semi-urban and rural areas. The percentage of urban branches in Punjab was 3.8 during TE 1973 and it went up to 4.5 during TE 2016 and it has been steadily increasing throughout the period. A decreasing trend of semi-urban and rural branches can be seen throughout the period which were 6.6 per cent during TE 1973 and had gone down to 5.5 per cent during TE 2016 and for rural branches this percentage was 11.1 and 5.3 respectively for the same period.

Figure 5.1 Proportion of SCBs in Punjab, 1971-2016

Urban

	Rest of India	Punjab	
TE2016	40056	1789	4.5
TE2003	19959	815	4.1
TE1993	13394	583	4.4
TE1983	9607	346	3.6
TE1973	4028	152	3.8

Semi-urban

	Rest of India	Punjab	
TE2016	33821	1873	5.5
TE2003	14269	711	5.0
TE1993	10869	519	4.8
TE1983	8332	455	5.5
TE1973	3907	258	6.6

Rural

	Rest of India	Punjab	
TE2016	44871	2394	5.3
TE2003	31333	1124	3.6
TE1993	34143	1145	3.4
TE1983	19317	931	4.8
TE1973	3664	406	11.1

The perusal of Fig. 5.1 reveals that in TE 1973, as many as eleven per cent (406) of all rural branches in India happened to be in Punjab, agriculturally the most prosperous state. However, this proportion gradually declined to 4.8 per cent (931) by TE1983 and was 5.3 per cent during TE 2016 and the number of branches being 2394 in Punjab due to growth of rural branch network in rest of India. This declining trend of semi-urban and rural branches may be due to the urbanization.

As reported in the various issues of Statistical Abstract of Punjab, the number of bank offices per thousand square kilometers of area in Punjab improved markedly to 131 by the year ending 2016 from 16 in the year ending 1971. While in India, there were only 43 banking offices per thousand square kilometers of area by the year ending 2016.

In Punjab, the average population served per bank office of the SCBs reduced from 16000 in the year 1974 to 4000 by the year ending 2016, there by leading to a marked improvement in the quality of service provided. As far as country level banking services are concerned, the average population served per bank office stood at 9000 in 2016, in sharp contrast to the figure of 4000 recorded in case of Punjab (Economic and Statistical Organization, various issues). The significant compound growth rate of rural branches (4.21 per cent per annum during TE 1973-TE 2016), so far as the state of Punjab is concerned, leads to the rejection of the set hypothesis.

Summary

Undoubtedly, the progress of scheduled commercial banks in terms of their network expansion can be considered comparatively satisfactory as of now. India is now considered much preferred financial destination by Foreign Institutional Investors (FII) in the wake of Foreign Direct Investment (FDI) in India's banking sector. With the arrival of foreign banks from the year 1994, there is an imperative need for setting up of more branches in rural areas, both in Punjab and country at large to meet the credit needs of masses. As the banking sector has deliberately opened up for an easy access to the foreign banks to invest in our country, a great threat may be anticipated to our domestic SCBs. The private banks have already restrained most of the locations; the SCBs are already facing a stiff competition. Perceiving the future of banking sector in Punjab and the country at large, the expansion of branch network with requisite infrastructure should be considered inevitable.

Chapter-VI

The Significance of Institutional Sources in Total Credit in Punjab

CHAPTER VI

THE SIGNIFICANCE OF INSTITUTIONAL SOURCES IN TOTAL CREDIT IN PUNJAB

This chapter dwells on the information provided for the percentage share of institutional and non-institutional finance being availed by the farming community in Punjab.

Before independence, money lenders were the main source of availing agricultural credit (more than 90 per cent) and cooperatives were the only institutional arrangement existing for this. After independence, government of India took many initiatives from time to time to enhance the share of institutional credit. This was done to free the farmers from the clutches of money lenders who were charging heavy rates of interest. So, the government of India has formulated several policies, plans and programs and has also announced a host of measures in the last decade to increase the flow of agricultural credit by all the financial institutions. Several policy initiatives have been taken by the Reserve Bank of India to increase the credit flow to agriculture. Farmers are the backbone of any agricultural economy. The Indian farmers are the largest serving body of agriculture, who are currently facing their epidemic of suicide and the state of Punjab can be called the worst hit by this. However, in the recent time, particularly after the green revolution, the agriculture is not only serving as subsistence but also it serves for the improvement of the socio-economic development of the farmers. In the wake of suicides by the farmers in the country, it is imperative to find the root cause of the problem. Indebtedness was considered to be the major reason for the dismay and suicides of the farming community. To save the farmers from falling prey to of private money lenders, a number of measures have been adopted. Banks have also been given guidelines time and again for reviewing the cases where credit has been denied on the grounds that there was settlement of loan through compromise or write off and reduction in lending rates for agriculture has been advised to all the public sector banks. With a view to examine the financial penetration by the credit agencies the present section examines the proportion of loan amounts secured from the institutional and non-institutional credit agencies and shows the results after doing research at grass root level in the state of Punjab. This section deals with the borrowing pattern of the selected

households wherein the data regarding the institutional and non- institutional sources were collected from 180 farmer borrowers from six districts spread across three agro climatic zones of Punjab.

6.1 Socio-economic profile of sampled farm households

The general characteristics of the selected respondents have been discussed in this section to help gain useful insight into the farming community of Punjab as these socio-economic features like education level, family composition, age of the individual etc. may serve as a basis for judging the strength of an individual in the society. Moreover, the socio-economic profile influences the decision making power of the farmers which is one of the significant parameters in the process of agricultural production. Therefore, it was very important to have an overview of socio-economic profile of the sampled farmers which is given under the following heads:

6.1.1 Age

The distribution of sampled farmers according to age is presented in table Table 6.1. Age is a factor which coincides with control over resources and decision making power. The major proportion of the sample households (32.78%) was in the age group of 30-40 years followed by the members in the age group of <30 years (29.44%) and 41-50 years (21.11%). It was also observed that the percentage of respondents above the age of 50 was minimum (16.67).

Table 6.1: Distribution of farmers according to age in Punjab

Districts	Zone I	Zone II	Zone III	Total
<30	18 (30.00)	16 (26.67)	19 (31.67)	53 (29.44)
30-40	14 (23.33)	25 (41.67)	20 (33.33)	59 (32.78)
41-50	21 (35.00)	7 (11.67)	10 (16.67)	38 (21.11)
Above 50	7 (11.67)	12 (20.00)	11 (18.33)	30 (16.67)
Total	**60 (100.0)**	**60 (100.0)**	**60 (100.0)**	**180 (100.0)**

Source: Author's calculations from field survey
Note: Figures in parentheses indicate percentage to total

6.1.2 Literacy status

Literacy level of farmers generally helps in facilitating rational thinking to judge a situation and serves as an improved impetus to adopt new farm technology. An analysis of the educational status (Table 6.2) of the sampled respondents revealed that about 20.56 per cent of them were illiterate. The percentage of the farmers who achieved education up to primary and middle levels was worked out to be about 17 and 22 per cent respectively. About 23 per cent of the respondents were matriculates and 18 per cent were above matric level. It was also observed that among the sampled farmers, the share of members without any formal education was observed to be more in zone III (25 %) followed by zone I and zone II with 20 and 17 per cent respectively. The number of matriculates was maximum in zone I (25 %) followed by zone II and zone III with 21.67 each. The number of sampled farmers above Matric was also the highest in zone I with 26.66 per cent.

Table 6.2: Distribution of farmers according to level of literacy in Punjab

Districts	Zone I	Zone II	Zone III	Total
Illiterate	12 (20.00)	10 (16.67)	15 (25.00)	37 (20.56)
Primary	4 (6.67)	12 (20.00)	14 (23.33)	30 (16.67)
Middle	13 (21.67)	15 (25.00)	11 (18.33)	39 (21.67)
Matric	15 (25.00)	13 (21.67)	13 (21.67)	41 (22.78)
Above Matric	16 (26.66)	10 (16.66)	7 (11.67)	33 (18.32)
Total	**60 (100.0)**	**60 (100.0)**	**60 (100.0)**	**180 (100.0)**

Source: Author's calculations from field survey
Note: Figures in parentheses indicate percentage to total

6.1.3 Family size

Family size is an important parameter of household income and expenditure pattern besides contributing towards family labour component. Table 6.3 provides information on the family size of the sampled farmers. The number of children was

1.4 and the number of females was found to be more which was 1.8 as against the male number of 1.5 in the state. The average family size was observed to be 4.7 among the sampled farmers with the maximum size in Bathinda district (5.5) followed by Faridkot (5.4), Ludhiana (4.6) and Patiala (4.5) and in zone III it was 4.0 in case of Gurdaspur and 4.1 in case of Rupnagar.

Table 6.3: Distribution of farmers according to average family size in Punjab

Districts	Zone I		Zone II		Zone III		Overall
	Gurdaspur	Rupnagar	Ludhiana	Patiala	Bathinda	Faridkot	
Average size	4.0	4.1	4.6	4.5	5.5	5.4	4.7
Male	1.3	1.4	1.1	1.9	1.8	1.7	1.5
Female	1.8	1.7	1.8	1.7	1.8	1.7	1.8
Children	0.9	1.0	1.7	0.9	1.9	2.0	1.4

Source: Author's calculations from field survey

6.1.4 Farm size

An adequate size of farm helps in improving the operative efficiency which leads towards the increase in income and the outcomes of the farm in terms of farm production. Moreover, the socio economic status of farmers is reflected by the ownership of various resources such as land, agricultural machinery and other assets. Land may be considered as the most important asset owned by the farmer. In this regard, the land holding pattern of the selected farmers of the state of Punjab has been argued in this section. Details relating to land ownership have been summarized in Table 6.4. Analysis of land details of the sampled respondents revealed that the average size of total land holding was maximum in Faridkot (9.4 acres) followed by Bathinda (7.7 acres) and Patiala (7.4 acres) whereas in the rest of the districts it varied between 5.9 acres to 7.0 acres. It can also be witnessed that the average leased in land was also the highest in Faridkot district (3.1 acres) followed by Patiala (1.6 acres) and Rupnagar (1.2 acres). In the rest of the districts it was less than one acre and also less than the state average of 1.2 acres. The average owned land was 5.7 acres in the state at large. A much smaller proportion of land was leased out by the farmer respondents. The average land area leased out was only 0.3 acres. The average operational holding of the state was worked out to be 6.7 acres.

Table 6.4: Land details of the selected farmers in Punjab

(Acre)

Districts/ Land	Zone I		Zone II		Zone III		Overall
	Gurdaspur	Rupnagar	Ludhiana	Patiala	Bathinda	Faridkot	
Owned land	5.4 (85.7)	5.2 (74.3)	4.7 (79.7)	5.6 (75.7)	7.3 (94.8)	6.0 (63.8)	5.7 (78.3)
Leased out	0.4 (6.4)	0.6 (8.6)	0.4 (6.8)	0.2 (2.7)	0.1 (1.3)	0.3 (3.2)	0.3 (4.5)
Leased in	0.5 (7.9)	1.2 (17.1)	0.8 (13.5)	1.6 (21.6)	0.3 (3.9)	3.1 (33.0)	1.2 (17.2)
Total holding	**6.3 (100.0)**	**7.0 (100.0)**	**5.9 (100.0)**	**7.4 (100.0)**	**7.7 (100.0)**	**9.4 (100.0)**	**7.3 (100.0)**
Operational holding	**5.5**	**5.8**	**5.1**	**7.0**	**7.5**	**8.8**	**6.7**

Source: Author's calculations from field survey
Figures in parentheses indicate percentage to total holding

6.2 Credit details

With a view to examine the extent of financial penetration by the respective credit agencies in rural Punjab, different aspects of loans accessed from each source have been studied.

The average amount of loan received by the sampled households was worked out to be ₹2.90 lakh in Punjab during 2015-16 (Table 6.5). The districts in which sampled farmers received more amount than the state average were Ludhiana with ₹3.15 lakh closely followed by Patiala with ₹3.05 lakh. However, the sampled farmers of Gurdaspur district received the least amount of ₹2.67 lakh whereas Rupnagar and Bathinda districts received credit to the tune of ₹2.85 lakh each and ₹2.83 lakh was received by the farmer borrowers of Faridkot district.

Table 6.5: Average loan amount availed by the selected farmers from the institutional sources in Punjab

(₹lakh)

Zones	Districts	SCBs
Zone I	Gurdaspur	2.67
	Rupnagar	2.85
Zone II	Ludhiana	3.15
	Patiala	3.05
Zone III	Bathinda	2.85
	Faridkot	2.83
	Overall	**2.90**

Source: Author's calculations from field survey

The perusal of Table 6.6 has indicated that the average total credit availed by the sampled farmers of the state was ₹4.45 lakh from all the institutional and non-institutional sources with maximum from scheduled commercial banks (₹2.22 lakh) followed by money lenders (₹0.85 lakh), cooperative societies (₹0.68 lakh) and traders (₹0.49 lakh). The institutional credit was ₹2.90 lakh and the non-institutional credit was to the tune of ₹1.55 lakh in Punjab during the year 2015-16. Credit borrowed from different institutional sources has been maximum in Ludhiana district which was ₹3.15 lakh with ₹2.48 lakh from scheduled commercial banks and 0.67 lakh from cooperative societies. The total credit was also the highest in Ludhiana which was ₹4.60 lakh followed by Faridkot (₹4.54 lakh) and these districts along with Patiala district were also having the credit above the state average of ₹4.45 lakh.

An attempt to analyze the pattern of borrowings in percentage terms among different agencies revealed that scheduled commercial banks accounted for a major source of borrowing (49.9 %) followed by money lenders (19.1 %), cooperative societies (15.3 %), traders (11.0 %), friends and relatives (2.5 %) and others (2.2 %) (Table 6.7). The total institutional finance was provided to the tune of 65.2 per cent as against the non-institutional finance which was to the tune of 34.8 per cent of the total credit advanced. The percentage of institutional credit has been the highest in the

Table 6.6: Agency wise average agricultural credit availed by the selected farmers in different districts of Punjab

(₹ Lakh)

Districts	SCBs	Cooperative society	Money lenders	Traders	Friends & relatives	Others	Institutional	Non-institutional	Average agricultural credit
Ludhiana	2.48	0.67	0.70	0.57	0.14	0.04	3.15	1.45	4.60
Patiala	2.45	0.60	0.73	0.58	0.08	0.02	3.05	1.41	4.46
Bathinda	2.14	0.71	0.90	0.42	0.15	0.05	2.85	1.52	4.37
Faridkot	2.07	0.76	1.05	0.39	0.12	0.15	2.83	1.71	4.54
Gurdaspur	2.04	0.63	0.95	0.47	0.09	0.16	2.67	1.67	4.34
Rupnagar	2.14	0.71	0.79	0.51	0.08	0.18	2.85	1.56	4.41
State	**2.22**	**0.68**	**0.85**	**0.49**	**0.11**	**0.10**	**2.90**	**1.55**	**4.45**

Source: Author's calculations from field survey

Table 6.7: Agency wise per cent share of agricultural credit availed by the selected farmers in different districts of Punjab

Districts	SCBs	Cooperative society	Money lenders	Traders	Friends & relatives	Others	Institutional	Non-institutional	Total credit
Ludhiana	53.9	14.6	15.2	12.4	3.0	0.9	68.5	31.5	100.0
Patiala	54.9	13.5	16.4	13.0	1.8	0.4	68.4	31.6	100.0
Bathinda	49.0	16.3	20.6	9.6	3.4	1.1	65.2	34.7	100.0
Faridkot	45.6	16.7	23.2	8.60	2.6	3.3	62.3	37.7	100.0
Gurdaspur	47.0	14.5	21.9	10.8	2.1	3.7	61.5	38.5	100.0
Rupnagar	48.5	16.1	17.9	11.6	1.8	4.1	64.6	35.4	100.0
State	**49.9**	**15.3**	**19.1**	**11.0**	**2.5**	**2.2**	**65.2**	**34.8**	**100.0**

Source: Author's calculations from field survey

districts of Ludhiana, Patiala and Bathinda with 68.5, 68.4 and 65.2 per cent respectively followed by Rupnagar (64.6 per cent), Faridkot (62.3 per cent) and Gurdaspur (61.5 per cent) during the above said period. The state percentage of institutional and non-institutional credit stood at 65.2:34.8.

So, it can be concluded that the farmers were availing a higher proportion of agricultural credit from institutional sources as compared to non-institutional sources in the state. Overall, about 65 per cent of availed credit was through the institutional sources.

Summary

It was observed that sufficient bank credit was available to the farmers for financing capital investment in agriculture and its share was more than 60 per cent in all the districts. Even though the percentage of non- institutional credit in Punjab was high which was 35 per cent but it was an improvement over the country's figure of 40 per cent (Ministry of Statistics and Programme Implementation, 2016). Paired t test was applied and it was found that the values for the institutional credit were significantly higher ($p<0.01$) than those of non-institutional credit, the values being 11.373, 11.046, 8.497, 11.454, 10.137 and 14.970 for the districts Gurdaspur, Rupnagar, Ludhiana, Patiala, Bathinda and Faridkot respectively, therefore, the hypothesis is rejected as the institutional sources are doing well to cater to the needs of rural masses. Although money lenders could not be eliminated once and for all, attempts must be made to bring the money lenders under some form of monetary regulations and control on the suggestions given by the Banking Commission in the year 1982 that there is a need to fix the maximum rate of interest at a level which is unduly low, the need to have proper and adequate system of supervision, the recovery of loans may be postponed for a considerable period, of not less than two years, so that the indebted farmers are enabled to earn some additional income to repay the debt, the process of loaning should be made more easy and convenient for the farmers, then only farmers' attitude towards money lenders can be reduced. The external control of credit institutions should be lessened and there is a need to tighten the supervision and monitoring mechanisms and to improve their lending policies and procedures, strict supervision should be maintained by the financial institutions officials on the proper utilization of finance for productive purpose to avoid diversion of funds for other purposes. So the apex financial institutions and the government should pay heed to this.

Chapter-VII

Location Specific Performance and Efficiency of SCBs in Punjab

CHAPTER VII

LOCATION SPECIFIC PERFORMANCE AND EFFICIENCY OF SCBS IN PUNJAB

In this chapter an effort has been made to evaluate the location wise efficiency of selected scheduled commercial banks in terms of their lending volume and financial health.

The fact that the state of Punjab has strong rural branch network has already been highlighted in the previous sections. An effort has been made to see if the rural branches of the selected State Bank of Patiala (SBOP) and Punjab National Bank (PNB) are performing better than their semi-urban and urban locations, as far as the agricultural credit delivery system is concerned. In order to conclusively establish the comparative worth of branches of SCBs operating at different locations, primary data on requisite aspects like income profile has been taken resort to. The details of the information sought from the selected branches have been given in chapter III. This section is devoted to the location specific evaluation of efficiency in terms of profitability and the lending volumes of both the selected SCBs.The values of F statistic computed after applying one way analysis of variance (ANOVA) for all the parameters under study have been given in the respective tables.

7.1 Location specific financial presentation of SCBs

It has been tried to present the financial situation from the income and expenditure pattern. The information regarding per branch earning of revenue along with the different heads under which revenue is earned for the study period 2015 to 2016, has been presented in Table 7.1. As can be seen from the data given in the table that the gross income of State bank of Patiala (SBOP) was the highest in case of urban branches as compared to those of semi-urban and rural branches which was ₹1677.24 lakh, ₹703.68 lakh ₹215.26 lakhs and respectively during the period 2015-16. The rural locations earned income (₹215.26 lakh) which was lower than that of the urban locations and the difference was statistically significant (p<0.05). The major part of the income was contributed by the interest received from head office which was 64.74 per cent, 64.22 per cent and 67.60 per cent in rural, semi-urban and urban locations

respectively during the above said period. The second major head was interest income which accounted for 25.58 per cent, 29.21 per cent and 20.87 per cent respectively towards the gross income followed by miscellaneous income which constituted 6.35, 6.22 and 10.10 per cent in rural, semi-urban and urban branches respectively, the difference of rural and urban branches being statistically significant ($p<0.05$). The income earned from realization in written off accounts happened to be highest in case of rural branches (3.07 %) followed by urban (1.18 %) and semi-urban (0.19 %) branches. The gross income of Punjab National Bank (PNB) was ₹346.50 lakh, ₹348.39 lakh and ₹801.93 lakh in case of rural, semi-urban and urban locations respectively (Table 7.2). A similar pattern of revenue was observed in case of PNB where a significant difference in the revenue of three locations was seen. Interest or subsidy received from head office was the major source of income which was 62.60 per cent, 68 per cent and 61 per cent respectively for rural, semi-urban and urban branches and urban branches were having significantly higher ($p<0.05$) income as compared to the rural and semi-urban locations. No significant difference could be found in case of interest income, written off income and income from cross sell in the three locations. Otherwise the percentage of written off income was maximum in rural locations followed by urban and semi-urban branches. The higher amount of written off income in case of rural branches of both the banks can be due to the efforts of government, which favor the rural borrowers generally taking the farmers to compensate them for escalating costs of input, stagnant levels of yields, inadequate post-harvest management and climatic anomalies like drought, flood etc., in some way or the other.

Table 7.1: Location wise average revenue earned ₹ lakh/annum by SBOP in Punjab, 2015-2016

Particulars	Rural	%	Semi-urban	%	Urban	%	F-statistic	Critical difference
Interest /subsidy received from HO	139.36	64.74	451.92	64.22	1133.78	67.60	4.976 (0.022*)	686.99
Miscellaneous income	13.68	6.35	43.74	6.22	169.44	10.10	5.904 (0.013*)	102.48
Cross sell	0.53	0.25	1.10	0.16	4.20	0.25	5.557 (0.016*)	2.52
Written off income	6.61	3.07	1.36	0.19	19.71	1.18	2.555 (0.111^{NS})	-
Interest income	55.08	25.58	205.56	29.21	350.11	20.87	2.930 (0.084^{NS})	-
Gross income	**215.26**	**100.00**	**703.68**	**100.00**	**1677.24**	**100.00**	5.744 (0.014*)	935.88

Source: Income profile of selected branches of the SBOP as on 31st March, 2015-16

Figures in parentheses indicate p values

Note: *represents significance at respective level of probability

^{NS} represents non significance

Table 7.2: Location wise average revenue earned ₹ lakh/annum by PNB in Punjab, 2015-2016

Particulars	Rural	%	Semi-urban	%	Urban	%	F-statistic	Critical difference
Interest /subsidy received from HO	216.91	62.60	236.91	68.00	489.18	61.00	15.199 (0.000*)	117.31
Miscellaneous income	9.84	2.84	8.85	2.54	52.53	6.55	5.682 (0.015*)	31.53
Cross sell	0.84	0.24	0.76	0.22	2.00	0.25	2.134 (0.153 NS)	-
Written off income	10.46	3.02	0.84	0.24	17.64	2.20	1.785 (0.202 NS)	-
Interest income	108.45	31.30	101.03	29.00	240.58	30.00	1.904 (0.183 NS)	-
Gross income	**346.50**	**100.00**	**348.39**	**100.00**	**801.93**	**100.00**	11.560 (0.001*)	232.58

Source: Income profile of selected branches of the PNB as on 31st March, 2015-16
Figures in parentheses indicate p values
Note: *represents significance at respective level of probability
NS represents non significance

The data presented in Table 7.3 indicate that out of the total income the major expense was on interest paid in case of all locations which was 82.88 and 86.26 per cent in semi-urban and urban branches respectively and rural branches had a significantly ($p<0.05$) lower amount (74.44 per cent) than that of urban locations. The other major head from rest of the components was staff expenditure which was to the tune of 16.74, 9.95 and 8.26 per cent in case of rural, semi-urban and urban branches respectively with semi-urban and rural branches spending significantly lower amount ($p<0.05$) than that of urban branches on this component. The net expenditure per branch, being significantly higher in case of urban branches, was ₹175.49 lakh, ₹565.99 lakh and ₹1582.54 lakh in rural, semi-urban and urban branches making the profit of ₹39.77 lakh, ₹137.69 lakh and ₹94.70 lakh for rural, semi-urban and urban locations respectively for the period of 2015-16. Same was the case of PNB branches where interest paid was the major expense and was significantly lower ($p<0.05$) in case of rural and semi-urban branches than those of urban branches (Table 7.4). The staff expense, the second major head of expenditure, was the highest in case of urban branches with 12.90 per cent, the difference being significantly higher ($p<0.05$), followed by semi-urban branches (11.70 per cent) and rural branches with slightly lower amount than that of semi-urban branches (11.30 per cent). The net expenditure per branch was ₹297.76 lakh, ₹286.55 lakh and ₹749.08 lakh in case of rural, semi-urban and urban branches respectively in the above said period and was significantly lower ($p<0.05$) in case of rural and semi-urban locations. The other heads contributed negligible amounts to the total expenses in case of both the banks.

Table 7.3: Location wise average expenditure incurred ₹ lakh/annum by SBOP in Punjab, 2015-2016

Particulars	Rural		Semi-urban		Urban		F-statistic	Critical difference
	₹ lakh/ branch	%	₹ lakh/ branch	%	₹ lakh/ branch	%		
Interest paid	130.64	74.44	469.11	82.88	1365.17	86.26	19.292 (0.000*)	437.68
Staff expense	29.38	16.74	56.29	9.95	130.64	8.26	14.774 (0.000*)	41.12
Rent & tax	2.39	1.36	5.76	1.02	14.74	0.93	5.080 (0.021*)	8.53
Insurance	0.04	0.02	0.45	0.08	2.53	0.16	2.549 (0.111 NS)	-
Depreciation	1.96	1.12	4.57	0.81	7.06	0.45	7.797 (0.005*)	2.75
Repairs	1.14	0.65	3.03	0.54	5.20	0.33	4.426 (0.031*)	2.91
Opening new office	-	-	-	-	0.01	-	-	-
Law charges	0.06	0.03	0.51	0.09	0.92	0.06	4.154 (0.037*)	0.63
Telephone	0.19	0.11	0.52	0.09	1.28	0.08	16.695 (0.000*)	0.41

Particulars	Rural		Semi-urban		Urban		F-statistic	Critical difference
	₹ lakh/ branch	%	₹ lakh/ branch	%	₹ lakh/ branch	%		
Electricity & gas	2.17	1.24	4.99	0.88	7.45	0.47	6.054 (0.012[*])	3.23
Post & telex	0.11	0.06	0.19	0.03	0.74	0.05	5.859 (0.013[*])	0.43
Local printing and purchase	-	0.0	0.01	0.00	0.05	0.00	-	-
Public relation and advertisement	0.03	0.02	0.12	0.02	0.35	0.02	8.998 (0.003[*])	0.17
Stationery	0.40	0.23	0.95	0.17	1.73	0.11	5.667 (0.015[*])	0.85
Travel	2.97	1.69	5.43	0.96	8.04	0.51	5.071 (0.021[*])	3.41
Miscellaneous	4.01	2.29	14.05	2.48	36.63	2.31	5.638 (0.015[*])	21.20
Net expenditure	175.49	100.0	565.99	100.0	1582.54	100	19.604 (0.000[*])	494.41
Net profit	39.77	18.48	137.69	19.57	94.70	5.65	0.054 (0.948[NS])	-
Gross expenditure	**215.26**	-	**703.68**	-	**1677.24**	-	5.744 (0.014[*])	935.88

Source: Income profile of selected branches of the SBOP as on 31st March, 2015-16

Figures in parentheses indicate p values

Note: *represents significance at respective level of probability

[NS] represents non significance

Table 7.4: Location wise average expenditure incurred ₹ lakh/annum by PNB in Punjab, 2015-2016

Particulars	Rural		Semi-urban		Urban		F-statistic	Critical difference
	₹ lakh/ branch	%	₹ lakh/ branch	%	₹ lakh/ branch	%		
Interest paid	241.10	80.97	237.26	82.80	600.54	80.17	6.735 (0.008*)	242.28
Staff expense	33.65	11.30	33.53	11.70	96.63	12.90	14.510 (0.000*)	28.80
Rent & tax	3.57	1.20	2.29	0.80	11.99	1.60	5.587 (0.015*)	6.71
Insurance	0.30	0.10	0.00	0.00	1.50	0.20	2.645 (0.104^{NS})	-
Depreciation	2.98	1.00	0.14	0.05	2.25	0.30	42.720 (0.000*)	0.68
Repairs	0.60	0.20	0.29	0.10	0.75	0.10	2.761 (0.095^{NS})	-
Opening new office	-	-	-	-	-	-	-	-
Law charges	0.60	0.20	0.29	0.10	0.15	0.02	0.873 (0.438^{NS})	-
Telephone	0.89	0.30	1.15	0.40	3.75	0.50	18.881 (0.000*)	1.09
Electricity & gas	3.87	1.30	2.87	1.00	2.92	0.39	0.519 (0.606^{NS})	-
Post & telex	1.49	0.50	2.87	1.00	11.99	1.60	6.320 (0.010*)	6.83
Local printing and purchase	-	-	-	-	-	-	-	-

Particulars	Rural		Semi-urban		Urban		F-statistic	Critical difference
	₹ lakh/ branch	%	₹ lakh/ branch	%	₹ lakh/ branch	%		
Public relation and advertisement	0.09	0.03	0.14	0.05	0.15	0.02	0.383 (0.688 [NS])	-
Stationery	1.19	0.40	1.15	0.40	3.00	0.40	5.409 (0.017[*])	1.37
Travel	1.19	0.40	0.86	0.30	3.75	0.50	14.491 (0.000[*])	1.25
Miscellaneous	6.24	2.10	3.71	1.30	9.71	1.30	2.252 (0.140 [NS])	-
Net expenditure	297.76	100.00	286.55	100.00	749.08	100.00	7.973 (0.004[*])	281.62
Net profit	48.74	14.07	61.84	17.75	52.85	6.59	0.004 (0.996 [NS])	-
Gross expenditure	**346.50**		**348.39**		**801.93**		11.560 (0.001*)	232.58

Source: Income profile of selected branches of the PNB as on 31st March, 2015-16

Figures in parentheses indicate p values

Note: *represents significance at respective level of probability

[NS] represents non significance

Analysis of financial relationships in the income profile provides information concerning performance of the bank business in addition to that obtained directly from the income profile. An income ratio, which relates expenses to gross income, is used to measure the input-output efficiency of the bank business. The profitability ratios are calculated to measure the overall performance and effectiveness of the SCBs from the analysis of data extracted from income profile corresponding to the study period. The location wise profitability ratios of the SCBs are presented in Tables 7.5 and 7.6 which indicate the operating ratio, as the name implies, relates operating expenses to gross income. The selected rural branches of SBOP on an average had the operational ratio of 0.0462, 0.0380 and 0.0341 for rural, semi-urban and urban locations respectively for the period 2015-16. In case of PNB these ratios were 0.0445, 0.0375 and 0.0442 for rural, semi-urban and urban locations respectively. The low operating ratio in case of semi-urban and urban branches of SBOP can be attributed to the highest gross income of ₹703.68 lakhs and ₹1677.24 lakhs respectively. These operating ratios imply that from the gross income of ₹100/- only ₹3.80 are to be paid to meet the operating expenses in semi-urban branches whereas ₹3.41/- and ₹4.62/- are to be paid by the urban and rural branches respectively to meet the operating expenses. Secondly the fixed ratio which represents the ratio of fixed expenses and gross income followed the same trend for all the branches of SBOP and stood at 0.7691, 0.7663 and 0.9094 and for PNB were 0.8144, 0.7851 and 0.8899 for the above said branches in the same order and for the same period which is indicative of high overhead expenses paid by the banks. In case of rural branches, the fixed expenses (₹165.55 lakh) and the total expenses (₹175.49 lakh) were found to be lower than those in urban locations and statistically significant ($p<0.05$). The rural branches on an average had a lower fixed ratio than that in case of urban branches (0.7691), which is (0.9094) slightly higher as compared to that of semi-urban (0.7663) branches. In other words, from the gross income of ₹100/- the amount spent to meet the fixed expenses was the highest in case of urban branches of SBOP (₹90.94) followed by rural (₹76.91) and semi-urban (₹76.63) branches. In case of PNB the fixed expense of rural and semi-urban branches were ₹282.18 lakh and ₹273.50 lakh which were significantly lower than ($p<0.05$) the urban branches having the expense of ₹713.65 lakh. The total expense of rural and semi-urban branches was also significantly ($p<0.05$) lower than those of urban branches with ₹297.76 lakh, ₹286.55 lakh and

₹749.08 lakh respectively for rural, semi-urban and urban branches. The fixed ratio was 0.8144, 0.7851 and 0.8899 in rural, semi-urban and urban branches which was the lowest in case of semi-urban branches but in case of urban branches it was slightly higher when compared to that of rural branches (Table 7.6) which means the amount spent to meet the fixed expenses was the highest in case of urban branches. Similar scenario could be observed in case of gross ratio. Finally the gross ratio which was worked out by dividing annual expense by gross income was found to be 0.8152, 0.8043 and 0.9435 for rural, semi-urban and urban branches of SBOP respectively the overall being 0.8544 for the state at large. The gross ratios in case of PNB branches were worked out to be 0.8593, 0.8225 and 0.9341 for rural, semi-urban and urban branches respectively. In other words, the overall financial position of the location specific branches is sound, but the overhead expenses need to be curtailed especially in urban branches.

Table 7.5: Location wise profitability ratios of SBOP in Punjab, 2015-2016

Particulars	Rural	Semi-urban	Urban	Overall	F-statistic	Critical difference
Average annual gross income (₹ lakh/branch)	215.26	703.68	1677.24	865.39	5.744 (0.014[*])	935.88
Average annual operating expenses (₹ lakh/branch)	9.94	26.77	57.20	31.30	8.055 (0.004[*])	25.43
Average annual fixed expenses (₹ lakh/branch)	165.55	539.21	1525.34	743.37	19.302 (0.000[*])	481.89
Average annual expenses (₹ lakh/branch)	175.49	565.98	1582.54	774.67	19.604 (0.000[*])	494.41
Operating ratio	**0.0462**	**0.0380**	**0.0341**	**0.0394**	-	-
Fixed ratio	**0.7691**	**0.7663**	**0.9094**	**0.8159**	-	-
Gross ratio	**0.8152**	**0.8043**	**0.9435**	**0.8544**	-	-

Source: Income profile of selected branches of the SBOP as on 31st March, 2015-16
Figures in parentheses indicate p values
Note: *represents significance at respective level of probability
[NS] represents non significance

Table 7.6: Location wise profitability ratios of PNB in Punjab, 2015-2016

Particulars	Rural	Semi-urban	Urban	Overall	F-statistic	Critical difference
Average annual gross income (₹ lakh/branch)	346.50	348.39	801.93	498.94	11.560 (0.001*)	232.58
Average annual operating expenses (₹ lakh/branch)	15.58	13.05	35.43	21.35	6.307 (0.010*)	14.71
Average annual fixed expenses (₹ lakh/branch)	282.18	273.50	713.65	423.11	7.870 (0.005*)	270.35
Average annual expenses (₹ lakh/branch)	297.76	286.55	749.08	444.46	7.973 (0.004*)	281.62
Operating ratio	**0.0445**	**0.0375**	**0.0442**	**0.04220**	-	-
Fixed ratio	**0.8144**	**0.7851**	**0.8899**	**0.8298**	-	-
Gross ratio	**0.8593**	**0.8225**	**0.9341**	**0.8720**	-	-

Source: Income profile of selected branches of the PNB as on 31st March, 2015-16
Figures in parentheses indicate p values
Note: *represents significance at respective level of probability
NS represents non significance

Credit deposit ratio represents the ratio of credit advanced to the total amount deposited in a bank. It indicates whether the planning for efficient and effective management of deposits of both the SCBs has been done. It ranges between zero and infinity, but an organization is considered to be the efficient in managing its resources if this ratio is equal one. It indicates the excess of overdue if it exceeds one, while the ratio less than one indicates the reserved nature of the selected SCBs in advancing the loans. From Table 7.7 it can be seen that the semi-urban and urban branches of SBOP were quite reserved in lending as the credit deposit ratio was found to be 0.56 and 0.53 respectively for the period 2015-16 whereas in the rural branches this ratio was 2.07 which indicated high incidence of non-recovery of loans resulting from mounting loan

delinquency on the part of the borrowers. The difference in location wise credit disbursed and total deposits was found to be significantly lower ($p<0.05$) in rural branches than those in urban branches. The credit disbursed in case of PNB was to the tune of ₹1969.85 lakh, ₹3228.57 lakh and ₹11973.61 lakh in rural, semi-urban and urban locations respectively (Table 7.8). The deposits of SBOP were significantly higher in urban branches as compared to those of rural locations. The selected branches of SBOP, on an average, registered a credit deposit ratio (CD Ratio) of 1.05, with the total credit disbursed amounting to ₹6407.10 lakhs and total deposits amounting to ₹10000.35 lakhs. The same figures for PNB were 0.21 (credit deposit ratio), ₹5724.01 lakh (credit) and ₹23862.22 lakh (deposits). The high NRI deposits may to some extent be considered the reason for the lowest CD ratio in case of semi-urban and urban branches revealing a greater scope for financing in Punjab.

Table 7.7: Location wise ratio of credit and deposit of SBOP in Punjab, 2015-2016

Location	Rural	Semi-urban	Urban	Overall	F-statistic	Critical difference
Average total credit (₹ Lakhs/ branch /annum)	4115.61	4706.97	10398.72	6407.10	47.869 (0.000*)	1511.24
Average total deposits (₹ Lakhs/ branch/annum)	1987.97	8338.53	19674.56	10000.35	16.083 (0.000*)	6733.20
Credit deposit ratio	**2.07**	**0.56**	**0.53**	**1.05**	-	-

Source: Income profile of selected branches of the SBOP as on 31st March, 2015-16
Figures in parentheses indicate p values
Note: *represents significance at respective level of probability
[NS] represents non significance

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Table 7.8: Location wise ratio of credit and deposit of PNB in Punjab, 2015-2016

Location	Rural	Semi-urban	Urban	Overall	F-statistic	Critical difference
Average total credit (₹ Lakhs/ branch/annum)	1969.85	3228.57	11973.61	5724.01	3.787 (0.047*)	8437.43
Average total deposits (₹ Lakhs/ branch/annum)	14295.82	25105.56	32185.28	23862.22	3.561 (0.054 NS)	-
Credit deposit ratio	**0.14**	**0.13**	**0.37**	**0.21**	**-**	**-**

Source: Income profile of selected branches of the PNB as on 31st March, 2015-16
Figures in parentheses indicate p values
Note: *represents significance at respective level of probability
NS represents non significance

Thus, it can be concluded that semi-urban and urban branches leave more space for lending to agriculture. More income can be earned by enhancing the flow of credit towards agricultural sector and the priority sector which would lead to increase the profitability of banks. Thus, these offices can help in achieving agro economic well-being of the farmer borrowers of the state of Punjab.

7.1.1 Location specific lending volumes of SCB

Any loan advanced towards the allied activities of agriculture and is called farm credit. When the responsibility of repayment to the lending agencies is on the borrower, it is called direct farm credit. The loans are given in the system of short term, medium term and long term (for taking up allied occupations of agriculture such as dairy, pig and poultry farming, fishery, piggery etc.) directly to individual borrowers. The funds which are given indirectly through some intermediary agency/institutions etc. which will be responsible for repayment are called indirect credit. So the credit received by fertilizer dealers, state corporations, FCI, warehouses will come under indirect credit to agriculture. It has been made mandatory by the RBI for all banks to lend at least 40 percent of total bank credit to priority sector. Due to

the problems caused by the bad loans in agriculture sector and abnormally low pricing of the loans, banks consider it an inconvenient necessity. So, the banks prefer to provide indirect farm credit.

In Table 7.9 the lending volumes of the SBOP in various locations of Punjab, during the study period, have been presented which revealed that disbursal of the annual bank credit per branch was significantly higher (p<0.05) in case of urban branches followed by semi-urban and rural branches and was ₹10398.72 lakh, ₹4706.97 lakh and ₹4115.61 lakh respectively during the period 2015-16. A significant difference could be observed in case of priority sector lending of the three locations and the rural branches led in advancing to priority sector with the highest percentage (96.42 per cent) followed by semi-urban (79.08 per cent) and urban (65.76 per cent) and rural branches were extending significantly higher (p<0.05) amount of total agricultural credit and direct credit to agriculture as well.

Further, out of the total priority sector lending agricultural credit in rural locations had the major chunk of it with 98.62 per cent. In case of semi-urban and urban locations this percentage started decreasing to 49.85 and 25.76 per cent respectively as these branches had to lend to other priority sector as well. The highest proportion (99.03 per cent) of direct credit clearly indicates that rural branches catered primarily to the direct credit needs of farmers and it decreased to 77.26 per cent in case of semi-urban branches and further went down to 38.16 per cent in case of urban branches. The annual bank credit per branch of PNB was the highest in case of urban branches followed by semi-urban and rural branches where the credit of rural locations was significantly lower (p<0.05) than those of semi-urban and urban branches (Table 7.10). Similar trend was followed by priority sector credit but agricultural credit in rural and semi-urban branches was significantly higher (p<0.05) than that of the urban branches. The rest was the indirect credit disbursal which was maximum in urban branches followed by semi-urban and rural branches in case of both the banks. So, a clear significant difference in location wise lending to agriculture and priority sector could be seen in case of both the banks.

Table 7.9: Location wise average lending volume of SBOP in Punjab, 2015-2016

Location	Rural	Semi-urban	Urban	F-statistic	Critical difference
Annual bank credit (₹ lakhs /branch)	4115.61	4706.97	10398.72	47.869 (0.000*)	1511.24
Priority sector credit (₹ lakhs /branch)	3968.31	3722.31	6838.61	10.635 (0.000*)	1652.59
Per cent to bank credit	**96.42**	**79.08**	**65.76**	-	-
Agricultural credit	3913.58	1855.44	1761.78	27.629 (0.000*)	697.31
Per cent to priority sector credit	**98.62**	**49.85**	**25.76**	-	-
Direct credit	3875.81	1433.56	672.22	176.251 (0.000*)	379.93
Per cent to agricultural credit	**99.03**	**77.26**	**38.16**	-	-
Indirect credit	37.78	421.89	1089.56	13.745 (0.000*)	432.63
Per cent to agricultural credit	**0.97**	**22.74**	**61.84**	-	-

Source: Income profile of selected branches of the SBOP as on 31st March, 2015-16
Figures in parentheses indicate p values
Note: *represents significance at respective level of probability
[NS] represents non significance

Table 7.10: Location wise average lending volume of PNB in Punjab, 2015-2016

Location	Rural	Semi-urban	Urban	F-statistic	Critical difference
Annual bank credit (₹ lakhs /branch)	1969.85	3228.57	11973.61	3.787 (0.047[*])	8437.43
Priority sector credit (₹ lakhs /branch)	1801.57	1732.68	4853.52	6.517 (0.009[*])	2103.95
Per cent to bank credit	**91.46**	**53.67**	**40.54**	-	-
Agricultural credit	1588.69	1284.62	386.85	4.671 (0.026[*])	871.37
Per cent to priority sector credit	**88.18**	**74.14**	**7.97**	-	-
Direct credit	1523.82	1158.53	151.58	8.113 (0.004[*])	751.92
Per cent to agricultural credit	**95.92**	**90.18**	**39.18**	-	-
Indirect credit	64.87	126.09	235.27	0.797 (0.469[NS])	-
Per cent to agricultural credit	**4.08**	**9.82**	**60.82**	-	-

Source: Income profile of selected branches of the PNB as on 31st March, 2015-16
Figures in parentheses indicate p values
Note: *represents significance at respective level of probability
[NS] represents non significance

7.1.2 Performance of scheduled commercial banks

Table 7.11 highlights the efficiency of SCBs of Punjab in terms of lending to agricultural segment in comparison to other sectors which clearly indicates that the rural branches of SBOP secured first rank in case of total priority sector lending with 96.42 per cent followed by semi-urban branches with 79.08 per cent and urban branches with 65.76 per cent. Out of the total priority sector lending, agricultural sector accounted for 98.62 per cent which is the highest portion as regards the rural offices followed by semi-urban with 49.85 per cent and urban branches with 25.76. Urban branches led in other priority sector lending with 48.82 percentage of the total priority sector lending followed by semi-urban offices with 39.64 per cent and rural branches with 1.33 per cent. Similar is the case with non-priority sector lending with

urban branches leading the rest with 34.24 per cent and semi-urban offices followed these with 20.92 per cent and rural offices with 3.58 per cent. There was no different scene of PNB where total priority sector constituted 91.46 per cent in rural locations followed by semi-urban and urban branches with 53.67 per cent and 40.54 per cent respectively. Urban locations led in other priority sector lending and non-priority sector credit (52 % and 59.46 %) followed by semi-urban branches (16.88 % and 46.33 %) and rural branches (9.61 % and 8.54 %) (Table 7.12).

Table 7.11: Efficiency of SBOP in terms of lending to priority and agricultural sector in Punjab, 2015-2016

Percentage of credit to different sectors (SBOP)				
Rank	Total priority sector	Agricultural sector	Other priority sector	Non priority sector
I	**Rural (96.42)**	**Rural (98.62)**	Urban (48.82)	Urban (34.24)
II	Semi-urban (79.08)	Semi-urban (49.85)	Semi-urban (39.64)	Semi-urban (20.92)
III	Urban (65.76)	Urban (25.76)	Rural (1.33)	Rural (3.58)

Source: Income profile of selected branches of the SBOP as on 31[st]March, 2015-16

Table 7.12: Efficiency of PNB in terms of lending to priority and agricultural sector in Punjab, 2015-2016

Percentage of credit to different sectors (PNB)				
Rank	Total priority sector	Agricultural sector	Other priority sector	Non priority sector
I	**Rural (91.46)**	**Rural (88.18)**	Urban (52.00)	Urban (59.46)
II	Semi-urban (53.67)	Semi-urban (74.14)	Semi-urban (16.88)	Semi-urban (46.33)
III	Urban (40.54)	Urban (7.97)	Rural (9.61)	Rural (8.54)

Source: Income profile of selected branches of the PNB as on 31st March, 2015-16

For a clearer view of the lending to the agricultural sector the following figures (7.1 and 7.2) have been presented which show the prominence of the selected scheduled commercial banks in lending to agriculture sector.

Figure 7.1: Performance of SBOP in financing agriculture in Punjab, 2015-2016
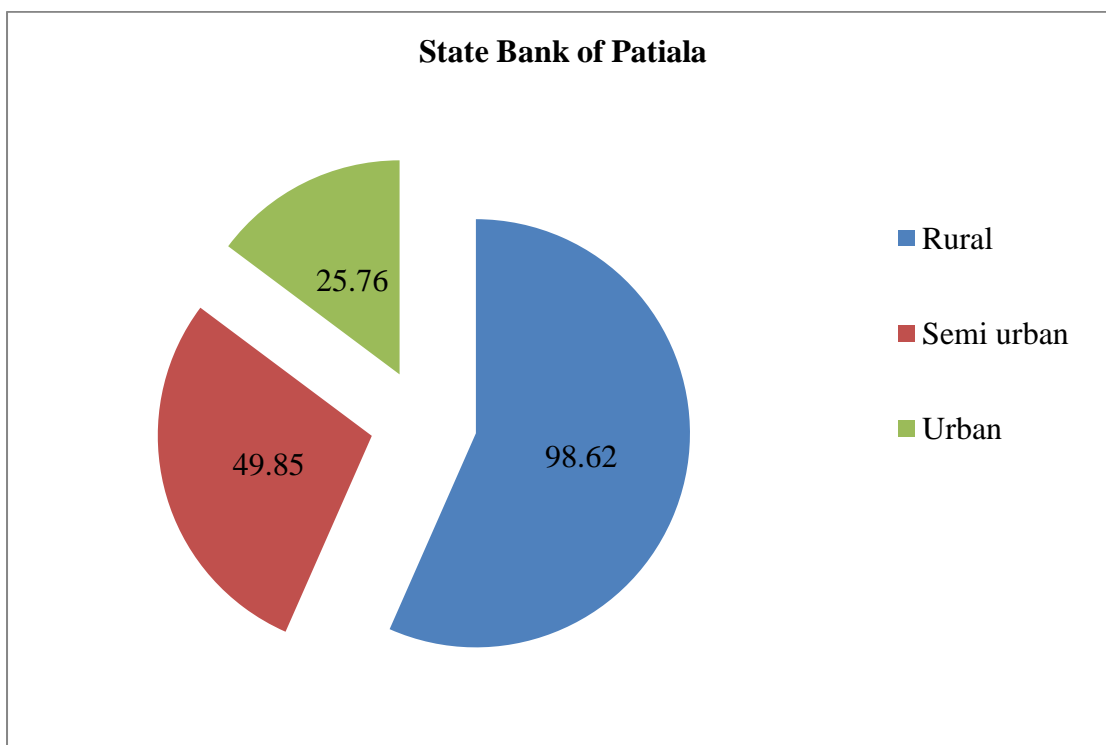
Figure 7.2: Performance of PNB in financing agriculture in Punjab, 2015-2016
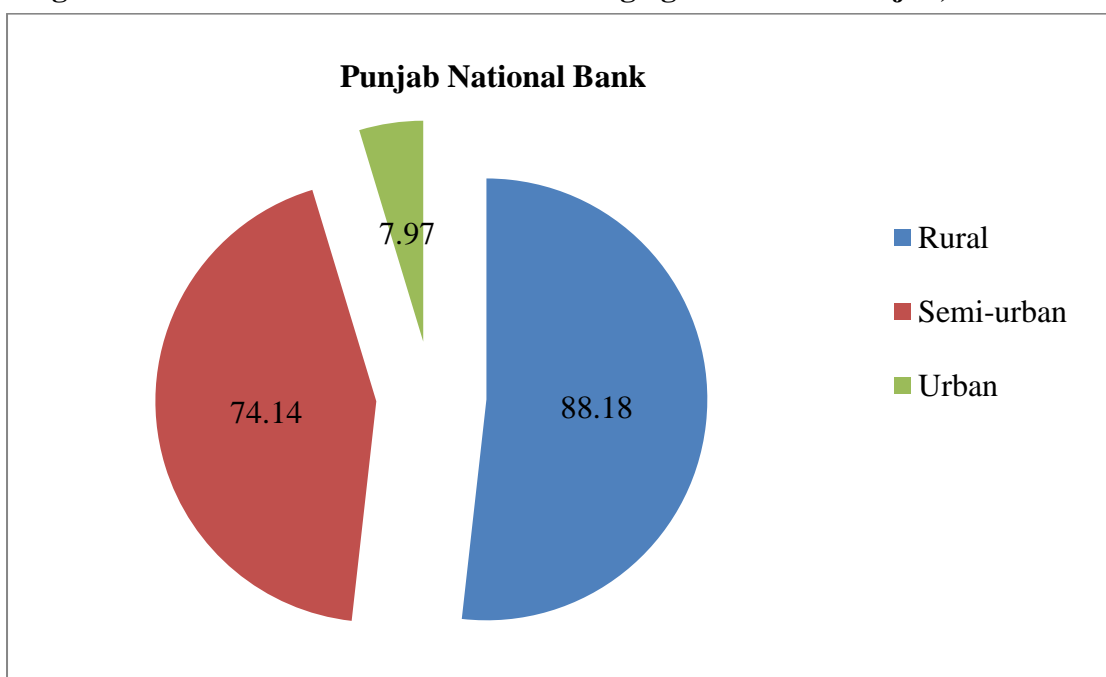
Summary

Thus, the analysis regarding the performance of all branches irrespective of their location concluded that these branches on an average were extending satisfactory quantum of credit to the priority sector and the rural branches were extending sufficient proportion of priority sector credit to the agriculture sector which makes them remain on the top in case of both the banks. The rural branches were providing 96.42 per cent of the total bank credit to the priority sector and out of this 98.62 per cent was being directed towards agriculture sector in case of State Bank of Patiala. The corresponding figures for Punjab National Bank were 91.46 and 88.18 respectively for priority sector and agriculture sector. The urban branches led in providing maximum credit to the non-priority sector and other priority sector in case of both the banks.

These banks were following the revised guidelines regarding the priority sector lending issued by the Reserve Bank of India on the suggestions of M. V. Nair committee in the year 2011. So the performance of the selected financial institutions was found to be satisfactory. Hence, these institutions justify the implementation of the first objective of nationalization of banks. So far as the agricultural finance was concerned, rural branches clearly have an edge over the semi-urban and urban branches.

Chapter-VIII

Impact Assessment of Credit Availability in Punjab

CHAPTER VIII

IMPACT ASSESSMENT OF CREDIT AVAILABILITY IN PUNJAB

This chapter deals with the impact of credit provided to the farmer borrowers by the selected financial institutions and the informal sources of finance.

The availability of agricultural credit in Punjab has been adequate and has already been discussed in the previous sections. To quantify the impact, income of borrowers, asset structure and size of operational holding were compared for pre and post credit disbursal situations. The reference period of the study was 2015-16. The major findings pertaining to the present objective of the study are summarized below.

8.1 Asset holding pattern

The impact of credit disbursal can well be seen through the asset base of the sampled respondents. Capital formation is one of the objectives of financial institutions through provision of long term loans to the borrowers. An increase in the asset base makes the financial position of the borrowing household stronger and also helps in improving its shock taking capacity. The credit availability is supposed to increase the productive assets of households like tractor, submersible, cattle various other durables such as tractor drawn implements, generators etc. The field study revealed that there was no change in irrigation structures available in all the districts during both pre and post credit disbursal period (Table 8.1). The percentage increase in number of tractors was maximum in Ludhiana district (23.53 %) followed by Faridkot (13.64 %), Patiala (13.33), Gurdaspur (10.53 %) and Bathinda (10 %) per cent respectively. Rupnagar district stayed behind in having tractors with 5 per cent increase. In case of tractor drawn implements, Ludhiana and Rupnagar districts had the maximum percentage increase (23.53 per cent each) followed by Gurdaspur (5 per cent) and Faridkot (4.17 per cent) districts. Combine harvester was found only in 2 districts i.e. Bathinda and Rupnagar and it remained same in both pre and post credit disbursal period. An increase in the number of trolleys can be seen in all the districts making the percentage increase of 11.43 in the state as a whole.

Table 8.1: District wise asset structure of the selected respondents in Punjab

(Number)

Zones	Districts	Tractor		Irrigation structures		Trolley		Tractor drawn implements		Generator		Combine harvesters	
		Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Zone I	Gurdaspur	19	21 (10.53)	30	30 (0.00)	19	20 (5.26)	20	21 (5.00)	15	15 (0.00)	0	0
	Rupnagar	20	21 (5.00)	29	30 (3.45)	20	21 (5.00)	17	21 (23.53)	16	17 (6.25)	1	1 (0.00)
Zone II	Ludhiana	17	21 (23.53)	30	30 (0.00)	13	15 (15.38)	17	21 (23.53)	14	18 (28.57)	0	0
	Patiala	15	17 (13.33)	29	30 (3.45)	14	16 (14.29)	17	17 (0.00)	13	14 (7.69)	0	0
Zone III	Bathinda	20	22 (10.00)	29	30 (3.45)	18	20 (11.11)	22	22 (0.00)	18	20 (11.11)	2	2 (0.00)
	Faridkot	22	25 (13.64)	30	30 (0.00)	21	25 (19.05)	24	25 (4.17)	16	16 (0.00	0	0
	State	**18.8**	**21.2 (12.77)**	**29.5**	**30 (1.69)**	**17.5**	**19.5 (11.43)**	**19.5**	**21.2 (8.72)**	**15.3**	**16.7 (9.15)**	**0.50**	**0.50 (0.00)**

Source: Author's calculations from field survey
Note: Figures in parentheses indicate per cent change

The primary data analysis has shown a positive change in the asset structure of sampled households in post credit availed scenario. The highest percentage increase was found in case of tractor purchase by the sampled borrowers. However, the irrigation structures showed only an increase of 1.69 per cent. No one in the sample was found to be purchasing heavy machinery like combine harvesters in post credit disbursal period. Generators have shown an increase of 9.15 per cent in the farm inventory of sampled borrowers with the availability of credit. The tractor drawn implements have increased by 8.72 per cent during the same period.

8.2 Value of assets

The economic status of farmers can well be evaluated with the help of the value of their assets which have been presented in Table 8.2. The total value of assets owned by the sampled households during post credit disbursal situation was worth ₹18 lakh at current prices whereas it was ₹16 lakh in the state of Punjab during the pre-credit disbursal situation. Similarly, the value of all the assets except for combine has increased during the post credit disbursal period. This may be attributed to the increase in their number after availing credit from the financial institutions in Punjab. Some borrowers purchased tractors, submersibles, generators, tractor drawn implements etc., which they did not have earlier, to increase their resource use efficiency. This resulted in an increased average value of assets held by the borrowers under these heads. It was also found that there was no sampled borrower indulged in buying of land or any immoveable asset during the post credit availability situation. The values of all the assets increased in absolute terms but the difference could not be deemed significant as per the application of Paired t test which may be attributed to the fact that there was approximately 87 per cent of short term credit (Indiastat, 2017) which was used mainly for meeting crop cultivation expenses and not for building assets. The reason for the decline in the availability of long term credit of the SCBs may be due to the achievement of the saturation level of the investment on farm machinery and secondly due to the reluctance on the part of the SCBs to finance due to low returns, poor recovery and inadequate loan security (Vyas, 2004). It is otherwise a healthy sign for the financial institutions because the repayment of this credit has to be made within the crop period but the limit of long term credit can be delayed.

Table 8.2: District wise value of assets of the selected respondents in Punjab

(₹ Lakh)

Zones	Districts	Tractor		Irrigation structures		Trolley		Tractor drawn implements		Generator		Combine harvesters		Overall	
		Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Zone I	Gurdaspur	47.45	56.95 (20.02)	19.05	19.05 (0.00)	5.95	6.50 (9.24)	3.48	3.63 (4.31)	6.60	6.60 (0.00)	0.00	0.00 (0.00)	13.76	15.46 (12.35)
	Rupnagar	44.90	47.25 (5.23)	16.15	16.80 (4.02)	6.18	6.18 (0.00)	2.94	3.64 (23.81)	6.40	6.40 (0.00)	5.00	5.00 (0.00)	13.60	14.11 (3.75)
Zone II	Ludhiana	51.75	67.25 (29.95)	35.60	35.60 (0.00)	4.50	5.45 (21.11)	3.39	4.19 (23.60)	6.20	9.75 57.26)	0.00	0.00 (0.00)	20.66	24.12 (16.75)
	Patiala	40.25	48.75 (21.12)	26.40	27.70 (4.92)	4.50	5.45 (21.11)	3.16	3.16 (0.00)	6.35	7.20 (13.39)	0.00	0.00 (0.00)	13.44	15.38 (14.43)
Zone III	Bathinda	51.95	59.65 (14.82)	24.85	26.10 (5.03)	5.55	6.55 (18.02)	4.38	4.38 (0.00)	8.60	10.60 (23.26)	10.00	10.00 (0.00)	17.56	19.55 (11.33)
	Faridkot	57.35	70.35 (22.67)	23.90	23.90 (0.00)	5.25	7.15 (36.19)	7.31	7.51 (2.74)	8.00	8.00 (0.00)	0.00	0.00 (0.00)	16.97	19.49 (14.85)
	State	**48.94**	**58.37 (19.27)**	**24.33**	**24.86 (2.18)**	**5.32**	**6.21 (16.73)**	**4.11**	**4.42 (7.54)**	**7.03**	**8.09 (15.08)**	**2.50**	**2.50 (0.00)**	**16.00**	**18.02 (12.63)**

Source: Author's calculations from field survey

Note: Figures in parentheses indicate per cent change

Table 8.3: District wise average income of the selected households in Punjab

(₹ Lakh)

Sources of income	Zone I				Zone II				Zone III				State	
	Gurdaspur		Rupnagar		Ludhiana		Patiala		Bathinda		Faridkot			
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Crop farming	1.87	1.91 (2.14)	1.95	2.00 (2.56)	2.33	2.36 (1.29)	3.24	3.30 (1.85)	2.93	2.96 (1.02)	3.38	3.55 (5.03)	2.62	2.68 (2.29)
Livestock	0.33	0.37 (12.12)	0.33	0.39 (18.18)	0.42	0.53 (26.19)	0.54	0.68 (25.93)	0.47	0.55 (17.02)	0.48	0.64 (33.33)	0.43	0.53 (23.26)
Non -farm	0.92	0.92 (0.00)	0.93	1.01 (8.60)	1.20	1.26 (5.00)	1.46	1.67 (14.38)	1.22	1.39 (13.93)	1.16	1.16 (0.00)	1.15	1.24 (7.83)
Agricultural labour	0.03	0.03 (0.00)	0.02	0.02 (0.00)	0.03	0.03 (0.00)	0.03	0.03 (0.00)	0.02	0.02 (0.00)	0.02	0.02 (0.00)	0.03	0.03 (0.00)
Total income	**3.15**	**3.23 (2.54)**	**3.23**	**3.42 (5.88)**	**3.98**	**4.18 (5.03)**	**5.27**	**5.68 (7.78)**	**4.64**	**4.92 (6.03)**	**5.04**	**5.37 (6.55)**	**4.22**	**4.48 (6.16)**

Source: Author's calculations from field survey
Note: Figures in parentheses indicate per cent change

8.3 Income generation

The better access to credit brings with it the increased income to the farmer borrowers due to capital formation from resource use efficiency. The average net income in pre and post situations was worked out to be ₹4.22 lakh and ₹4.48 lakh at current prices respectively in the state (Table 8.3). The incremental net income was worked out to be ₹0.26 lakh, which accounted for 6.16 per cent increase in the net income between pre and post credit situations. The sampled farmers undertook various types of activities such as farm, non-farm activities, wage earning as agricultural labour activities. It can be viewed from the table that in the state, the total income from crop farming has increased from ₹2.62 lakh to ₹2.68 lakh and that of livestock has increased from ₹0.43 lakh to ₹0.53 lakh in the post credit disbursal period which is a good sign for the growth of economy. The income from non-farm sector has also increased from ₹1.15 lakh to ₹1.24 lakh making the percentage increase of 7.83. The income from agricultural labour remained the same. Similar trend can be witnessed in case of districts individually. The increase in total income was statistically significant ($p < 0.05$) in the state as a whole which can sufficiently justify the credit delivery system, the t values being 2.369, 2.912, 2.571, 3.347, 3.194 and 3.985 for Gurdaspur, Ropar, Ludhiana, Patiala, Bathinda and Faridkot districts respectively.

The impact of credit can also be gauged through the improvement in the size of operational land holding of the borrower farmers (Table 8.4). The average owned land by the sampled farmers in the state was 170.54 acres during 2015-16. An increase in leased-in land to 37.44 acres was seen in the post credit disbursal situation whereas it was 23.94 acres before the availability of credit consequently helping the farmers expand their business but in absolute terms as the difference was statistically not significant as per the application of Paired t test which can be attributed to the short term credit which was used in the cost of cultivation and was not used for availing more leased in land as the rent of land in Punjab is quite high. The maximum increase in leased in land was seen in Faridkot district followed by Patiala, Rupnagar, Ludhiana, Gurdaspur and Bathinda with 91.63, 49, 35, 24, 15 and 10 acres respectively.

Table 8.4: District wise increase in leased in land of the selected respondents in Punjab

(Acres)

Zones	Land	Owned land	Total operational holding	Leased in land Pre	Leased in land Post
Zone I	Gurdaspur	161.50	163.45	9.00	15.00 (9.18)
	Rupnagar	155.50	171.45	29.00	35.00 (20.41)
Zone II	Ludhiana	139.50	153.00	20.00	24.00 (15.69)
	Patiala	168.00	210.75	35.00	49.00 (23.25)
Zone III	Bathinda	218.00	224.00	6.00	10.00 (4.46)
	Faridkot	180.75	264.38	44.63	91.63 (34.66)
	State	**170.54**	**197.84**	**23.94**	**37.44 (18.92)**

Source: Author's calculations from field survey
Note: Figures in parentheses indicate percentage to total operational holding

8.4   Social impact and empowerment

The impact of credit availability on the social empowerment of sampled farmers was also observed. The feeling of members in terms of their self-worth such as confidence building, meeting financial crisis of the family, improvement in level of communication, etc. were assessed through well-structured interview schedule and were reported to have improved in a significant way (Table 8.5). It was observed that involvement of the members in banking activity significantly affected their capacity to manage financial crisis in the family and was reported by about 78.33 per cent of the respondents in the post-credit disbursal situation. Similarly, the sampled respondents feeling confidant during post-credit disbursal situation were 65 per cent.

Accordingly, it has its impact on decision-making capacity in household matters as well which was reported by about 65 per cent of the borrowers as they started taking joint decisions in the household economic and social matters like education of children, marriage in the post-credit disbursal situation. Further 61.67 per cent of the respondents expressed the improvement in the level of communication and

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expressed their capability towards freely talking to others during post-credit disbursal situation.

Table 8.5: District wise social impact and empowerment of farmer borrowers in Punjab

(Per cent farmers)

Zones	Districts	Confidence	Managing finance	Improvement in level of communication	Improvement in decision making capacity
Zone I	Gurdaspur	70.00	80.00	63.33	60.00
	Rupnagar	66.67	80.00	60.00	70.00
Zone II	Ludhiana	60.00	70.00	60.00	60.00
	Patiala	56.67	76.67	60.00	70.00
Zone III	Bathinda	63.33	83.33	70.00	70.00
	Faridkot	73.33	80.00	56.67	60.00
	State	**65.00**	**78.33**	**61.67**	**65.00**

Source: Author's calculations from field survey

8.5   Suggestions of the farmers to improve credit delivery system

Apart from quantifying the impact on socio-economic parameters, an effort was also made to further record the suggestions of the selected farmers to improve the performance of institutional credit delivery system (Table 8.6).

The table has clearly indicated that the majority of farmers (154) wanted the simplification of loan procedures and wanted loan for all the purposes (147) across all the three zones of Punjab. The farmers also felt the transaction cost of borrowing to be high which was reported by 41.79 per cent, 40.30 per cent and 17.91 per cent of the selected farmers in zone I, zone II and zone III respectively. The farmers also disliked the act of demanding collateral by the financial institutions which was reported by nearly forty per cent of the farmers in zone I (40.66 %), zone III (32.97 %) and in zone (26.37 %) II. Another suggestion given by more than thirty per cent of the farmers in zone I and zone III was subsidized loan for small farmers. The expectations of the farmers for waiving off of loans was shown by 24.44, 20.00 and 55.56 per cent

of farmers in zone I, zone II and zone III respectively. Some of the farmers also wanted quick disbursal of loan through panchayats. Rest of the factors like more awareness about credit schemes and provision of loan for consumption purposes were reported by few of the farmers.

Table 8.6: Suggestions of the farmers to improve credit delivery system in Punjab

Suggestions	Number of farmers			Overall
	Zone I	Zone II	Zone III	
Simplify loan procedure	56 (36.36)	52 (33.77)	46 (29.87)	154 (100.00)
Reduce transaction costs	28 (41.79)	27 (40.30)	12 (17.91)	67 (100.00)
Immediate sanction of loan	20 (28.99)	19 (27.53)	30 (43.48)	69 (100.00)
Increase credit limit/ Increase value of land on the basis of market value	8 (23.53)	12 (35.29)	14 (41.18)	34 (100.00)
Subsidize the loans for the small farmers	31 (33.33)	20 (21.51)	42 (45.16)	93 (100.00)
Illiteracy and less links with bank officials	16 (28.57)	13 (23.21)	27 (48.22)	56 (100.00)
Waive off old debt	11 (24.44)	9 (20.00)	25 (55.56)	45 (100.00)
Loan should be without surety/security by banks	37 (40.66)	24 (26.37)	30 (32.97)	91 (100.00)
Provision of domestic loans	6 (54.55)	3 (27.27)	2 (18.18)	11 (100.00)
Credit should be given for purposes other than farming	55 (37.42)	51 (34.69)	41 (27.89)	147 (100.00)

Source: Author's calculations from field survey
Figures in parentheses indicate per cent to total

Summary

The present section attempted to assess the impact of credit disbursal by scheduled commercial banks especially PNB and SBOP in the selected districts of Punjab. There was an increase in the number and value of assets in absolute terms though there was not much increase in their percentage. Same was the case with the leased in land which increased due to credit availability during the period of the study

but in absolute terms and thus accepting the set hypothesis after the application of Paired t test which meant that credit has enhanced income and it was not utilized for asset building because about 87 per cent (Indiastat, 2017) of the total credit was production credit which was meant for meeting day to day expenses of farming. The reason for the decline in the availability of long term credit of the SCBs may be due to the achievement of the saturation level of the investment on farm machinery and secondly due to the reluctance on the part of the SCBs to finance due to low returns, poor recovery and inadequate loan security (Vyas, 2004). It is otherwise a healthy sign for the financial institutions because the repayment of this credit has to be made within the crop period but the limit of long term credit can be delayed.

A significant increase in income could be witnessed in post credit availability period, the t values being 2.369, 2.912, 2.571, 3.347, 3.194 and 3.985 for Gurdaspur, Ropar, Ludhiana, Patiala, Bathinda and Faridkot districts respectively. An improvement in the social behavior in terms of confidence, financial management, level of communication and decision making was seen where more than 60 per cent of the respondents showed these attributes in post credit disbursal situation in each case.

So the above mentioned suggestions of the farmers like subsidized loan for small farmers, waiving off of loans, quick disbursal of loan through panchayats, awareness about credit schemes and provision of loan for consumption purposes need attention of the policy makers which of course requires educating the farmer borrowers about optimal use of credit and also making them aware about different schemes of credit so that they borrow judiciously and try to repay it within the stipulated time.

Chapter-IX

Summary, Conclusion & Policy Implications

CHAPTER IX

SUMMARY, CONCLUSION AND POLICY IMPLICATIONS

9.1 Summary

Before the advent of planning era in 1951, rural credit was largely provided by informal channels such as money lenders, friends, relatives of farmers and to some extent by cooperatives and government. With the breakthrough in farming technology, the demand for production as well as investment credit has increased manifold. Several measures like strengthening of cooperatives, commercial banks, nationalization of banks, establishment of regional rural banks, finally the financial sectors reforms etc. were taken by the government from time to time to meet the growing demand of credit. There have been endless constraints to agricultural development and the access to financial resources is one of the responses which can help address some of these constraints. In view of the importance attached to agriculture, as a promoter of overall economic development, and the urgent need for improving the provision of and access to finance for agriculture, present study has been envisaged to examine the status of financing agriculture in Punjab, with particular reference to SCBs. The specific objectives of the study are:

1. To examine the overtime trends and pattern of scheduled commercial banks' credit advances in the context of Punjab agriculture.

2. To study the outreach of scheduled commercial banks in terms of rural presence.

3. To have an overview of the borrowing pattern of farming community of Punjab and the share of scheduled commercial banks thereof.

4. To evaluate the efficiency of selected scheduled commercial banks in agricultural sector lending.

5. To study the impact on economic well-being of borrower farmers and their satisfaction with agricultural credit system.

Both primary as well as secondary data have been used for the present study. In order to study the rural presence of SCBs and the credit flow to agriculture, secondary data has been taken resort to. The time series data, from 1971 onwards, on presence of SCBs in various locations, credit flow to agriculture, SCBs' total credit etc., were extracted from various issues of Statistical Abstract of Punjab, Statistical Abstract of India, Report on Currency and Finance, Statistical Elements Volume –II, RBI Bulletin and Hand Book of Statistics on Indian economy. In order to study the financial

performance, outreach and lending volumes of SCBs vis-à-vis location specificity, the primary data have been used, the branches of the selected SCB being the sampling units. To assess the percentage share of institutional credit advanced and impact of credit on economic well-being of the farmer borrowers of the selected banks, data were collected through a well-structured interview schedule. Punjab National Bank (PNB) and State Bank of Patiala (SBOP) were selected on the basis of penetration in terms of number of branches to all the corners of the state. A multi stage sampling technique was adopted for the selection of branches of the PNB and SBOP in Punjab state, with selection of districts at the first stage from the three agro-climatic zones of Punjab on the basis of zonal average, selecting one district above the zonal average and one district below the zonal average (a total of six districts) and selection of branches from rural, semi-urban and urban locations (taking three branches from each district) at the second stage on the basis of simple random sampling which makes it a total of 36 branches (18 branches of PNB and 18 branches of SBOP) and farmer borrowers at the third stage by systematic sampling. Lists of farmer borrowers were collected from the selected branches and the respondents were selected by dividing the total number with the sample size. Thus only first respondent was selected randomly and thereafter all the respondents were selected after regular/fixed intervals. So a total of 180 farmer borrowers were selected by taking five farmer borrowers from each branch of the selected 36 branches of PNB and SBOP. Primary data on the requisite aspects have been extracted from income profile of the selected branches, the time frame being 2015 to 2016. The collected data were subjected to suitable analytical techniques for meaningful presentation of the results.

SCBs and co-operative banks have always been the major sources of institutional credit to agriculture. There have always been more than three SCBs offices for every co-operative bank office in the post nationalization era except for TE 2016 where there were more than seven scheduled commercial banks for every cooperative bank. The increase in the number of SCBs was more pronounced as compared to all the banks in totality. The SCB offices in Punjab increased from 679 in TE 1973, by nearly eight times, to 6220 by TE 2016. The average population served per bank office of the SCBs reduced from 16000 in the year ending 1974 to 4000 in the year ending of 2016, there by leading to marked improvement in the quality of service provided.

The study of credit flow to agriculture in Punjab revealed that the amount outstanding, at 2004-05 (constant) prices, to agriculture sector had increased from ₹1425.61crores in 1981 to ₹29941.97 crores in 2016 with a compound growth rate of 8 per cent per annum. In spite of the consistent increase in the flow of credit to agriculture over the period, the share of agriculture in the total bank credit outstanding remained more or less the same which was 30.20 per cent in 1981 and 29.85 per cent by the year 2016 because of the increase in the amount earmarked for other sectors like trade loans, professional services, transport loans and personal loans.

The direct credit to agriculture in Punjab increased from ₹283 crores in 1981 to ₹58599.02 crores by 2016, registering a significant (P≤0.05) compound growth rate of 15.52 per cent per annum, as against the comparatively much slower growth rate of 8.14 per cent, when adjusted for price changes. This higher share of direct credit in total credit to agriculture in case of Punjab (94 per cent) reveals that the operations of SCBs in Punjab were farmer centric as compared to its counterparts in other states. The amount outstanding in direct credit per farmer by SCBs at 2004-05 prices increased from ₹39622 in 1981 to ₹192254 in 2016, registering a lower compound growth rate of 5.10 per cent per annum in comparison to 8.14 per cent per annum in case of total amount outstanding in direct credit. This lower growth rate can be attributed to the increase in the number of beneficiaries from 306 thousand in 1981 to 1470 thousand by 2016. As regards the amount outstanding (at 2004-05 prices) per hectare of NSA, district Ludhiana stood first in TE 1983, it had a close competition with Rupnagar in TE 1993 but it regained its first position in TE 2016, wherein the amount outstanding per hectare of NSA has been recorded at ₹98544.24. The corresponding figure for Patiala which secured second position during 2016 was ₹81326.73 per hectare of NSA. As of now in TE 2016, in case of amount outstanding per account, district Jalandhar ranked first (₹261111.71/account) followed by district Kapurthala (₹256827.16/account). The amount outstanding at 2004-05 prices in direct finance per hectare of NSA in Punjab increased by around 21 times from ₹2979 in TE 1983 to ₹63286.92 by TE 2016 where the amount outstanding per account increased by 5.5 times from 34624.23 in TE 1983 to ₹190745.40 in TE 2016. The inter-district variability in amount outstanding per hectare and amount outstanding per account had declined due to the implementation of Service Area Approach from 1989.

As regards the location wise branch expansion network, it was noticed that in TE1973, Punjab had a rural network of 2671 branches of SCBs as compared to 974 in case of India, for every 1000 branches of SCBs operating in the urban locations. The number of rural branches in Punjab, for every 1000 urban branches of SCBs went down to 1964 by TE 1993 and further to 1338 by the TE 2016. In TE 1973, as many as one tenth (406) of all rural branches in India happened to be in Punjab. However, the proportion gradually declined to 4.6 per cent (931) by TE 1983 and remained almost 5 per cent (2394) by TE 2016, due to growth of rural branch network in rest of India.

The study of pattern of borrowing revealed that the percentage of institutional and non-institutional credit in Punjab during 2015-16 was 65 and 35 respectively.

The study of financial performance of both the SCBs revealed that the urban branches of SBOP earned the highest revenue (₹1677.24 lakhs per branch) during the study period. The average income (₹215.26 lakhs) earned by rural branches has been significantly lower (p<0.05) than that by the urban branches. Same was the case with PNB where a significant difference in the revenue was found in rural, semi-urban and urban branches. The average expenditure during the study period has been significantly lower in rural branches (₹175.49 lakhs per branch in SBOP, ₹297.76 lakhs in PNB) as compared to that of urban (₹1582.54 lakhs in SBOP, ₹749.08 lakhs in PNB) branches. The net profit per branch during the same period was found to be the highest in case of semi-urban branches at ₹137.69 lakhs in SBOP followed by urban branches with ₹94.70 lakhs and rural branches at ₹39.77 lakhs. In case of PNB the semi-urban branches again topped in having maximum net profit followed by urban branches with ₹52.85 lakhs and rural branches with the least amount of ₹48.74 lakhs. Profitability ratio analysis revealed that the operating ratio, fixed ratio and gross ratio of location specific branches of both the SCBs were satisfactory. Another important revelation of this analysis is that rural branches had financed specifically to farmers as the disbursement of indirect credit has been to a very negligible amount as compared to that of the direct finance.

As regards the lending volume of both the SCBs in various locations of Punjab, during the study period, the rural branches made the minimum total credit disbursal (₹4115.61 lakhs per branch by SBOP and ₹1969.85 lakhs by PNB) but the proportion of priority sector advances in total credit has been maximum (96.4 per cent

by SBOP and 91.5 per cent by PNB) in case of rural branches, followed by semi-urban (79.1 per cent by SBOP and 53.7 per cent by PNB) and urban (65.8 per cent by SBOP and 40.5 per cent by PNB) branches. The highest amount of agricultural credit per branch was also witnessed in case of rural branches (₹3913.58 lakhs by SBOP and ₹1588.69 lakh by PNB) followed by semi-urban (₹1855.44 lakhs by SBOP and ₹1284.62 lakh by PNB) and urban (₹1761.78 lakhs by SBOP and ₹386.85 lakh by PNB) branches, these figures were significantly higher (P<0.05) in rural branches in case of both the banks than those in urban locations. The agricultural credit constituted more than ninety per cent of the priority sector advances by rural branches of SBOP and was 88 per cent in case of PNB, whereas this percentage remained nearly fifty per cent for semi-urban branches of SBOP and 74 per cent in case of PNB and 26 per cent for urban branches of SBOP and a meager 8 per cent in case of PNB. The rural branches focused predominantly on the direct credit needs of farmers as can be seen from the proportion (99.03 per cent by SBOP and 95.92 per cent by PNB) of direct credit in total agricultural credit. The analysis regarding the performance of all branches irrespective of their location also concluded that these branches on an average were extending satisfactory quantum of credit to the priority sector and were following the revised guidelines regarding priority sector lending of the Reserve Bank of India suggested by M. V. Nair committee in the year 2011. So the selected financial institutions were found to be justifying the implementation of the first objective of nationalization of banks. So far as the agricultural finance was concerned, rural branches clearly have an edge over the semi-urban and urban branches.

As regards the impact of credit on economic well-being of the borrower farmers, it was observed that there was a little increase in the number of tractors which was 18.8 in pre-disbursal period and it went to 21.2 in the post-credit disbursal period. The number of combines remained the same whereas a little change in the number of tube wells and tractor drawn implements was seen. A little increase in leased in land was also observed after the credit availability to farmers. The change in asset base and leased in land did not show a significant effect after the application of Paired t test which can be attributed to the fact that more than 85 per cent of the credit is short term credit which was used for meeting day to day expenses of cultivation of crops and the land rent is quite high in Punjab so there was no significant increase in the acreage of leased-in land. The income of the farmers showed a significant change (the t values

being 2.369, 2.912, 2.571, 3.347, 3.194 and 3.985 for Gurdaspur, Ropar, Ludhiana, Patiala, Bathinda and Faridkot districts respectively) due to credit availability which on an average increased from ₹4.22 lakhs to ₹4.48 lakhs during the period 2015-16 wherein the income from livestock increased from ₹0.43 lakhs to ₹0.53 lakhs and income from crop farming rose from ₹2.62 lakhs to ₹2.68 lakhs. An improvement in confidence, financial management, and level of communication was also reported by the farmer borrowers.

The rural presence of SCBs in Punjab had increased after nationalization but during the previous decade, it registered a decline both in proportion and absolute figure due to the upcoming of the more urban and semi-urban branches. Despite the fact that credit flow to agriculture sector has increased, its share has been more or less the same over the past three decades. However, the SCBs in Punjab had always given much priority to agricultural sector as can be seen from the percentage figures of agricultural credit of the selected rural scheduled commercial banks. The analysis conclusively establishes that the rural branches of the SCBs cater to the demands of the agricultural sector in more efficient manner as compared to their semi-urban and urban counter parts.

9.2 Conclusion

It is very clear from the above discussion that the branch expansion of scheduled commercial banks (SCBs) has been up to the mark and has been increasing throughout the period of TE 1973 to TE 2016. The amount outstanding of agricultural credit from the total amount outstanding in Punjab has been on the rise. Similarly the direct and indirect credit to agriculture has been rising. So the efforts of government to improve the access of institutional credit can well be justified from the given data. Similarly, the progress of scheduled commercial banks in terms of their network expansion can be considered comparatively satisfactory as of now. India is now considered much preferred financial destination by Foreign Institutional Investors (FII) in the wake of Foreign Direct Investment (FDI) in India's banking sector. With the upcoming of foreign banks from the year 1994, there is an imperative need for setting up of more branches in rural areas, both in Punjab and country at large to meet the credit needs of masses. As the banking sector has deliberately opened up for an easy access to the foreign banks to invest in our country, a great threat may be anticipated to our domestic SCBs. The private banks have already restrained most of

the locations; the SCBs are already facing a stiff competition. Perceiving the future of banking sector in Punjab and the country at large, the expansion of branch network with requisite infrastructure should be considered inevitable. It was observed that sufficient bank credit was available to the farmers for financing capital investment in agriculture and its share was more than 60 per cent which rejects the set hypothesis. Even then the percentage of non- institutional credit in Punjab was high (35 per cent) but it was an improvement over the country's figure of 40 per cent (Ministry of Statistics and Programme Implementation, 2016). Although money lenders could not be eliminated once and for all, attempts must be made to bring the money lenders under some form of monetary regulations and control on the suggestion given by the Banking Commission in the year 1982 that there is a need to fix the maximum rate of interest at a level which is unduly low, the need to have proper and adequate system of supervision, the recovery of loans may be postponed for a considerable period, of not less than two years, so that the indebted farmers are enabled to earn some additional income to repay the debt, the process of loaning should be made more easy and convenient for the farmers, then only farmers attitude towards money lenders can be reduced, the external control of credit institutions should be lessened and there is a need to tighten the supervision and monitoring mechanisms and to improve their lending policies and procedures, strict supervision should be maintained by the financial institutions officials on the proper utilization of finance for productive purpose and also to avoid diversion of funds for other purposes. So the apex financial institutions and the government should pay heed to this. The analysis regarding the performance of all branches irrespective of their location concluded that these branches on an average were extending satisfactory quantum of credit to the priority sector and the rural branches were extending sufficient proportion of priority sector credit to the agriculture sector which makes them remain on the top in case of both the banks and hence rejecting the set hypothesis. These banks were following the revised guidelines of the Reserve Bank of India suggested by M. V. Nair committee in the year 2011 in which all the domestic commercial banks are required to provide 40 per cent of adjusted net bank credit (ANBC) to the priority sector. So the selected financial institutions were found to be following the guidelines properly and justifying the implementation the first objective of nationalization of banks. So far as the agricultural finance was concerned, rural branches clearly have an edge over the semi-urban and urban branches. In an attempt to assess the impact of credit disbursal by scheduled commercial banks

especially PNB and SBOP in the selected districts of Punjab, an increase in income could be witnessed in post credit availability period. It was observed that there was an increase in the number of assets though there was not much increase in their percentage. Same was the case with the leased in land which increased due to credit availability during the period of the study but fail to have any significant effect which led to the acceptance of the set hypothesis. A significant increase in the income of the farmer borrowers was seen in the post credit disbursal situation. An improvement in the behavior in terms of confidence, financial management, level of communication and decision making was also seen.

9.3 Policy implications

The efforts of the government have always been aimed at providing an easy access of institutional credit with the objectives of strengthening credit widening (extending the client base) and credit deepening (improving amount of loan per borrower). The results presented in this study showed that institutional finance has contributed both in terms of credit widening as well as credit deepening. The study highlights some of the areas which still need the attention of policy makers and are given below:

- It was witnessed that the proportion of institutional and non-institutional finance in Punjab was 65 and 35 respectively which needs a policy intervention in terms of reducing the dependence of farmers on non-institutional sources. Although the main objective of the agriculture credit policies over the years has been to make adequate credit available to the farmers at the right time and at affordable rate yet to rectify the above mentioned problem the institutional agencies should try to liberate the rural farmers from the clutches of moneylenders and the entire rural credit system should be institutionalized, these institutions should educate the farmers to borrow only for right purposes and to repay the loans on right time and they must disburse the loans at the right time and in adequate measures. In this way financial literacy can help farmers in having optimal credit.
- The study highlighted that the financial position of all the selected branches of scheduled commercial banks was sound but calls for curtailment of the overhead expenses to improve their financial health.

- The credit deposit ratio of semi-urban and urban branches in case of SBOP and all the branches in case of PNB were very low which revealed a greater scope for financing in Punjab agriculture.

- Policy efforts should be directed towards the enhancement of the flow of credit towards allied activities such as poultry, horticulture, etc. to encourage mixed farming to fulfill the goal of enhancing farmers' income.

- Further, the waiving off of loans, which was pointed out by some of the farmer borrowers, should be done in the case of farmers who have suffered some kind of natural calamities. When the loan is waived off irrespective of the fact that who has actually suffered the loss then there would definitely be misutilization of funds which should be curbed at any cost as it is a national loss as well. So, rationalized waiving off of loans should be there.

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Appendix

Sr. No…………………….

Date………..………………

INTERVIEW SCHEDULE

Performance Evaluation of Scheduled Commercial Banks in Financing Agriculture in Punjab

1. Background information

Name of the respondent	
Father's name	
Address	
Age	
Education (codes)	
Caste	
Family size	
Total income of the family	
Source of income (codes)	

Codes: *Education*: illiterate-1, Primary-2, Middle-3, Matric-4, Graduation- 5, Post-graduation and above-6.

Source of income: Agriculture and allied-1, Dairy-2, Other farm activities-3, Service-4, Pension-5, Rented income-6, Hiring machinery-7, Poultry-8, Other-9 (specify)

2. Land information (acre)

Owned	Leased in	Pre-Leased in	Leased out

3. Machinery use pattern

Type	Number		Price	
	Before	**After**	**Before**	**After**
Tractor				
Trolley				
Tractor drawn implements				
Generator				
Submersible				
Any other (specify)				

4. Cropping pattern

Crop	Area
Wheat	
Rice	
Cotton	
Fodder	
Any other (Specify)	

5. Loans availed and outstanding

Sr No.	Name of agency (code)	Loan amount	Year	Repaid (yes-1, no-2)	Outstanding amount	Purpose (code)	Rate of interest (%)	Spent on
1								
2								
3								
4								
5								

Codes: *Name of Agency*: formal: Commercial Bank-1, Cooperative Bank-2, RRBs-3, any other formal agency-4(specify), informal: Money lender-5, Arhtiya-6, CAs- 7, Big landlord-8, Servicemen-9, Shopkeeper-10, Friend/Relative-11, Input dealer-12.

Purpose: Crop loan-1, Term loan (machinery loan)-2, Other farm loans-3, Housing loan-4, Marriage-5, Religious ceremonies-6, Education loan-7, Grocery loan-8, Routine expense loan-9, Vehicle loan-10, Consumer goods loan-11, Dairy farming loan-12, Medical treatment-13, Other loan (specify)-14.

6. Problems faced

Nature	Extent				
	1	2	3	4	5
Procedural					
Staff dealing, objections					
Corruption/Bribe					
Delay in sanction					
Adequate amount or not					
Repayment plan					
Any other					

6. Is there any improvement in economic well-being of the farmers due to the availability of credit

Particulars	Before loan	After loan
Income		
Profitability		
Net worth (machinery, submersible, livestock etc.)		
Increase in employment (PL, CL)		
Cropping pattern		
Any other		

7. Perceptions about type of credit institution

Sr.	Particulars	Institutional Loan	Non-institutional Loan
1	Reason for preference (codes)		
2	Time taken in getting loan		
3	Number of visits		
4	Rate of interest (high-1, medium-2, low-3)		
5	Offering security (yes-1, no-2)		
6	Are you aware about this source (yes-1, no-2)		
7	Advance with influence		

Codes: ***Reason for Preference***: Access-1, Rate of interest-2, Timeliness-3, Formalities-4, Old A/c or Debt-5, Credit limit-6, Security-7, Personal relations-8

8. Your overall opinion about financial institutions:

9. Suggestions to improve credit access: