

**COMMERCIAL BANKS AND AGRICULTURAL CREDIT**  
**AN ANALYSIS OF GROWTH AND REGIONAL**  
**DISPARITIES IN NINETEEN EIGHTIES**

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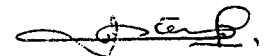
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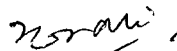
July 21, 1994.

I hereby affirm that the research for this dissertation titled, "Commercial Banks and Agricultural Credit : An Analysis of Growth and Regional Disparities in Nineteen Eighties" being submitted to the Jawaharlal Nehru University for the award of the Degree of Master of Philosophy in Applied Economics, was carried out entirely by me at the Centre for Development Studies, Thiruvananthapuram.



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Certified that this dissertation is the bonafide work of Antonyto Paul. This has not been considered for the award of any other degree by any other university.

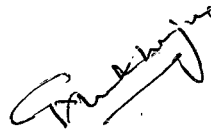


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### *LIST OF ABBREVIATIONS*

AP	Andhra Pradesh
ASS	Assam
BIH	Bihar
CV	Coefficient of Variations
GUJ	Gujarat
HAR	Haryana
HIM	Himachal Pradesh
JK	Jammu & Kashmir
KAR	Karnataka
KER	Kerala
LDBs	Land Development Banks
MP	Madhya Pradesh
MAH	Maharashtra
MAN	Manipur
MEG	Meghalaya
ORI	Orissa
PACS	Primary Agricultural Credit Societies
PUN	Punjab
RAJ	Rajasthan
SCBs	Scheduled Commercial Banks
SD	Standard Deviation
TN	Tamil Nadu
TRI	Tripura
UP	Uttar Pradesh
WB	West Bengal

*INTRODUCTION*

*1.1 The Problem*

The new economic reforms initiated in India has been directed towards dismantling a regulated regime which, to a great extent, impeded the economy from realizing its full potential for growth. The liberalization measures taken are more centered on trade and industry. The financial sector reforms are also viewed as a 'necessary concomitant of trade and industrial policy liberalization so as to give a competitive spirit and efficiency to the financial sector'<sup>1</sup>. But one major point to be remembered in this context is that a faster growth of industry leads to a faster growth in demand for food and fibre. If this is not met the resulting pressure on balance of payments, on the prices of essential consumption goods, or both will constrain the expansion of industrial output. Therefore, the very success of the new economic reforms necessitates a quickening of the tempo of agricultural growth.

In this context, available evidence shows that between 1970/71 and 1991/92 the overall growth performance of agriculture registered a trend growth rate of 2.5 percent per year<sup>2</sup>. Compared to previous decades it is significant<sup>3</sup>. But compared to the plan targets (of

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<sup>1</sup> R.B.I. (1991) : Report of the Committee on Financial System (Ch. M. Narasimham) P.2.

<sup>2</sup> A.Vaidyanathan, (1994) : 'Food and Agriculture' (Second India Studies Revised Series) MIDS, Madras, P.23.

<sup>3</sup> During 1891-1947 annual growth rate of Indian agriculture was just 0.11 per cent (see George Blyn, (1966): 'Agricultural Trends in India 1891-1947: Output, Availability and Productivity',

4 to 4.5 percent), the performance was not very satisfactory. Since the growth rate was only 2.5 percent improvement in percapita supply of agricultural output remained very small. Average percapita food grain production which was 443 grams per day during 1971-75 could rise only to 473 grams per day during 1986-90, ie, an increase of mere 6 to 7 percent (Economic Survey, 1992-93).

The overall growth besides being slower than the targeted, is also marked by inter regional disparities. This problem has attracted widespread attention. During the period 1970-90 total food grain production in India grew at an average annual rate of 2.7 percent. But a comparison of states and districts reveal considerable regional variation. While a few states registered a growth rate higher than the national average [for example Haryana (4.2 percent), Punjab (5.3 percent), Kerala (3.8 percent), Uttar Pradesh (3.92 percent) and Maharashtra (3.81 percent)], many other states (like Bihar, Rajasthan, Orissa, etc.) showed a growth rate lower than the national average. The district level comparison of 283 districts for the period 1970/71 to 1980/83 reveals that while 53 districts had an above 5 percent annual growth rate of food grain production 107 districts remained with a growth rate less than 1.5 percent<sup>4</sup>. In terms of per capita agricultural output also regional variation was quite prominent. In 1977 northwestern states like Punjab, Haryana, and Western U.P. had a significant rise in per

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University of Pennsylvania Press, Philadelphia, P.96). During 1950/51-1965/66 annual growth rate was faster. But the pattern was more an extensive cultivation than intensive.

<sup>4</sup> Bhalla G.S. and Tyagi D.S. (1989): "Patterns in Indian Agricultural Development : A District Level Study", Institute for Studies in Industrial Development, New Delhi.

capita output, eastern states and larger parts of south and central India noted a decline<sup>5</sup>.

A natural question that arises here is 'why it was so?'. Only few studies have gone into this problem. Some general factors behind this regional variations can be traced to differences in the levels and quality of irrigation, differences in the fertilizer use, varying land tenure system, etc<sup>6</sup>. According to Nilakantha Rath (1989) one major reason for the regional variation noted in the agricultural growth was the highly skewed distribution of institutional credit to agriculture. In 1984-85 six relatively prosperous and well banked states of Punjab, Haryana, Andhra Pradesh, Karnataka, Kerala and Tamil Nadu accounting for only 25 percent of the total cultivated land in the country amassed about 50 percent of term loans while six other relatively backward and less banked states viz. Assam, Orissa, Bihar, West Bengal, Madhya Pradesh and Rajasthan which possess about 40 percent of total cultivated land received only 22 percent of the term loans. (N. Rath, PP.). Other writers too have pointed out the glaring disparities in the agricultural credit [Tara Shukla (1971), S.K. Basu (1979), Dadibhavi (1988), and others.]. But there has not been adequate attempts to unravel the factors underlying this disparity. An indepth analysis of this problem may help us to understand better the glaring regional variations in the growth performance of

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<sup>5</sup> Mahendra Dev (1985): "Direction of Change in Performance of all Crops in Indian Agriculture in the late 1977", in Economic and Political Weekly, December 21-28.

<sup>6</sup> Mukherjee C. and A. Vaidyanathan (1988): 'State-wise Analysis of Agricultural Growth', in Narain et al (ed) "Recent Advances in Agricultural Statistical Research", John Wiley, New Delhi.

agriculture. In this context a study on the inter regional disparities in the institutional credit to agriculture assumes lot of significance.

### *1.2 Objectives and Scope*

The present study deals with agricultural credit by commercial banks. One of the major factors that has contributed to the nationalization of major commercial banks was to meet the growing requirements of agricultural credit cosequent to the spread of the green revolution. During the post nationalization period growth of commercial banks' agricultural finance was quite phenomenal. Between 1969 and 1991 the number of bank offices skyrocketed from 8262 to about 60000. Bank deposits as a percentage of GDP rose from 13 per cent to 35 percent and bank advances from 10 percent to 25 percent. Agricultural credit rose from mere 180 crores to about 20000 crores. At present commercial banks are the major source of agricultural credit. The present study, therefore, attempts to examine if the quantitative growth is accompanied by qualitative improvement in terms of regional inequalities.

More specifically the objectives of the study are the following:

- 1) to assess the inter state disparity in the supply of credit to agriculture from commercial banks in the eighties,
- 2) to provide an explanation for the said disparity, and
- 3) to make certain suggestions for a more balanced supply of agricultural credit.

The scope of the study is restricted mainly to the agricultural credit supplied by the scheduled commercial banks (including RRBs) in India. 'Credit' considered here, in general, is the outstanding credit as on end of June of the concerned year. Both production credit as well as investment credit are included in the term 'credit'. The term 'region' stands here for the states in India. Space reference of the study is mainly 20 states and the time reference is the nineteen eighties taken as 1979/80 to 1988/89.

### **1.3 Data Source:**

Our study is mainly based on secondary data collected from the various publications of RBI, NABARD, CSO, Directorate of Economics and Statistics, Ministry of Agriculture, Fertilizer Association of India, All India Census, CMIE, etc.

Data related to bank credit, gross cropped area, Net Sown Area, etc. were available for the various years of eighties. But the data related to population for the various years are based on 1981 census and projections are made for the other years. Coefficient of concentration of rural assets is based on All India Debt and Investment Survey 1981-82. Concentration of area under large holdings was computed from CMIE data for the two time points 1980/81 and 1985/86.

### **1.4 Chapter Outline:**

The rest of the study is organised as follows:

Chapter 2 gives a brief review of studies and reports closely related to the topic of our study. In chapter 3 the trends and patterns of agricultural credit from commercial banks are analysed

under 5 sections. Section 1 deals with growth of banking infrastructure. Section 2 traces the trends and patterns of bank deposits and credit. An analysis of the supply of agricultural finance by commercial banks is made in section 3. Section 4 discusses the regional disparities in the commercial banks' agricultural credit. Association of agricultural credit with concentrations of rural assets and cultivable land in large holdings is analysed in the section 5. Chapter 4 traces the determinants of regional disparities of commercial banks' agricultural credit per hectare of net sown area. There are two sections. In section 1 method of analysis is stated and hypotheses are formulated. Section 2 deals with test of hypotheses and interpretation of the regression results. The final chapter (Chapter 5) gives the conclusions.

## Chapter 2

### REVIEW OF LITERATURE

A plethora of studies and reports have gone into various aspects of agricultural credit in the past. While some of these studies deal with the relationship of credit and agricultural growth some others discuss credit in relation to new technology. Also we come across themes like production orientation of credit, credit and macro economic policies, regional dimensions of credit etc. A review of these studies which are relevant from the point of view of the present study is given below under three heads viz.,

- (a) Need and growth of agricultural credit
- (b) Regional disparities of agricultural credit
- (c) Recent issues related to agricultural credit.

#### *a. Need and Growth of Institutional Credit to Agriculture*

The first major effort to assess the credit requirements of the rural sector and to examine the performance of the existing credit institutions in order to draw up a long term programme of rural credit was made by the All India Rural Credit Survey (1954)<sup>1</sup> conducted by RBI. The reference period of the survey was from November 1951 to July 1952.

The report revealed that 93 percent of agricultural credit was issued by the non institutional agencies and the share of co-operatives and government together was about 6percent. Commercial banks' share was even less than 1 percent.<sup>2</sup> The committee recommended to revamp the cooperative credit structure in such a

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<sup>1</sup> RBI, All India Rural Credit Survey - Report of the Committee of Direction, Bombay, 1954.

<sup>2</sup> RBI, op.cit., Vol.2, p. 167



way that it could play a major role in the supply of institutional credit to agriculture.

However, the committee could not foresee the need and importance of bringing commercial banks into the field of agricultural credit. The committee also failed to bring out a formal analysis of effects of introducing a system of co-operatives upon the workings of rural credit market.

All India Rural Credit Review Committee, 1969<sup>3</sup> is of special significance in the sense that it was this committee that recommended for bringing commercial banks actively into the field of agricultural credit. The nationalisation of banks in 1969 was a follow up of this recommendation.

The Committee pointed out the weaknesses of the co-operative credit system like lag in disbursal, low deposits, high overdues etc. The Committee asked for a preferential treatment of small farmers which is to be well appreciated. Credit also goes to this committee as it is the one that advocated multi agency approach in agricultural credit.

Report of the Working Group on Rural Banks (1975)<sup>4</sup> was another important report in the sense that it recommended the setting up of Regional Rural Banks (RRBs) for a speedy and less costly financing of the small and marginal farmers and the weaker sections of the society. The nature of RRBs, as spelt out by the Committee, should

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<sup>3</sup> RBI, Report of the All India Rural Credit Review Committee, 1969.

<sup>4</sup> RBI, Report of the Working Group on Rural Banks, 1975.

contain a local feel and familiarity with the rural problems which the co-operatives possess and a degree of business organisation, ability to mobilise deposits and access to central money markets and a modernised outlook which the commercial banks possess. They are to supplement and not to supplant the other institutional agencies in the field. The RRBs are basically commercial banks but have some special features. Specific area of operation, a target group of weaker sections, stipulation of interest rate to be charged not above that of co-operatives etc. are such features specific to RRBs.

But all these specific features bring about an aspect of non-profitability and non-viability into the system of RRBs. But the Committee failed to suggest any measures to overcome this built-in limitations.

Committee for Reviewing Arrangements for Financing Institutional Credit for Agriculture and Rural Development (CRAFICARD) (1981)<sup>5</sup> was another milestone in the literature related to agricultural credit. Agricultural development is viewed in a broader spectrum of rural development and it advocated the establishment of NABARD as the apex body of agricultural and rural credit. Another recommendation was for better spread of branches of commercial banks to rural areas. Thirdly, the committee strongly defends the need and importance of RRBs and demand for further concessional refinance from NABARD, taking into account the target group of RRBs.

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<sup>5</sup> RBI, Report of the Committee for Reviewing Arrangements for Financing Institutional Credit for Agriculture and Rural Development (CRAFICARD), 1981.

Vipin Behari et.al. (1975)<sup>6</sup> made a study of requirements and availability of credit in a block called Tanda in Uttar Pradesh. They found the correlation coefficient between farm size and per hectare credit to be positive which means proportion of credit increased with farm size. They also found that major share of credit for small farms came from co-operatives rather than commercial banks. This study is a micro study of a block and generalisation of the findings may have its limitations. For example Nilakanta Rath (1989 b) observed that at the all India level, proportion of small farmers financed by commercial banks were more than that by co-operatives (p. 242). Also, a study made by S.K. Basu (1979) revealed that farm size had a rather negative impact on agricultural credit from commercial bank.

M.V. Gadgil (1986)<sup>7</sup> made a review of performance and policies of institutional agricultural credit for the period 1973/74 - 1982/83. Five major points he found as the features of the policies related to the agricultural credit were (i) multi-agency system for dispensing credit; (ii) an explicit relationship between credit and input use or credit and fixed investment; (iii) security for loan being no longer the sole determinant of credit; (iv) credit planning to subserve major national programmes for agricultural growth, backward area development and eradication of poverty; and (v) concessional interest rates on agricultural loans.

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<sup>6</sup> Vipin Bihari et.al., "A Study of Requirements, Availability, Cost and Sources of Credit of Small Farmers in Block Tanda, Faizabad, Uttar Pradesh", Indian Journal of Agricultural Economics, Vol. 30, No.3, 1975.

<sup>7</sup> M.V. Gadgil, "Agricultural Credit in India, A Review of Performance and Policies", Indian Journal of Agricultural Economics, Vol.41, No.3, 1986.

With regard to growth of agricultural credit he notes that inspite of the credit deepening, credit widening (i.e. bringing more farmers into the field of institutional credit) was poor. In 1982-83, only 23 percent of estimated 936 lakh operational holdings in the country might have received production credit from the financial institutions. Needless to say about investment credit - only about 2 percent of the cultivating households received investment credit.

Another finding is the positive correlation between the production of major foodgrains and institutional credit in 11 major foodgrain producing states.

He presents certain issues for further discussion. One major issue he deals with is the viability question of financial institutions. He opines that existing interest rate is not adequate to cover the transaction cost and the risk of default of repayment. Besides, loan recovery is deteriorating.

His comment on the problem of credit widening is very important. According to Nilakanta Rath's estimates the percentage of households receiving investment credit is even less than 2 percent (Rath, 1989b, p. 243). His analysis of 'viability' issue seems to suggest implicitly a higher interest rate on agricultural credit. In a later article (Gadgil, 1992) he has explicitly argued for that. But how far it will affect agricultural investment and whether it would be affordable for the poor farmers are to be looked into.

V.M. Dandekar and F.K. Wadia (1989)<sup>8</sup> give a detailed historical review of institutional credit to agriculture starting with the introduction of 'Taccavi loans' in 1793 upto the 8th Plan perspectives. They analysed the growth of institutional credit in various plan periods. Detailed tables relating to the performance of 3 tier cooperatives, LDBs, SCBs and RRBs from 1947 to 1988 are presented alongwith. Here the authors have given a historical narration, though not a critical study, of the institutional credit upto the eighties.

Clive Bell (1990)<sup>9</sup> critically examines the growth of institutional rural credit in India vis-a-vis informal credit. He cautions that the official estimates of share of institutional credit in the rural credit is exaggerated. He quotes the studies made by World Bank ("Impact of Agricultural Development on Employment and Poverty in India", 1989) and the study by International Crop Research Institute for Semi-Arid Tropics (ICRISAT) and shows that the share of non-institutional credit is still higher than the official estimates.

He remarks that the institutional agencies haven't come up to the skill and knowledge of the rural moneylenders in dealing with rural credit. He cautions against the mounting overdues of institutional agencies. Between two time points 1973/74 and 1985/86 overdues (with respect to annual demand) of LDBs steeply rose from 23

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<sup>8</sup> V.M. Dandekar and F.K. Wadia, "Development of Institutional Finance for Agriculture in India", Journal of Indian School of Political Economy, Vol.1, No.2, 1989.

<sup>9</sup> Clive Bell, "Interaction between Institutional and Informal Credit Agencies in Rural India", World Bank Economic Review, 4(3), 1990.

percent to 45 percent for commercial banks, a slight decline from 49 percent; and for PACs it hovered around 40 percent.

Bell, therefore, presents a few policy measures to be adopted for a healthy growth of institutional credit in the rural India. They are:

- i. Use the knowledge of the informal moneylender in the formal sector;
- ii. Interlink institutional credit with marketing and supply of inputs;
- iii. Use direct measures to raise incomes in underdeveloped areas.

In fact, the observation of Bell that the official estimates of institutional rural credit is exaggerated might be reasonable. Report of the Committee to review Administrative Arrangements for Rural Development (CAARD), set up by the Ministry of Agriculture (1985) estimated that only 40 percent of the rural credit was provided by institutions. The policy measures suggested by Bell are quite significant. In fact it is the so called 'dead weight price' of complicated formalities of credit institutions for availing credit which is one of the major reasons that pushes the farmers to moneylenders. Also, the farmers are to be more equipped with greater income so as to be able to repay the loans and for this government has to take up certain fiscal measures to raise their income.

H.P. Binswanger et.al. (1993)<sup>10</sup> examined the impact of agroclimatic endowments, financial institutions and government infrastructure on agricultural investment and output. It is a time series and cross sectional study of 85 districts in India for the period 1960/61 to 1981/82. They have used multiple regression to measure the effect of various explanatory variables related to agro climate, infrastructure and financial institutions on the dependent variables related to agricultural output and private agricultural investments.

The study has brought out certain important findings. Expansion of branches of commercial banks accelerated private investment in agriculture like investment in tractors, pumps, milk animals, draft animals and increases fertilizer demand. Also, it is found that commercial banks preferred to be located in irrigated area and they avoided areas of drought and flood potential. The study has also brought out the negative impact of rate of interest of bank loans on agricultural investment.

***b. Regional Disparities Related to Institutional Credit to Agriculture***

RBI Bulletin (October 1969)<sup>11</sup> made an interdistrict comparison of spread of banking. It was a major attempt to compare spread of banking with agricultural development for 300 districts in India. It constructed a composite index for (a) agricultural development, (b) spread of banking and (c) extent of deposit mobilisation. The

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<sup>10</sup> H.P. Binswanger et.al. "How Infrastructure and Financial Institutions Affect Agricultural Output and Investment in India", Journal of Development Economics, 41, 1993.

<sup>11</sup> RBI, "Inter District Comparison of Spread of Banking and Agricultural Development", RBI Bulletin, October 1969.

districts were ranked accordingly. The study showed that there is considerable gaps in banking development between the districts. One limitation of this study was that the credit disbursed by the banks was not included in the composite index and hence inter district disparity of credit could not be assessed.

Tara Shukla (1971)<sup>12</sup> made an inter-state analysis of institutional finance to agriculture. The study is divided into 2 parts. In the first part she ranked the states with regard to the per hectare institutional credit. In the second part she selected a few socio-economic variables and found out the multiple correlation coefficient in order to explain the regional variation. She found that among the variables that affected the per hectare credit most in 1968/69 was assets per household. But in 1970 Fertilizer Consumption was the most significant variable correlated to the agricultural credit. She opines that this change implies a change of policy of the credit institutions. Earlier they were providing credit more on the basis of asset of the borrower. But later an agricultural input orientation had greater influence on the credit disbursement and that was a welcome change. One limitation of this study is that it gives the correlations of credit per hectare and certain socio-economic variables. An adequate explanation of variations of credit per hectare is not provided with.

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<sup>12</sup> Tara Shukla, "Regional Analysis of Institutional Finance for Agriculture", Indian Journal of Agricultural Economics, Vol.26, No.4, 1971.



S.K. Basu (1979)<sup>13</sup> did a detailed study on regional disparities of commercial banks' credit to agriculture. It is a cross sectional study of 283 selected districts for the year 1973. He found that there were wide variation across the states with regard to per hectare credit to agriculture. The gap was as wide as 12 paise and Rs.1120.80. The inter district disparity measured in terms of coefficient of variation amounted to 2.32. He attempted to trace the determinants of the regional disparity of agricultural credit by using regression method and found that certain banking, institutional and productivity variables are responsible for this variation. Basu has taken into consideration most of the relevant variables to explain the regional disparity. But since it is a cross sectional study, generalisation of the findings over time is not warranted.

A.S. Kahlon and Karam Singh (1984)<sup>14</sup> attempted to highlight the regional dimension of agricultural credit. The distribution and disparities in the institutional credit and spread of banking for the period 1951-1981 is analysed. The inter-state disparity was found quite large. In 1977-78 per hectare credit for Kerala was Rs.343/- whereas that of Assam was just Rs.6/-.

In most of the years the ranks of states remained same for institutional credit to agriculture. They found that credit was flowing more to relatively better off states. Another finding of this study is that commercial banks' credit to agriculture and that

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<sup>13</sup> S.K. Basu, 'Commercial Banks and Agricultural Credit: A Study in Regional Disparity in India', Allied Publishers, New Delhi, 1979.

<sup>14</sup> A.S. Kahlon and Karam Singh, Managing Agricultural Finance - Theory and Practice, Allied Publishers, New Delhi, 1984.

of co-operatives were additive and moved together. The correlation coefficient between the two for 1977-78 was 0.82. Thus regions which got the credit, got credit from both the sources and others didn't receive from either. But the study didn't look into the factors responsible for the regional variations.

Nilakanta Rath (1989a)<sup>15</sup> has given a detailed explanation of the decline in agricultural investment in the nineteen eighties. One reason for this decline, pointed out, was the inter-regional disparities of institutional credit to agriculture that led to the lower private capital formation in agriculture. As a result, public capital formation in agriculture which was on decline could not be complemented satisfactorily. This led to the overall decline of fixed capital formation in agriculture. It is true that an increasing proportion of private investment in agriculture was financed by institutional credit. For example, in 1973-74 31.8 percent of private fixed capital formation in agriculture was financed by institutional term loans whereas in 1984-85 it came upto 53.6 percent. But the skewness of distribution of term loans was found to be quite large. In 1984-85 six relatively developed states viz., Punjab, Haryana, Karnataka, Kerala, Andhra Pradesh and Tamil Nadu accounting for just 25 percent of the total cultivated land in the country amassed about 50 percent of term loans while another six states (4 eastern states, Madhya Pradesh and Rajasthan) accounting for 40 percent of cultivated land received only 22 percent of the term loans. The study gives detailed information regarding capital formation in agriculture, state-wise share of

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<sup>15</sup> Nilakanta Rath, "Agricultural growth and Investment in India", Journal of Indian School of Political Economy, Vol.1, No.1, 1989.

term loans etc. However as the reference period of this study was only upto 1984-85 the latter part of eighties did not figure up in the analysis.

N. Rath (1989b)<sup>16</sup> traces the growth pattern of institutional credit to agriculture with special reference to short term crop loans, during the period 1973/74 - 1984/85. Inter-state disparity between the states was considered in the case of crop loans too. The six well banked states (Punjab, Haryana, Karnataka, Kerala, Andhra Pradesh and Tamil Nadu) accounting for about 25 percent of total cultivated land in the country bagged 56 to 60 percent of short term loans while four eastern states, Madhya Pradesh and Rajasthan with 40 percent of cultivated land could avail only 16 percent of the short term credit.

The poor coverage of the credit institutions is highlighted by the study. He points out that only about 1.25 percent of cultivator households in the country received term loans from credit institutions a year. He sheds light also on the point that the nominal increase in credit is not that much significant in real terms. If in 1971-72 the value of total crop loans matched 80 percent of total value of 5 major inputs viz., fertilizers, insecticides, charges for electricity, diesel oil and irrigation, in 1975-76 the crop loans could match only 45 percent of the value of inputs. Since then the crop loans do not even match the value of fertilizer alone. This calls for greater increase in the quantum of agricultural credit. He also cautions that credit alone

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<sup>16</sup> Nilakanta Rath, "Institutional Credit for Agriculture in India", Journal of Indian School of Political Economy, Vol.1, No.1, 1989.

is 'frustrating and worse' unless it is accompanied by more government expenditure on infrastructure to expand production base.

In the light of this study we can extend the analysis of the disparity in crop loan covering all the states and covering the latter part of the 80's too.

S. Sunanda's study (1991)<sup>17</sup> of institutional agricultural credit in Kerala highlights the inter district disparity. In per hectare credit, Ernakulam and Trichur stood highest while Palghat ranked the lowest. Regional disparity of agricultural credit from commercial banks decreased between 1974/75 and 1985/86 while that of co-operatives increased. She has used Principal Component Analysis to explain the variation. 3 sets of variables are used for explaining the variation of per hectare credit from Commercial Banks and co-operatives viz., Banking Variables, Asset Variables and Productivity Variables.

One limitation of the analysis was that the same variables are used to explain variation of credit from commercial banks and cooperatives. Even in the banking variables like per capita credit, per capita deposit etc. only commercial banking variables were used to explain variations in cooperatives too, instead of considering variables relating to cooperatives.

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<sup>17</sup> S. Sunanda, 'Institutional Credit to Agriculture in Kerala - A Disaggregated Analysis', (Unpublished M.Phil Thesis), Centre for Development Studies, Trivandrum, 1991.

RBI Staff Studies (1993)<sup>18</sup> presents the current status of credit-deposits ratio (C-D Ratio) and explains the steps taken by the banks in reducing regional disparities. It is argued that the general lowering of C-D Ratio is due to the increasing cash Reserve Ratio (CRR) and Statutory Liquidity Ratio (SLR) and due to the low absorptive capacity of underdeveloped regions. The study has shown that the steps taken by banks such as branch expansion in rural centres, stipulation of 60% C-D ratio for rural centres, IRDP programmes in underdeveloped regions etc. have helped in reduction of regional disparities. The paper also gives responses to the suggestions from various circles for improving C-D ratio in underdeveloped regions. Much of the suggestions involve infrastructural development programmes and as such, the paper argues that they are duties of the state governments and not of banks.

The argument that low absorptive capacity is the major reason for lowering of C-D ratio in under developed regions is not fully acceptable because even in such regions, dependence even on non institutional credit is quite high. This means that lower C-D ratio is more because of supply constraints from the part of banks than solely due to a demand constraint.

Again, the stipulation of 60 percent C-D ratio for rural centres, that is much hailed in this paper is in fact not properly maintained by the banks. In 1991 in 12 states C-D ratio was lower

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<sup>18</sup> RBI Staff Studies (1993), Credit-Deposit Ratio: Current Status & of Future Correction (prepared by Rashmi Malhotra), 1993.

than 60 percent for the rural centres. Besides north-eastern states, relatively less developed, had the lowest C-D ratio.

*(c) Recent Developments Related to Agricultural Credit*

Certain writings that deal with the recent financial reforms in India, the expert committee reports that led to such reforms, issues like declining agricultural investment etc. have reaffirmed the significance of institutional credit to agriculture.

Khusro Committee Report (1989)<sup>19</sup> is an extensive report covering 1974 pages which reviews the agricultural credit system in India and makes some recommendations for its improvement. The Committee remarks that though the institutional credit to agriculture has grown considerably in quantity, there is a deterioration in quality. To counter this, the committee asks for higher deposit mobilisation, relative freeing of interest rates from administered rates, more effective lending and recovery and more autonomy for credit institutions.

The recommendations of the committee which can have far reaching consequence on agricultural credit are the following:

- (i) Interest rates on agricultural loans other than that for a redefined priority sector of small and marginal farmers and weaker sections of the society be freed of any regulation except a ceiling limit of 15.5 percent. The interest charged on loans for this redefined priority be 1.5 percent above the maximum interest the banks give on deposits.

<sup>19</sup> RBI, Review of the Agricultural Credit System in India - Report of the Agricultural Credit Review Committee (Ch. A.M. Khusro), 1989.

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(ii) Directed lending be restricted to the re-defined priority alone.

(iii) RRBs be merged with the sponsoring banks and a new National Co-operative Bank of India (NCBI) be set up as apex body of co-operative credit.

The committee's demand for raising interest rate and limiting directed credit is on the ground of viability and profitability of credit institutions. But in such cases a better alternative would be to share the burden of developmental programmes by the government by providing for greater refinance facility. Again, the committee's recommendation of merging of RRBs would be like suggesting amputation as the cure for sickness. Since the target group of RRBs is the weaker sections it is quite natural that they have some built-in-limitations and hence deserve some special refinance facilities which was suggested earlier by CRAFTCARD. Institution of NCBI would be useful provided it doesn't mark the working of NABARD.

S.L. Shetty (1990)<sup>20</sup> analyses the decline in agricultural investment in the eighties. Four aspects of the decline enunciated are: (1) Decline of Gross Capital Formation, (2) Decline of Investment in relation to GDP from agriculture, (3) Decline of Ratio of Public sector capital formation in agriculture to total public sector domestic capital formation and (4) The decline in fixed capital formation as percentage of GDP in agriculture. As a result the annual compound growth rate of GCF and GFCF became even

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<sup>20</sup> S.L. Shetty, "Investment in Agriculture - A Brief Review of Recent Trends", Economic and Political Weekly, 17-24 February, 1990.

negative (-1.5 percent and -2.8 percent respectively) in the period 1980/81 - 1987/88. But he found that during this period compound growth rate of institutional credit to agriculture was 15 percent. Still, private sector capital formation in agriculture grew only by 9.1 percent. The study has not gone into the discrepancies between increasing institutional credit and lowering of agricultural investment. In fact it is a major issue that needs deeper probe.

Narasimham Committee Report (1991)<sup>21</sup> presents a review of the financial system and give certain recommendations for "infusing greater competitive viability into the system" of commercial banks as a concomitant to the structural reforms initiated by the Government of India. We review here only those recommendations which are closely related to agricultural credit. They are:

- (1) Interest rate on agricultural credit be rationalised and concessional rates be phased out;
- (2) Directed Lending be gradually phased out and for the interim, directed lending be limited to redefined priority sector of small and marginal farmers and weaker sections and that too be limited to 10 percent of the aggregate lending of commercial banks;
- (3) Set up Rural Banking Subsidiaries (RBSs) to take over the rural branches of commercial banks and wherever needed the branches of RRBs too. Also the branch licensing policy be abolished.

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<sup>21</sup> RBI, Report of the Committee on Financial System (Ch. N. Narasimham), 1991.



In fact, the recommendations of Narasimham Committee is a bone of contention. While some hail it as a successful step for structural reforms many conceive it as turning the banks into a handmaiden of trade and industry, neglecting the crucial agricultural sector.

Rationalisation of interest rate would certainly make bank credit unaffordable for most of the farmers. Phasing out of directed lending can lead to starvation of funds in many backward regions, aggravating regional disparity. Setting up of RBSS would lead to reduction in volume of agricultural credit. Abolishing of branch licensing policy would adversely affect the rural areas. The reasonableness of these recommendations are to be treated with caution as the report lacks any empirical support for these recommendations.

M.V. Gadgil (1992)<sup>22</sup> makes a review of the three major recommendations of the Narasimham and Khusro Committee Reports regarding directed credit, interest rate and re-structuring of agricultural credit institutions and analyses the likely impacts of these on future of agricultural credit.

Though he agrees that these reforms may reduce the volume of institutional credit to agriculture, he is, practically, supporting these new reforms. He supports the hike in interest rates on the basis of his study of 5 major crops in six states which reveals that farmers can afford an interest rate upto 24 percent on crop

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<sup>22</sup> M.V. Gadgil, "Future of Institutional Credit to Agriculture in India: Likely Impact of Narasimham and Khusro Committee Reports", Indian Journal of Agricultural Economics, Vol.47, No.2, 1992, pp.255.

loans. Also he argues that a higher rate of interest would dissuade large farmers from borrowing agricultural credit to use in non-agricultural purposes. Besides, the co-operatives can attract more deposits by giving better interest.

But Gadgil's empirical study is a very narrow study which can't be generalised as cost structure considerably varies from region to region. Besides, even the NABARD's study shows that at the most 60 percent farmers may be able to afford an interest rate of 24 percent on term loans (Annual Report of NABARD 1989-90).

Therefore, a more comprehensive study taking into consideration many other factors affecting regional dimensions of agricultural credit may provide a better critique of these reports.

D. Narayana (1992)<sup>23</sup> makes a vehement criticism of the recommendations of Narasimham Committee Report, especially of phasing out of directed credit programmes. He argues that this recommendation has neither a logical basis nor any empirical support. He argues that the three grounds on which the phasing out of directed lending is based are not empirically valid. Firstly delinquency rate is not related to directed credit. He quotes the study of Wiggins and Rajendran to show that recovery performance of Nationalised Banks in Madurai was better than that of private banks which are more cautious on lending. Secondly, lower credit business in rural branches, as the report claims, does not stand. For instance, Credit-Deposit ratios of rural branches was not very

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<sup>23</sup> D. Narayana, "Directed Credit Programmes - A Critique of Narasimham Committee Report", Economic and Political Weekly, 8 Feb. 1992.

low. Thirdly, the argument of the Report that cost of credit, is not the most important thing but the availability of credit is like saying that "a hungry man needs access to food, does not matter what its cost".

Besides these arguments, he points out certain other positive effects of directed lending viz. it helps to reduce the role of informal moneylender, and checks the interest rate charged by the informal sector etc. His criticisms are important. But he does not touch the other side of the coin viz., the 'viability' problem of credit institutions.

D. Narayana (1993)<sup>24</sup> is a critique of the new financial reforms in agricultural credit sector which are based on Narasimham Committee Report and supported by the Discussion Paper and an article by Bhagwati and Sreenivasan both published recently by the Ministry of Finance. He argues that raising of interest rate on agricultural credit and departure from the bias towards rural and unbanked regions in branch expansion would not only negatively affect agricultural investment but also would widen regional disparities.

The criticism is reasonable. However, he hasn't presented any empirical evidence to show whether the farmers can bear a hike in the interest rate. Also, how these reforms can lead to widening of regional disparities is not explained.

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<sup>24</sup> D. Narayana, "Financial Sector Reforms - Is There a Strategy for Agricultural Credit?", Economic and Political Weekly, 16 October, 1993.

### *Conclusion*

The foregoing review brings out a number of important dimensions of agricultural credit. Rapid increase of credit institutions have resulted in credit depending in agriculture. Term loans issued by commercial banks finance larger proportions of private investment in agriculture. The expansion of commercial banks had led to increased private agricultural investments. In seventies as well as in early eighties the agricultural credit showed much regional disparities. Only few attempts were, there in explaining these disparities in the seventies.

The review also highlights some of the issues which require further and deeper studies. The dispute initiated over the new financial reforms do need further analysis. A look at these reforms in an angle of regional disparities so as to see how far these reforms would affect the existing regional disparities is of interest. A look into the regional disparities of eighties and an explanation of the same is lacking. The factors behind the decline in agricultural investment is to be probed deeper.

In the present study as we cannot take up all these issues, what we intend is to fill the gap in the existing literature with regards to the assessment and explanation of the regional disparity in the agricultural credit supplied by the commercial banks in 1980's. We hope this study would help to bring out certain suggestions for a more balanced distribution of agricultural credit across the states. It may also provide a critical evaluation of the new reforms for the agricultural credit sector.

## Chapter 3

### TRENDS AND PATTERNS OF COMMERCIAL BANKS' AGRICULTURAL CREDIT

#### *Introduction*

Since the nationalisation of the major commercial banks and the entry of Scheduled Commercial Banks (henceforth SCBs) into an active agricultural finance, the supply of agricultural credit has registered an enormous increase. As we saw in the previous chapter, many of the studies on agricultural credit have acclaimed this fact. One major reason behind the expansion of agricultural credit was the phenomenal growth of banking infrastructure. SCB offices have spread far and wide in the country, especially in the rural and semi-urban centres. Bank offices which were just around 8300 in 1969 increased to about 60,000 in 1990.

Along with this increase in bank offices deposit mobilisation and credit disbursal grew considerably. While bank deposits grew from about Rs.4600 crores to 173100 crores between 1969 and 1990, bank credit registered an increase from Rs. 3600 crores to Rs. 104000 crores. Agricultural credit supplied by SCBs was just above 180 crores in 1969. But in 1990 the amount reached about 16,000 crores.

All these are some highlights of the SCBs' achievements. But there are many other issues involved in this agricultural credit scenario. Certain questions await clear answer. For instance, one may legitimately ask what was the pace of the growth of agricultural credit in the two decades? (Seventies and eighties). How was the regional distribution of banking infrastructure? Was it more even or quite skewed? Whether the agricultural credit

supply of SCBs was favourable to the small and marginal farmers or to the richer sections of the society? Did the agricultural credit show a regional balance across the states so as to facilitate the faster growth of agriculturally backward regions? In other words, whether the quantitative growth of agricultural credit carried with it a qualitative improvement as well? These are some major issues which call for a closer look into the trends and patterns of agricultural credit.

The organisation of this chapter is as follows: In Section 1 growth of banking infrastructure is analysed. Section 2 traces the trends and patterns of bank deposits and credit. Various dimensions of the growth of agricultural finance are discussed in Section 3. In Section 4 regional disparity in the Commercial Banks' agricultural credit is dealt with and in Section 5 the association of agricultural credit with concentrations of rural assets and in large holdings is looked into.

### *3.1 Growth of banking infrastructure:*

Since the nationalisation of 14 major commercial banks the SCBs have taken up a large scale branch expansion which we may even qualify as 'Operation Bank Branch'. As a result the branches of SCBs have multiplied several fold within a few years. In 1969 there were 8262 bank offices of SCBs in the country. By 1979 the number skyrocketed to 30202 and again in 1989 it reached 57699 (Table 3.1). That means, within 2 decades the bank offices have increased sevenfold! By March 1992 their number stood at 60528.

Table 3.1  
Progress of Commercial Banks

Important Indicators	1969	1974	1979	1984	1989	1990
1. No. of Commercial Banks	89	83	136	247	278	275
a. Scheduled Commercial Banks of which Regional Rural Banks	73	74	131 56	243 162	274 196	271 196
b. Non-Scheduled Commercial Banks	16	9	5	4	4	4
2. No. of Offices in India of which RRB Offices	8262	16936	30202 1965	45332 8213	57699 14090	59815 14651
3. Population per Office (in '000s)	64	35	21	16	14	14
4. Deposits of Scheduled Commercial Banks (Rs. Crores)	4646	10756	28671	64620	147854	173085
5. Credit of Scheduled Commercial Banks (Rs. Crores)	3599	7858	19116	43613	89080	104011
6. Per Capita Deposit of Scheduled Commercial Banks (in Rs.)	88	183	447	878	1821	2093
7. Per Capita Credit of Scheduled Commercial Banks (in Rs.)	68	134	298	593	1097	1258
8. Deposit as Percent of National Income (at current prices)	15.5	20	33.7	36.5	45.7	49.8
9. Advances to Priority Sectors (Rs. Crores)	504	1901	5906	16303	34219	38649
10. Credit-Deposit Ratio	77.5	73.1	66.7	67.5	60.3	60.1

Source : 1. RBI, Banking Statistics : Basic Statistical Returns (B.S.R.) June, 1979 and 1990.  
2. RBI, Report on Currency and Finance, Vol. 1, 1978-79, 1988-89, 1989-90.

It is to be specially noted that a major portion of the new bank offices opened after 1969 were in the rural areas followed by semi-urban centres which reveals the definite policy measure of bringing banking to the unbanked and under banked regions of the country. A look at the population group-wise distribution of bank offices (Table 3.2) shows that while in 1969 only 22.17 percent of the total bank offices were located in rural centres, by 1990, 58

percent of the bank offices are in rural centres. If we add together the rural and semi-urban bank offices we can see that by 1990, 71 percent of the bank offices are located in rural and semi-urban centres. As a result, proportion of bank offices in the urban and metropolitan centres has considerably declined. The urban/ metropolitan bank offices that counted 38 percent of total banks in 1969 declined to 23 percent by 1990. In 1970s as well as eighties the branch expansion in rural centres registered a very high annual growth rate (35.7 percent and 11.7 percent respectively) in relation to other centres.

However, the post nineties tell a different story. During 1990-92, growth rate of urban bank offices has overtaken that of rural bank offices. Even though this shift of trend attunes to the new financial reforms of the Government of India, how far



Table 3.2  
Population-Wise Distribution of Commercial Bank Offices (including RRBs)

Year	Rural		Semi-Urban		Urban		Metropolitan		Total
	No of Offices	% to Total	No of Offices	% to Total	No of Offices	% to Total	No of Offices	% to Total	No of Offices
1969	1832	22.17	3322	40.21	1447	17.51	1661	20.10	8262
1970	3062	30.22	3695	36.47	1583	15.63	1791	17.68	10131
1971	4279	35.62	4016	33.43	1778	14.80	1940	16.15	12013
1972	4814	35.34	4385	32.19	2323	17.05	2100	15.42	13622
1973	5561	36.20	4723	30.74	2573	16.75	2505	16.31	15362
1974	6165	36.40	5089	30.05	2899	17.12	2783	16.43	16936
1975	6810	36.36	5569	29.73	3263	17.42	3088	16.49	18730
1976	7687	36.17	6387	30.06	3769	17.74	3407	16.03	21250
1977	9532	38.43	7211	29.07	4263	17.19	3796	15.31	24802
1978	11802	42.13	7586	27.08	4542	16.21	4086	14.58	28016
1979	13333	44.15	7845	25.98	4717	15.62	4307	14.26	30202
1980	15101	46.58	8079	24.92	4856	14.98	4384	13.52	32420
1981	17650	49.43	8426	23.60	5126	14.36	4505	12.62	35707
1982	20394	52.06	8764	22.37	5359	13.68	4660	11.89	39177
1983	22678	53.89	9036	21.47	5577	13.25	4788	11.38	42079
1984	25372	55.97	9262	20.43	5769	12.73	4929	10.87	45332
1985	28782	55.37	10460	20.12	7542	14.51	5194	9.99	51978
1986	29718	55.79	10567	19.84	7195	13.51	5785	10.86	53265
1987	30201	56.09	10629	19.74	7215	13.40	5795	10.76	53840
1988	31151	56.22	11098	20.03	7338	13.24	5827	10.52	55414
1989	33014	57.22	11165	19.35	7524	13.04	5995	10.39	57698
1990	34494	57.67	11255	18.82	7582	12.68	6057	10.13	59815
1991	35187	58.46	11269	18.72	7615	12.65	6119	10.17	60190
1992	35275	58.28	11308	18.68	7788	12.87	6157	10.17	60528
Compound Annual Growth Rate (%)									
1970-80	35.7		10.8		18.8		13.2		20.0
1980-90	11.7		3.6		5.1		3.5		7.6
1990-92	0.8		0.2		0.9		0.6		0.6

Source: 1. RBI, Banking Statistics : B.S.R. (June 1973 to June 1990).  
2. RBI, Statistical Tables Relating to Banks in India 1970 to 1973.  
3. RBI, Report on Currency and Finance, Vol. 1, 1990-91 and 1991-92.

it would affect the rural credit scenario in the coming years is to be seriously looked into.

Thanks to the significant increase in bank offices, population per bank office has come down considerably. In 1969 sixty four thousand people had only one bank office. But in 1990, 14 thousand

people have a bank office (Table 3.1). Thus bank office density has enhanced remarkably.

#### *Regional distribution of bank offices*

Table 3.3 gives a look at the bank branch expansion across the states. During the two decades and more specially in the first decade since 1969 all the states have registered a very high percent age of increase in the number of banks. The percent age of increase in the rural branches was even beyond comparison with that in the other centres. Another important feature revealed in the table is that the relatively under banked states in 1969 like J&K, Assam, Bihar, Orissa, West Bengal etc. recorded a decadal increase of above 2000 percent!. (In the case of Kerala a negative growth rate is seen in rural banks during 1979-89. Though this looks strange at first sight, it seems more meaningful when we consider that between the two census years of 1981 and 1991, Kerala was the state recording highest annual growth rate of urbanisation (4.9 percent)<sup>1</sup>. That means many of the rural centres might have become semi urban or urban centres. In fact, highest growth rate in semi-urban banks is claimed by Kerala during this period. Similarly in the case of Haryana, the negative growth rate in semi-urban bank offices is made up by a higher increase in the urban bank offices).

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<sup>1</sup> CMIE, September 1992, Table 1.6

Table 3.3  
State and Population-wise distribution of Commercial Bank Offices

States	Rural			% Change		Semi Urban			% Change		Urban/Metropolitan			% Change	
	1969	1979	1989	1969-79	1979-89	1969	1979	1989	1969-79	1979-89	1969	1979	1989	1969-79	1979-89
AP	106	1110	2579	947.2	132.3	255	643	922	152.2	43.4	202	619	1058	206.4	70.9
ASS	9	234	763	2500.0	226.1	44	163	224	270.5	37.4	15	49	124	226.7	153.1
BTH	30	857	3328	2756.7	288.3	157	464	697	195.5	50.2	85	279	519	228.2	86.0
GOJ	199	909	1615	356.8	77.7	317	623	721	96.5	15.7	235	639	1034	171.9	61.8
HAR	45	366	733	713.3	100.3	95	264	252	177.9	-4.5	32	89	281	178.1	215.7
HTM	24	252	592	950.0	134.9	17	61	83	258.8	36.1	0	0	0	0.0	0.0
J&K	5	237	540	4640.0	127.8	10	40	73	300.0	82.5	20	95	150	375.0	57.9
KAR	189	1189	2278	529.1	91.6	304	600	803	97.4	33.8	262	742	1188	83.2	60.1
KER	117	817	604	598.3	-26.1	296	918	1767	210.1	92.5	132	325	506	146.2	55.7
MP	59	821	2938	1291.5	257.9	159	422	670	165.4	58.8	126	388	650	207.9	67.5
MAH	121	877	2393	624.8	172.9	330	751	817	127.6	8.8	558	1471	2355	163.6	60.1
ORT	18	454	1422	2422.2	213.2	43	159	259	269.8	62.9	40	111	223	177.5	100.9
PUN	91	735	1156	707.7	57.3	147	430	486	192.5	13.0	110	302	497	174.5	64.6
RAJ	115	703	1895	511.3	169.6	154	354	551	129.9	55.6	96	262	502	172.9	91.6
TK	109	890	1838	716.5	106.5	480	828	1055	72.5	27.4	443	956	1431	115.8	49.7
UP	128	1645	5381	1185.2	227.1	312	791	1190	153.5	50.4	299	938	1607	213.7	71.3
WB	22	620	2058	2718.2	231.9	148	410	608	177.0	48.3	335	895	1295	167.2	44.7
TWDTA	1462	13081	32840	794.7	151.1	3324	8097	11409	143.6	40.9	3385	9024	14744	166.6	63.4

Source : RBI, Banking Statistics, B.S.R., June 1979 and June 1989.

However, the preferential treatment of the under banked states got a set back in the Post nineties. Between 1991 and 1992 the number of bank offices opened in the six well banked states (Punjab, Haryana, Andhra Pradesh, Kerala, Karnataka and Tamilnadu) was higher than the number in six less banked states (Assam, Bihar, Orissa, West Bengal, Madhya Pradesh and Rajasthan).

Table 3.4 speaks for itself about population per bank office. To cite an example, consider the case of Manipur. In 1969 there was only one bank there for about 5 lakhs people. Since, by 1993 every 17,000 people has a bank office here. Himachal Pradesh has the highest bank density (Population per bank office is 6000).

Table 3.4  
Population per Bank Office ( Population in thousands)

STATES	1969	1974	1984	1989	1993
AP	75	35	15	12	12
ASS	198	79	28	18	16
BIH	207	84	22	15	14
GUJ	34	19	12	10	10
HAR	57	26	13	10	10
HIM	80	22	9	6	6
J&K	114	28	9	8	8
KAR	38	18	11	9	9
KER	35	18	10	9	9
MP	116	51	16	13	12
MAH	44	25	14	12	11
MAN	497	119	28	21	17
MEG	147	56	14	9	8
ORI	212	86	18	14	13
PUN	42	16	9	8	8
RAJ	70	35	16	12	11
TN	37	23	13	12	11
TRI	276	86	23	13	12
UP	119	53	19	14	13
WB	87	45	20	14	13
INDIA	65	32	15	12	11
CV	0.88	0.63	0.36	0.29	0.24

Source : 1. RBI Banking Statistics : B.S.R., June 1974, June 1984 and June 1989.  
2. Report on Currency and Finance, Vol 1, 1992-93.  
3. Census of India, 1961, 1971, and 1981.

The establishment of Regional Rural Banks (RRBs) deserves a special mention. They are in fact an offshoot of SCBs and belong to the family of SCBS. They are specially constituted to finance the weaker sections of the society and the small and marginal farmers. RRBs have also took up a large scale branch expansion. Even though the first RRB was set up only on 2 October 1975, within the 15 years the number of RRBs increased to 196 and their branches to 14651 (by 1990) (Table 3.1).

In short, over the years since 1969 across the states and in the country as a whole banking infrastructure has grown considerably with a special bias towards the rural and under banked regions. How this development has stimulated the banking activities in the country shall be analysed next.

### *3.2 Trends and patterns of bank credit and bank deposit:*

The phenomenal increase in the bank offices was accompanied by tremendous increase in the bank deposit and bank credit. Nearness of banks naturally stimulates banking habit of the people. Bank deposits increased manyfold over the years. In 1969 the bank deposits was only Rs. 4646 crores in 1989 it became Rs. 147854 crores (Table 3.1). That is, over 2 decades bank deposits increased about 3100 percent! As a proportion to National Income bank deposits have grown from about 16 percent (1969) to 50 percent in (1990). Parallel to this growth of deposits, banks expanded their credit operations also considerably. Total bank credit grew from Rs. 3599 crores to as Rs. 89080 crores between 1969 and 1989 - a growth of about 2400 percent.

One of the socially desirable features of the bank credit operation is the credit to priority sectors. While in 1969 only 14 percent of the bank credit went to this sector, in 1989 44.6 percent of the total bank credit was in the form of priority sector advance. (This was even above the stipulated rate of 40 percent). However, a declining trend is seen in this too in the post nineties.

### State-wise analysis

In Tables 3.5 and 3.6 distribution of absolute amount of deposits and credits and their percentage to total across the states is given. All the states have recorded positive growth rate during the period 1969 and '89. All through these years Maharashtra stood first in both credit disbursement and deposit mobilisation. In fact, 20 percent of the total bank deposits came from Maharashtra. With respect to credit also, nearly this same percentage share was maintained. North Eastern States like Assam, Orissa, J&K, Tripura, Manipur, Meghalaya etc had low share of deposits as well as credit.

Table 3.5  
State-wise distribution of Deposits of Scheduled Commercial Banks

States	1969		1979		1984		1989		Compound Annual Growth Rate (%)	
	Amount	% to Total	Amount	% to Total	Amount	% to Total	Amount	% to Total	1969-79	1979-89
AP	852.13	4.60	1450.45	5.06	3728.03	5.80	8038.77	5.47	7.02	5.36
ASS	160.20	0.86	295.80	1.03	704.10	1.09	1645.14	1.12	8.46	5.72
BTH	739.08	3.99	1177.47	4.11	2796.36	4.35	7154.63	4.87	5.93	6.09
GUJ	1404.28	7.57	2045.30	7.13	4416.61	6.87	9048.80	6.15	4.56	5.12
HAR	274.16	1.48	485.16	1.69	1169.44	1.82	2934.57	2.00	7.70	6.01
HTH	65.97	0.36	151.80	0.53	410.40	0.64	1047.84	0.71	13.01	6.08
J&K	139.17	0.75	261.50	0.91	580.10	0.90	1385.60	0.94	8.79	5.81
KAR	905.84	4.88	1440.38	5.02	3218.43	5.00	7100.86	4.83	5.90	5.47
KER	683.07	3.68	1119.00	3.90	2632.74	4.09	5679.57	3.86	6.38	5.36
MP	480.04	2.59	861.23	3.00	2160.58	3.36	5495.68	3.74	7.94	6.07
MAH	4007.83	21.61	5615.36	19.58	11611.70	18.05	27189.22	18.49	4.01	5.73
MAN	11.68	0.06	18.96	0.07	20.68	0.03	81.69	0.06	6.23	7.47
MEG	23.36	0.13	36.63	0.13	90.15	0.14	261.80	0.18	5.68	6.56
ORI	147.67	0.80	283.50	0.99	724.39	1.13	1875.99	1.28	9.20	6.14
PUN	14.04	4.39	1430.11	4.99	3462.99	5.38	7758.25	5.28	7.57	5.54
RAJ	371.99	2.01	613.34	2.14	1579.66	2.46	3931.48	2.67	6.49	5.98
TN	1382.31	7.45	1926.08	6.71	4191.58	6.52	9362.56	6.37	3.93	5.52
TRT	13.80	0.07	25.16	0.09	65.47	0.10	206.59	0.14	8.23	6.83
UP	1481.98	7.99	2614.82	9.12	6450.01	10.03	15185.42	10.33	7.64	5.75
WB	2279.94	12.29	3347.87	11.67	6534.95	10.16	14030.12	9.54	4.68	5.34
OTHERS	2305.40	12.43	3483.67	12.15	7767.68	12.08	17616.71	11.98	5.11	5.59
INDIA		100.00		100.00		100.00		100.00	5.47	5.63

Source : RBT, Banking Statistics : B.S.R., June 1979, June 1984 and June 1989.

Table 3.6  
Overall Outstanding Credit of Scheduled Commercial Banks as per Utilisation  
(State-wise Distribution)

(Rs. Crores)

States	1969		1979		1984		1989		Compound Annual Growth Rate (%)	
	Amount	% to Total	Amount	% to Total	Amount	% to Total	Amount	% to Total	1969-79	1979-89
AP	161.79	4.50	1050.88	5.30	2944.57	6.48	6383.32	7.14	54.95	50.74
ASS	27.63	0.77	186.30	0.94	621.64	1.37	1325.38	1.48	57.43	61.14
BIH	50.37	1.40	583.62	2.94	1213.84	2.67	2385.44	2.67	105.87	30.87
GUJ	122.21	3.40	1143.23	5.77	2398.04	5.27	5318.67	5.95	83.55	36.52
HAR	29.99	0.83	527.15	2.66	1329.20	2.92	2231.36	2.50	165.78	32.33
J&K	4.18	0.12	79.66	0.40	367.92	0.81	476.23	0.53	180.57	49.78
KAR	187.55	5.21	1148.53	5.79	2727.39	6.00	6208.30	6.95	51.24	44.05
KER	113.71	3.16	758.79	3.83	1947.71	4.28	3744.77	4.19	56.73	39.35
MP	60.41	1.68	498.32	2.51	1418.03	3.12	3826.28	4.28	72.49	66.78
MAH	160.53	4.46	3963.25	19.99	10976.00	24.14	18687.68	20.91	236.89	37.15
ORI	16.66	0.46	207.08	1.04	696.22	1.53	2049.65	2.29	114.30	88.98
PUNJ	76.70	2.13	1008.58	5.09	2589.48	5.70	3374.63	3.78	121.50	23.46
RAJ	44.75	1.24	446.60	2.25	1249.21	2.75	2535.97	2.84	89.80	46.78
TV	418.79	11.64	1748.54	8.82	3767.58	8.29	9216.92	10.31	31.75	42.71
UP	160.48	4.46	1383.27	6.98	3505.46	7.71	6491.93	7.26	76.20	36.93
WB	716.73	19.92	1846.94	9.32	3139.63	6.91	7663.15	8.58	15.77	31.49
Others	1246.32	34.63	3241.63	16.35	4576.91	10.07	7440.81	8.33	16.01	12.95
INDIA	3598.80	100.00	19822.37	100.00	45468.83	100.00	89360.49	100.00	45.08	35.08

Source : RBT, Banking Statistics : B.S.R., June 1979, June 1984 and June 1989.

Regarding the growth of bank credit one interesting feature to be observed is that while during 1969-79 the relatively developed states like Maharashtra, Haryana, Punjab etc had a higher growth rate, where as between 1979 and 1989 the relatively under developed states like Orissa, Assam, Madhya Pradesh etc. fared better. In Section 4 we shall see that this phenomenon has helped in the reduction of interstate disparity in the bank credit.

### 3.3 Agricultural finance

In the sectoral deployment of credit, we are more interested to see the share of agricultural credit. Credit of SCBs go to various

sectors like Agriculture, Industry, trade etc. A comparison of the share of credit going to Agriculture and Industry reveals that between 1974 and 1989 share of agriculture in the total bank credit increased from 9 percent (Rs. 709 crores) to 17 percent (Rs. 15266 crores) whereas the share to industry declined from 63 percent (Rs. 5016 crores) to 47 percent (Rs. 41655 crores). (See table 3.7). (Needless to say that a reversal of trend is visible in the nineties).

Table 3.7  
Sectoral Deployment of Scheduled Commercial Banks' Outstanding Credit and  
Its Percent Share to Total Bank Credit

(Rs.Crores)

Years	Agriculture		Industry		Others		Total	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
1974	708.74	8.86	5016.08	62.71	2274.24	28.43	7999.06	100.00
1979	2521.14	13.16	8962.69	46.77	7678.81	40.07	19162.64	100.00
1984	7654.77	17.67	18342.51	42.34	17328.42	40.00	43325.70	100.00
1989	15265.80	17.34	41655.00	47.32	31106.27	35.34	88027.07	100.00
1991	19997.60	18.66	61689.00	57.55	25504.40	23.79	107191.00	100.00
1992	20489.70	17.20	65240.00	54.76	33406.30	28.04	119136.00	100.00

Source : 1. RBI, Banking Statistics : B.S.R., June 1974, June 1979, June 1984 and June 1989.

2. RBI, Report on Currency and Finance, Vol. 1, 1990-91 and 1991-92.

The increasing share of agricultural credit was visible in all the states. As seen from Table 3.8, all the states registered positive growth rate during the period 1974-1989. In fact the increase was more between 1974-80 than in the eighties. Though Maharashtra received the highest amount of agricultural credit in 1974, in the eighties Andhra Pradesh came first. Tamilnadu also improved its share considerably. Compound annual growth rate of growth rate of Orissa, Himachal Pradesh and Jammu & Kashmir was conspicuous because of the lower base amount in 1974. Growth rate for Assam was very low in 1974-80, though it picked up by 1989.



Table 3.8  
State-wise Distribution of Commercial Banks' Outstanding Credit to  
Agriculture and Its Percentage

(Rs. in Crores)

States	1974		1980		1989		Compound Annual Growth Rate (%)	
	Amount	Percent	Amount	Percent	Amount	Percent	1974-80	1980-89
HAR	16.60	2.34	151.00	4.79	654.00	4.28	115.66	33.31
HIM	1.00	0.14	13.00	0.41	74.00	0.48	171.43	46.92
J&K	0.70	0.10	11.00	0.35	44.00	0.29	210.20	30.00
PUN	37.90	5.35	230.00	7.30	940.00	6.16	72.41	30.87
RAJ	18.70	2.64	128.00	4.06	751.00	4.92	83.50	48.67
ASS	41.80	5.90	46.00	1.46	217.00	1.42	1.44	37.17
BTH	18.50	2.61	128.00	4.06	626.00	4.10	84.56	38.91
ORI	4.80	0.68	82.00	2.60	529.00	3.47	229.76	54.51
WB	72.20	10.19	142.00	4.51	1188.00	7.78	13.81	73.66
MP	22.10	3.12	143.00	4.54	922.00	6.04	78.15	54.48
UP	81.60	11.51	331.00	10.50	1413.00	9.26	43.66	32.69
GUJ	47.30	6.67	167.00	5.30	758.00	4.97	36.15	35.39
MAH	108.40	15.30	325.00	10.31	1396.00	9.14	28.55	32.95
AP	61.50	8.68	386.00	12.25	1672.00	10.95	75.38	33.32
KAR	65.10	9.19	265.00	8.41	1468.00	9.62	43.87	45.40
KER	27.00	3.81	145.00	4.60	675.00	4.42	62.43	36.55
TN	72.90	10.29	295.00	9.36	1617.00	10.59	43.52	44.81
Others	10.60	1.50	164.00	5.20	322.00	2.11	206.74	9.63
INDIA	708.70	100.00	3152.00	100.00	5266.00	100.00	49.25	38.43
<b>Six Well Banked States</b>								
	281.00	39.65	1472.00	46.70	7026.00	46.02	60.55	37.73
<b>Six Less Banked States</b>								
	178.00	25.12	669.00	21.22	4233.00	27.73	39.41	16.60

Source : RBI, Banking Statistics : B.S.R., June 1974, June 1980 and June 1989.

Note : Punjab, Haryana, and four southern states of AP, TN, Kerala, and Karnataka are included as well banked and four eastern states of Assam, Orissa, Bihar, WB and MP and Rajasthan are considered in the less banked group.

### *Total institutional Credit to Agriculture*

The two major sources of agricultural credit in the country are the SCBs and Co-operatives. In order to see the total growth of agricultural credit let us look at the share of both these institutions. From table 3.9 we observe that agricultural credit has grown from Rs. 985 crores to 37574 crores between 1970 and 1991. That means institutional credit to agriculture has

**Table 3.9**  
**Progress of Institutional Credit for Agriculture**  
**Loans Outstanding from 1970 to as on June-30)**  
**(Rs in Crores)**

Year	Co-operatives	Commercial Banks	Regional Rural Banks	All Institutions
1970	643	342	NA	985
1971	744	382	NA	1126
1972	1733	439	NA	2172
1973	1978	532	NA	2510
1974	2168	644	NA	2812
1975	2455	684	NA	3139
1976	2594	1092	2	3686
1977	3053	1381	20	4434
1978	3454	2238	66	5692
1979	3864	2459	167	6323
1980	4193	3097	181	8189
1981	4953	4042	197	10123
1982	5661	4699	294	11654
1983	6493	5453	405	13643
1984	7435	6672	536	16137
1985	8562	8072	727	19035
1986	9833	9782	904	22440
1987	11402	10716	1095	25505
1988	10660	12934	1349	27771
1989	11789	14381	1595	31224
1990	13020	16712	1882	35572
1991	12886	18221	1943	37574

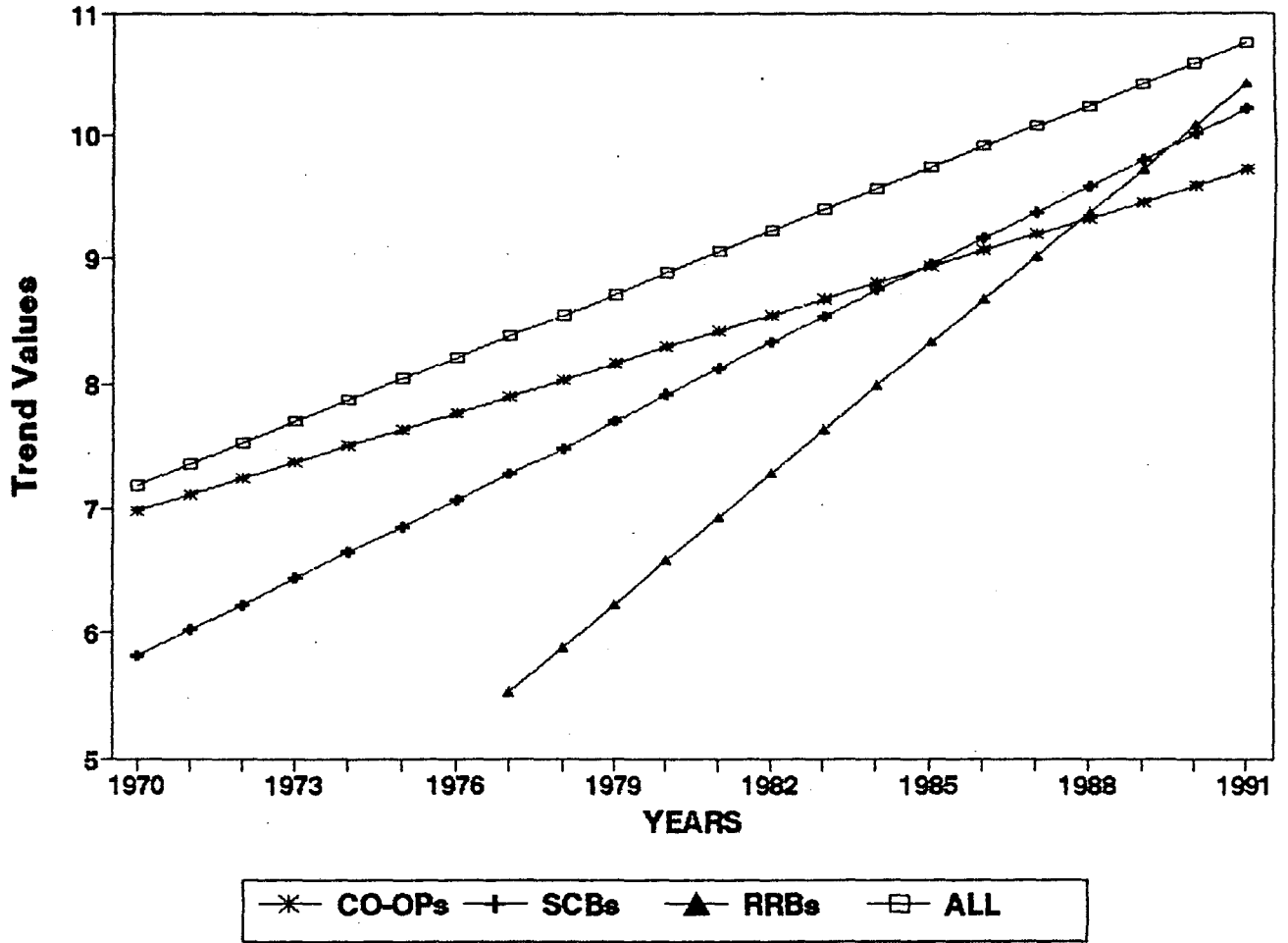
Source: Report on Currency and Finance, Various Issues  
 (from 1969-70 to 1991)

NA : Not applicable.

\* It includes credit from state Govt's and Rural electrification corporations also.

registered a compound annual rate of growth of 177 percent. Another point to be noted from the table is that the growth rate of co-operative agricultural credit has decreased in the late 80's and from 1988 onward the SCBs have dominated over the co-operatives in the quantum of agricultural credit. The credit given by Regional Rural banks is shown separately in the table. If we add this with that of SCBs we see that during of the second half of eighties SCBs' agricultural credit was much higher in quantum as well as in growth rate than that of co-operatives. The rising trend of institutional credit to agriculture is visible in fig. 3.1.

**FIG. 3.1: TRENDS IN AGRICULTURAL CREDIT DURING 1970-1991**



*Direct and indirect finance to agriculture:*

Agricultural credit given by the credit institutions are of two types - Direct finance and Indirect finance. Direct finance is credit given directly to the farmers by the credit institutions. Indirect finance refers to credit given for distribution of fertilizers, loans to electricity boards, loans to state sponsored corporations for on-lending to weaker sections of the agricultural sector etc. Share of the indirect finance is very small compared to direct finance. In the supply of direct and indirect finance to agriculture we can observe two definite trends as we move from 1976 to 1989 (Table 3.10). In total direct finance the share of co-operative gradually decline vis-a-vis an increasing share by SCBs. On the contrary, in the indirect finance share of co-operatives gradually increases while that of SCBs declined.

Table 3.10  
Direct and Indirect Finance to Agriculture from Scheduled Commercial Banks,  
Co-operatives and All Institutions

(Rs. in Crores)

Years	Direct			Indirect			Grand Total		
	SCBs	CO-OPs	ALLI	SCBs	CO-OPs	ALLI*	SCBs	CO-OPs	ALLI
1976	790.03	2357.10	3147.40	301.50	237.30	854.30	1091.53	2594.40	4001.70
1979	1824.60	3352.70	5177.30	633.70	505.40	1776.60	2458.30	3858.10	6953.90
1984	5789.00	5735.00	11524.00	1419.00	1700.00	4613.00	7208.00	7435.00	16137.00
1989	14392.00	9408.00	23800.00	1585.00	2382.00	7424.00	15977.00	11790.00	31224.00
Compound Annual Growth Rate (%)									
1976-79	43.65	14.08	21.50	36.73	37.66	35.99	41.74	16.24	24.59
1979-84	43.46	14.21	24.52	24.78	47.27	31.93	38.64	18.54	26.41
1984-89	29.72	12.81	21.31	2.34	8.02	12.19	24.33	11.71	18.70

Source : RBI, Report on Currency and Finance, Vol. 1, (Various Years).

Note : \* Represents State government loans and loans given by Rural electrification corporation.

Table 3.11 sheds light on the sharing of direct and indirect finance by the states. In 1974 West Bengal received the highest percent of direct finance (12.67 percent) followed by Maharashtra and Tamilnadu. But in 1979 highest percent of direct finance went to AP and in 89 to Tamilnadu. In the case of indirect finance while UP came first in 1974, Maharashtra came to the fore in 1979 and 1989.

Table 3.11  
Percent Share of States in Scheduled Commercial Banks'  
Direct and Indirect Finance

States	1974		1979		1989	
	Direct	Indirect	Direct	Indirect	Direct	Indirect
HAR	2.44	1.70	4.95	3.15	4.01	6.24
HIM	0.17	0.01	0.45	0.07	0.51	0.31
J&K	0.07	0.18	0.38	0.14	0.30	0.18
PUN	3.25	11.92	6.65	8.34	6.30	5.15
RAJ	3.11	1.17	4.39	1.93	4.95	4.73
ASS	7.63	0.47	3.06	0.68	1.39	1.66
BTH	2.79	2.05	3.94	4.33	4.24	3.11
ORI	0.63	0.82	2.03	2.83	3.41	3.86
WB	12.67	2.40	7.43	2.99	8.39	3.40
MP	3.35	2.40	4.76	2.54	5.96	6.66
UP	6.88	26.07	9.71	11.84	9.20	9.68
GUJ	6.70	6.60	5.10	5.13	4.79	6.17
MAH	11.96	19.93	9.13	14.72	7.95	17.68
AP	8.98	7.72	12.66	7.56	10.96	10.90
KAR	10.06	6.43	8.67	7.66	9.68	9.18
KER	4.72	0.94	4.95	3.06	4.76	1.96
TN	11.03	7.95	9.94	5.46	11.33	5.35
Others	3.56	1.27	1.79	17.59	1.87	3.77
INDIA	100.00	100.00	100.00	100.00	100.00	100.00

Source : Computed from B.S.R. (RBI) data, June 1974, 1979 and 1989.

### *Short term credit and term credit*

Agricultural credit is classified, period-wise, into short term credit (Production credit) and Term credit (Investment credit)<sup>2</sup>.

<sup>2</sup>

Agricultural credit is generally divided into short term credit and term credit. Short term credit, also called production credit, is given for purchase of production inputs like seeds fertilizers etc. and for meeting the cost of cultivation like labour charges irrigation charges etc. They are normally repayable within a period of 12 months and in certain cases within 15 to 18 months depending on the harvesting and marketing of the particular crop.

Term loans, also called Investment loans, consists of Medium and Long term loans. They are granted for development purposes like purchase of tractors, pump sets, plough animals, and other agricultural implements, for improving land, for development of irrigation potentials etc. Repayment period extends from 3 to 10 years and some times even longer, (Ref. RBI, Report on

Table 3.12  
Flow and Stock of Short Term Agricultural Credit from  
Scheduled Commercial Banks  
(In Nominal Terms)

(Rs. crores)

States	1979-80		1988-89		Compound Annual Growth Rate(%)	
	FLOW	STOCK	FLOW	STOCK	FLOW	STOCK
HAR	3.40	8.70	12.40	23.80	29.41	19.28
HTM	1.30	2.60	1.90	8.00	5.13	23.08
J&K	0.50	2.20	1.50	15.20	22.22	65.66
PUN	16.30	26.70	68.10	108.40	35.31	34.00
RAJ	2.50	6.40	17.30	41.20	65.78	60.42
ASS	0.10	2.70	2.50	11.00	266.67	34.16
BIH	3.10	17.80	21.90	69.60	67.38	32.33
ORI	7.10	20.40	32.50	107.20	39.75	47.28
WB	7.20	40.90	28.50	128.50	32.87	23.80
MP	4.60	14.00	25.90	63.90	51.45	39.60
UP	11.40	38.50	80.50	170.20	67.35	38.01
GUJ	8.00	38.40	69.00	132.80	84.72	27.31
MAH	12.00	57.50	98.50	274.80	80.09	41.99
AP	57.50	229.00	473.20	891.40	80.33	32.14
KAR	18.40	78.60	131.30	314.70	68.18	33.38
KER	18.40	70.20	226.20	304.80	125.48	37.13
TN	46.60	163.60	450.70	700.20	96.35	36.44
INDIA	220.80	829.50	1765.30	3414.00	77.72	34.62
CV	1.21	1.24	1.39	1.22		

Source : Report on Currency and Finance, Vol. 2, 1981-82 and 1990-91.

Note : Flow refers to credit advanced during the year and Stock refer to outstanding credit as on end June.

Both short term and term credit registered a positive growth at All India level and state level. In Table 3.12 changes in the flow and stock<sup>3</sup> of production credit from 1979/80 to 1988/89 is given in nominal terms. All India annual growth rate of stock was 34.6 percent and of flow 77.7 percent. All the states registered a

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<sup>3</sup> 'Flow' refers to the credit disbursed during the year and 'stock' refers to the outstanding credit as on year end.

positive growth rate. A look at the same data in real terms<sup>4</sup> (Table 3.13) reveal that the all India growth rate in stock is only 8 percent and that of flow 26 percent.

Table 3.13  
Flow and Stock of Short Term Agricultural Credit from  
Scheduled Commercial Banks (In real terms)  
(Rs. Crores)

States	1979-80		1988-89		Compound Annual Growth Rate(%)	
	Flow	Stock	Flow	Stock	Flow	Stock
HAR	2.8	7.2	4.3	8.3	5.9	1.6
HIM	1.1	2.2	0.7	2.8	-4.3	3.2
J&K	0.4	1.8	0.5	5.3	2.9	21.0
PUN	13.5	22.1	23.6	37.6	8.3	7.8
RAJ	2.1	5.3	6.0	14.3	21.1	18.8
ASS	0.1	2.2	0.9	3.8	105.2	7.8
BIH	2.6	14.7	7.6	24.1	21.8	7.1
ORI	5.9	16.9	11.3	37.2	10.2	13.3
WB	6.0	33.9	9.9	44.6	7.3	3.5
MP	3.8	11.6	9.0	22.2	15.1	10.1
UP	9.4	31.9	27.9	59.0	21.8	9.5
GUJ	6.6	31.8	23.9	46.0	29.0	5.0
MAH	9.9	47.6	34.2	95.3	27.1	11.1
AP	47.6	189.6	164.1	309.1	27.2	7.0
KAR	15.2	65.1	45.5	109.1	22.1	7.5
KER	15.2	58.1	78.4	105.7	46.1	9.1
TN	38.6	135.4	156.3	242.8	33.9	8.8
INDIA	182.8	686.7	612.1	1183.8	26.1	8.0

Source : Report on Currency and Finance, Vol. 2, 1981-82 and 1990-91.

Note : Nominal amounts of credit are converted to real terms using 1977-78 wholesale prices of Fertilizers.

Tables 3.14 and 3.15 also tells the same story with respect to Term credit to agriculture for the time points 1979/80 and 1988/89. In nominal as well as in real terms all India growth rate was positive (58.20 for stock and 19.27 for flow in nominal terms and 21.63 for stock and 3.24 for flow in real terms).

<sup>4</sup> Nominal amounts of credit were converted into real terms using 1977-78 wholesale prices of fertilizers.



At the state level, a positive growth rate was recorded by all states in nominal terms while in real terms Kerala, Gujarat, Himachal Pradesh and J&K registered a negative growth rate in the flow.

Table 3.14  
Flow and Stock of Term Credit to Agriculture from  
Scheduled Commercial Banks (In Nominal Terms)  
(Rs. crores)

States	1979-80		1988-89		Compound Annual Growth Rate (%)	
	Flow	Stock	Flow	Stock	Flow	Stock
HAR	40.04	94.30	94.41	426.40	15.09	39.13
HIM	2.20	4.00	3.48	32.00	6.46	77.78
J&K	0.60	1.50	0.89	16.70	5.37	112.59
PUN	73.84	129.50	169.11	610.60	14.34	41.28
RAJ	29.12	75.80	80.89	478.30	19.75	59.00
ASS	0.52	2.70	13.64	60.40	280.34	237.45
BIH	22.36	70.10	77.62	394.30	27.46	51.39
ORT	7.80	14.70	25.83	137.90	25.68	93.12
WB	9.88	51.00	37.23	288.60	30.76	51.76
MP	36.40	95.40	154.22	612.70	35.96	60.25
UP	75.92	181.10	196.82	862.00	17.69	41.78
GUJ	34.84	54.50	67.55	331.20	10.43	56.41
MAH	36.80	101.40	130.32	722.80	19.83	68.09
AP	33.80	51.50	85.97	402.70	17.15	75.77
KAR	41.08	74.80	99.62	504.10	15.83	63.77
KER	18.72	26.30	36.13	176.10	10.33	63.29
TN	33.28	36.20	123.56	439.50	30.14	123.79
INDIA	520.01	1071.20	1421.75	6681.70	19.27	58.20
CV	0.74	0.75	0.69	0.62		

Source : RBI, Report on Currency and Finance, Vol. 2, 1981-82 and 1990-91.

Private Gross Domestic Capital Formation (GDCF) in agriculture in current prices was Rs. 6428 crores in 1988/89<sup>5</sup>. That means the term credit flow from SCBs (Rs. 1422 cr) could finance only 22 percent of the private GDCF in agriculture. Total institutional term credit flow in 1988/89 was Rs. 2630 crores and it could finance about 41 percent of GDCF. This underlines the need for

<sup>5</sup> CSO, National Accounts Statistics-1990-91.

further increase in term credit. Also the increasing production cost calls for larger quantity of production credit. For example in 1982-83, total production cost for crops (excluding consumption of fixed capital) in the country was Rs. 17609 crores in current prices and the total institutional flow of production credit was Rs. 2598 cr. which could finance only 15 percent of the production cost<sup>6</sup>.

Table 3.15  
Flow and Stock of Term Credit to Agriculture from  
Scheduled Commercial Banks (In Real Terms)

(Rs.crores)

States	1979-80		1988-89		Compound Annual Growth Rate (%)	
	Flow	Stock	Flow	Stock	Flow	Stock
HAR	40.04	94.30	44.60	201.42	1.26	12.62
HIM	2.20	4.00	1.64	15.12	-2.81	30.88
J&K	0.60	1.50	0.42	7.89	-3.33	47.32
PUN	73.84	129.50	79.88	288.43	0.91	13.64
RAJ	29.12	75.80	38.21	225.93	3.47	22.01
ASS	0.52	2.70	6.44	28.53	126.56	106.30
BIH	22.36	70.10	36.67	186.25	7.11	18.41
ORI	7.80	14.70	12.20	65.14	6.27	38.12
WB	9.88	51.00	17.59	136.32	8.67	18.59
MP	36.40	95.40	72.85	289.42	11.13	22.60
UP	75.92	181.10	92.97	407.18	2.50	13.87
GUJ	34.84	54.50	31.91	156.45	-0.94	20.78
MAH	46.80	101.40	61.56	341.43	3.50	26.30
AP	33.80	51.50	40.61	190.22	2.24	29.93
KAR	41.08	74.80	47.06	238.12	1.62	24.26
KER	18.72	26.30	17.07	83.18	-0.98	24.03
TN	33.28	36.20	58.37	207.61	8.37	52.61
INDIA	520.01	1071.20	671.59	3156.21	3.24	21.63
CV	0.74	0.75	0.69	0.62		

Source : Table 3.14.

Note : Nominal terms were converted into Real terms in constant 1979-80 prices using price deflator for Private Gross Domestic Capital Formation.

<sup>6</sup> M.V. Gadgil, Op.cit p.285.

To sum up, we have observed that there has occurred a quite significant increase in the agricultural credit from SCBs. The growth rate was positive at the all India level as well as in the states. SCBs' share has grown higher than that of co-operatives. But at the same time this increased supply falls short of meeting the production cost and capital expenditure which calls for further increase of agricultural credit in the future. In the coming era where agricultural subsidy may become a thing of the past and leave agriculture to compete or to die, new ventures are to be taken which calls for a faster growth of agricultural credit. As C.H. Hanumantha Rao cautions, 'in this present context there is a very high need to step up agricultural exports and to have a new product-mix which necessitates a faster rate of growth of institutional credit to agriculture'<sup>7</sup>.

#### *3.4 Regional disparities in the distribution of agricultural credit by SCBs.*

In spite of the fact that agricultural finance from SCBs has grown considerably, many studies (Tara Shukla (1971), S.K. Basu (1979), Kahlon and Karam Singh (1984), R.V. Dadibhavi (1988), Nilakantha Rath (1989) and others) point out that inter regional and inter class disparities in the distribution of agricultural credit has increased. Our attempt, therefore, is to investigate the nature and degree of regional balance maintained by the SCBs in the distribution of agricultural credit during the eighties. We shall divide this section into four.

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<sup>7</sup> C.H. Hanumantha Rao, (1994) "Reforming Agriculture in the new context" Economic and Political Weekly, Vol.29, April 16-23, 1994.

1. Interstate disparities in the banking infrastructure
2. Per capita credit, per capita deposit and Credit-Deposit Ratio
3. Regional disparities in agricultural credit
4. Inter class disparity.

#### **1. *Banking Infrastructure and Regional Disparities***

When we look at the branch expansion from the angle of regional disparities, one important positive aspect that stands out is that regional variations in the bank density have considerably decreased since 1969. This is very clear from Table 3.4. The Coefficient of Variation (hence forth CV) of population per bank office across the states was 0.88 in 1969. Due to the bias maintained in favour of unbanked and under banked regions in the branch expansion, more and more bank offices, spread over such regions. This phenomenon narrowed down the large scale disparities which existed in the banking infra structure. Thus we find that in 1993 the CV was just 0.24. Today we have, therefore, a more even distribution of bank offices. Did this evenness reflect in the banking activities too? Let us have a look into that.

#### **2. *Per capita Deposit and Per Capita Credit and Credit-Deposit Ratio***

In Section - 2 we analysed the growth of deposit and credit in absolute terms. But to compare the states in terms of inter regional variation we need a relative measure. Per Capita Credit (PCC) and Per Capita Deposit (PCD) being ratios of the absolute amount to the population of the region, are better measures for comparison. The first point to be noted here is that both in per capita deposit and per capita credit regional variations have slightly decreased between 1974 and 1989, as seen from the

declining CV (Tables 3.16 & 3.17). Also we can see that there was considerable increase in both per capita credit and per capita

Table 3.16  
Per Capita Deposit from Commercial Banks  
(in Rupees)

States	1974	1979	1984	1989	Compound Annual Growth Rate (%)		
					1974-79	1979-84	1984-89
AP	102.63	333.00	695.53	1499.77	44.89	21.77	23.13
ASS	60.03	197.00	353.82	826.70	45.64	15.92	26.73
BIH	90.24	209.00	400.05	1023.55	26.32	18.28	31.17
GUJ	307.71	766.00	1295.19	2653.61	29.79	13.82	20.98
HAR	153.29	485.00	906.54	2274.86	43.28	17.38	30.19
HIM	173.23	434.00	954.42	2436.84	30.11	23.98	31.06
JK	166.04	568.00	966.83	2309.33	48.42	14.04	27.77
KAR	178.33	493.00	867.50	1913.98	35.29	15.19	24.13
KER	159.23	525.00	1032.45	2227.28	45.94	19.33	23.15
MP	71.26	207.00	413.90	1052.81	38.10	19.99	30.87
MAH	473.23	1114.00	1849.00	4329.49	27.08	13.20	26.83
MAN	31.27	172.00	147.71	583.50	90.00	-2.82	59.00
MEG	195.40	366.00	693.46	2013.85	17.46	17.89	38.08
ORI	40.64	129.00	274.39	710.60	43.49	22.54	31.80
PUN	367.80	1052.00	2061.30	4618.01	37.20	19.19	24.81
RAJ	80.71	238.00	460.54	1146.20	38.98	18.70	29.78
TN	184.70	468.00	866.03	1934.41	30.68	17.01	24.67
TRI	66.31	157.00	311.76	983.76	27.35	19.71	43.11
UP	107.96	296.00	581.61	1369.29	34.84	19.30	27.09
WB	309.76	756.00	1196.88	2569.62	28.81	11.66	22.94
INDIA	196.19	523.00	966.72	2210.00	33.32	16.97	25.72
MEAN	165.99	448.25	816.45	1923.87	34.01	16.43	27.13
CV	0.69	0.62	0.60	0.55			

Source : 1. RBI, Banking Statistics : B.S.R., June 1974, June 1979, June 1984 and June 1989.  
2. Census of India, 1971 and 1981.

deposit in all India level as well as across the states. The mean per capita deposit for the 20 states that was Rs. 166 in 1974 grew at an annual rate of 34.01 percent in 1974-79, at

16.43 percent in 1979-84 and at 27.13 percent in 1984-89 and reached Rs. 1924 in 1989. Similarly mean per capita credit grew from Rs. 111 in 1974 to Rs. 1474 in 1989 at a rate of 48.36 percent in 1974-79, 16.47 percent in 1979-84 and at 22.46 percent in 1984-

89. The growth rate was relatively higher for the states with lower per capita credit base. As a result the regional variation has got slightly reduced. CV of per capita deposit from 0.69 to 0.55 between 1974 and 1989 and that of per capita credit came down from 0.90 to 0.67.

Table 3.17  
Per Capita Outstanding Credit of Commercial Banks  
(in Rupees)

States	1974	1979	1984	1989	Compound Annual Growth Rate (%)		
					1974-79	1979-84	1984-89
AP	90.88	242.00	550.00	1191.00	33.26	25.45	23.31
ASS	54.40	125.00	312.00	666.00	25.96	29.92	22.69
BIH	44.14	104.00	174.00	341.00	27.12	13.46	19.20
GUJ	215.57	428.00	704.00	1560.00	19.71	12.90	24.32
HAR	191.46	525.00	1029.00	1730.00	34.84	19.20	13.62
HIM	25.29	222.00	550.00	907.00	155.59	29.55	12.98
JK	51.00	173.00	615.00	794.00	47.84	51.10	5.82
KAR	171.16	392.00	734.00	1673.00	25.80	17.45	25.59
KER	119.65	355.00	765.00	1469.00	39.34	23.10	18.41
MP	44.26	120.00	272.00	733.00	34.22	25.33	33.90
MAH	395.86	786.00	1748.00	2976.00	19.71	24.48	14.05
MAN	6.45	49.00	113.00	445.00	131.83	26.12	58.76
MEG	23.20	74.00	167.00	611.00	43.79	25.14	53.17
ORI	29.04	94.00	264.00	776.00	44.75	36.17	38.79
PUN	207.63	605.00	1542.00	2009.00	38.28	30.98	6.06
RAJ	49.73	173.00	365.00	739.00	49.58	22.20	20.49
TN	200.01	424.00	778.00	1904.00	22.40	16.70	28.95
TRI	12.00	90.00	261.00	673.00	130.00	38.00	31.57
UP	58.53	157.00	316.00	585.00	33.64	20.25	17.03
WB	237.18	457.00	575.00	1404.00	18.54	5.16	28.83
INDIA	145.91	362.00	683.00	1343.00	29.62	17.73	19.33
MEAN	111.37	380.67	694.15	1473.63	48.36	16.47	22.46
CV	0.90	0.92	0.74	0.67			

Source : 1. RBI, Banking Statistics : B.S.R., June 1974, June 1979, June 1984 and June 1989.  
2. Census of India, 1971 and 1981.

#### *Credit - Deposit Ratio*

Credit -Deposit Ratio (C-D ratio), though not an absolute indicator of regional imbalance, is a measure of intensity of credit operation. Maintaining a higher C-D ratio by the SCBs for less

developed regions in relation to developed regions and for rural centres in relation to urban centres is something desirable for reduction of inter regional and rural - urban disparities. Table-3.18 shows the trend in the C-D ratio across the 6 regions in the country.

Table - 3.18  
Credit - Deposit Ratio (Region - wise)

	1969	1981	1991
NORTHERN-REGION	0.57	0.72	0.61
NORTH EASTERN REGION	0.35	0.41	0.45
EASTERN REGION	0.91	0.54	0.50
CENTRAL REGION	0.50	0.50	0.50
WESTERN REGION	0.82	0.74	0.60
SOUTHERN REGION	0.95	0.81	0.79
ALL INDIA	0.77	0.68	0.61

Source: RBI Staff Studies, Credit-Deposit Ratio: Current Status and Future Correction, June 1992, Annexure-A.

The observed trend is of a general decline in C-D ratio over the years (One reason behind this decline is the rise in cash reserve ratio (CRR) and Statutory Liquidity Ratio (SLR)<sup>8</sup>. The historically well banked southern region and western region, though witnessed a decline over the years, still enjoyed a higher C-D ratio in 1991. C-D ratio of relatively less developed North Eastern region, though marked a slight increase over the years, had the lowest C-D ratio even in 1991. For the eastern region, C-D ratio declined from 0.91 in 1969 to just 0.50 in 1991. This shows that C-D ratio of SCBs lag far behind the ideal norm of maintaining a higher C-D ratio for the less developed regions.

Coming to rural-urban disparities one point is to be remembered. Banks are insisted by RBI on maintaining a 60 percent C-D ratio for the rural and semi urban centres with a specific purpose of reducing rural-urban disparities. But even in 1989 in six states the C-D ratio of rural centres remained far below the 60% level (Table 3.19). Besides, in 3 states (Punjab, Gujarat and J&K) urban C-D ratio was higher than that of rural. However, compared to previous years, this is an improvement because, in 1974 13 states and in 1979, 7 states were having C-D ratio higher in urban than in rural areas (Table 3.19).

Table 3.19  
State and Population-wise Credit-Deposit Ratio

States	1974				1979				1989			
	Rural	Semi-Urban	Urban	Total	Rural	Semi-Urban	Urban	Total	Rural	Semi-Urban	Urban	Total
WAP	0.61	0.81	0.37	0.69	0.67	0.61	0.69	0.64	0.65	0.48	0.60	0.57
HM	0.10	0.26	0.00	0.17	0.30	0.22	0.00	0.27	0.36	0.34	0.00	0.35
J&K	0.15	0.28	0.33	0.31	0.27	0.52	0.38	0.37	0.25	0.33	0.37	0.33
PUH	0.21	0.36	0.63	0.45	0.25	0.38	0.47	0.38	0.33	0.40	0.47	0.41
RAJ	0.60	0.62	0.58	0.60	0.79	0.65	0.64	0.67	0.82	0.53	0.54	0.60
ASS	0.17	0.38	0.68	0.46	0.30	0.40	0.48	0.41	0.82	0.45	0.47	0.54
BIF	0.75	0.31	0.34	0.35	0.62	0.35	0.37	0.39	0.42	0.30	0.27	0.33
ORT	0.43	0.52	0.59	0.55	0.89	0.63	0.56	0.64	1.53	0.68	1.05	1.06
WB	0.22	0.20	0.97	0.85	0.36	0.24	0.68	0.61	1.01	0.32	0.57	0.58
NP	0.45	0.50	0.71	0.62	0.64	0.56	0.52	0.55	0.79	0.53	0.73	0.68
UP	0.44	0.44	0.52	0.49	0.52	0.51	0.46	0.48	0.43	0.40	0.38	0.40
GUJ	0.30	0.41	0.84	0.62	0.34	0.38	0.66	0.52	0.52	0.42	0.61	0.54
WAR	0.74	0.49	0.93	0.89	0.68	0.51	0.79	0.76	0.81	0.55	0.73	0.72
AP	1.36	0.72	0.82	0.84	1.03	0.69	0.64	0.70	0.92	0.63	0.81	0.78
KAR	0.74	0.73	1.03	0.92	0.71	0.64	0.85	0.78	1.08	0.73	0.84	0.86
KSR	0.52	0.51	1.09	0.72	0.55	0.45	1.01	0.66	0.82	0.54	0.87	0.66
TR	1.20	0.86	1.13	1.07	0.90	0.69	0.99	0.91	1.13	0.82	1.03	0.99
INDIA	0.51	0.49	0.86	0.73	0.54	0.48	0.79	0.67	0.66	0.49	0.63	0.60

Source : Computed from Banking Statistics (B.S.R.), June 1974, 1979 and 1989.

In short, C-D ratio of SCRs has not reached the desired levels so as to reduce the regional as well as rural - urban disparities.



### *3. Regional Disparities in the Agricultural Credit:*

We look at the regional disparities in agricultural credit in 2 ways - one, by assessing the percent share of agricultural credit going to different states; two, by measuring the dispersion in the per hectare credit across the states.

Percent shares of agricultural credit going into various states reveal a high level of unevenness when we compare it with the gross cropped area (GCA) of the states. For example six states viz Punjab, Haryana that are more prosperous and four southern states AP, TN, Karnataka and Kerala which are historically well banked<sup>9</sup> states on one hand and six other states viz four eastern states of Bihar, WB, Assam, Orissa and MP and Rajasthan which are relatively less developed and less banked states on the other hand. The former six states which possess about 25 percent of GCA received about 40 percent of the total agricultural credit from SCBs in 1974; 47 percent in 1980 and 46 percent in 1989 whereas the latter six, accounting for about 42 percent of GCA could avail of only 25 percent, 21 percent and 28 percent of agricultural credit in the corresponding years (Table 3.8).

The story is the same if we make a further comparison of these states in terms of direct finance and indirect finance. Even in the year 1989 in which the latter six states had improved their position, they could avail only 28 percent of direct finance and 23 percent of indirect finance while the former six states received 47

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<sup>9</sup> Bankedness is conceived in terms of per capita credit, per capita deposit, population per bank office etc.

percent of direct finance and 39 percent of indirect finance (Table 3.11).

This is just an example to show that in spite of the relatively faster growth of agricultural credit in the less developed states, the disparity is still significant.

*Agricultural credit per hectare of Net Sown Area:*

Comparison of states on the ground of overall agricultural credit in absolute terms may not be fully justifiable because agricultural activities and thereby the credit requirements may vary from state to state. A comparison is meaningful and justifiable if and only if we can standardise the agricultural credit as an average per unit of requirement of credit. To define requirement of agricultural credit we need an optimum norm of production efficiency on an all India basis to measure the capital requirement of agriculture in various states. Therefore a simpler method of measuring the requirement of agricultural finance might be to relate it to the agricultural activity in a state in terms of man power employed in agriculture or the area of land actually cultivated. In Industry we could conveniently choose 'Man-hours' as a criterion for industrial activities. But in agriculture a parallel concept, say, "manday-hectares" won't be a precise norm to be adopted because of disguised unemployment prevalent in the agricultural sector. Hence we are left with a choice between manpower actually employed or land cultivated as a norm to standardise agricultural credit. Here, of course, we prefer 'land cultivated' because of the availability of more reliable and readily available data.

Area of land cultivated is taken here as Net Sown Area (NSA) rather than Gross Cropped Area (GCA)<sup>10</sup>. Therefore a standard unit, taken here for comparison is, the 'Scheduled Commercial Banks' agricultural credit per hectare of NSA' as the measure of agricultural activities in a region.

Now we are in a position to compare the states and see whether the disparity between states in terms of this standard norm of 'per hectare agricultural credit of NSA' has increased or decreased or remained constant over the eighties.

Thanks to the increased supply of agricultural credit by SCBs, agricultural credit per hectare of NSA (henceforth PHC) has grown considerably over these years. As seen from Table 3.20, per hectare credit at all India level in 1974 was just Rs. 50. Within 10 years it reached Rs. 651 and again in 1989 it came upto Rs. 1330. This means that PHC grew at an annual compound rate of about 60 percent for the first 5 years since 1974 and at 46 percent between '79 and 84 and at a rate of 21 percent during 1984-89. In 1984 and '89 Kerala stood first in PHC. PHC of Kerala reached Rs. 3048 in 1989 followed by TN (Rs. 2916) and Punjab (Rs. 2229). At the other extreme stood Rajasthan with just Rs. 466. The range was as high as Rs. 29582.

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<sup>10</sup> NSA indicates the net geographical area on which cultivation takes place. GCA refers to such area multiplied by the intensity of cultivation. Why we prefer NSA to GCA is explained in Chapter 3.

Table 3.20  
Commercial Banks' Agricultural Credit Per Hectare

(in Rs.)

States	Year						Compound Annual Growth Rate (%)		
	1974	1979	1984	1986	1988	1989	1974-79	1979-84	1984-89
AP	52.86	275.23	888.20	1193.51	1505.66	1518.53	84.14	44.54	14.19
ASS	160.77	238.05	305.62	326.53	656.67	802.80	9.61	5.68	32.54
BTH	22.09	128.51	324.31	465.33	709.2	823.83	96.33	30.47	30.81
GUJ	48.47	134.49	353.80	467.6	711.46	805.98	35.50	32.61	25.56
HAR	46.55	322.10	1415.46	1844.56	1789.4	1833.90	118.39	67.89	5.91
HTM	18.02	161.92	703.63	970.71	1122.59	1259.93	159.73	66.91	15.81
JK	10.16	113.38	688.48	755.31	737.43	624.24	203.20	101.45	-1.87
KAR	63.64	205.82	538.04	1011.02	1261.83	1397.98	44.68	32.28	31.97
KER	122.62	519.22	1480.00	1924.14	2924.31	3048.16	64.69	37.01	21.19
MP	11.91	58.33	174.78	259.94	382.11	477.65	77.97	39.93	34.66
MAH	59.16	62.53	156.16	460.6	581.8	867.61	1.14	29.95	91.12
MAN	7.86	144.26	328.39	325.51	636.75	774.99	347.21	25.53	27.20
MEG	10.34	44.23	254.66	792.88	1275.21	1294.83	65.51	95.15	81.69
ORI	8.04	93.50	316.79	421.69	627.82	843.33	212.70	47.76	33.24
PUNJ	92.12	424.19	2892.93	2543.65	2008.93	2229.24	72.09	116.40	-4.59
RAJ	11.71	67.92	206.12	307.39	525.9	465.75	95.99	40.69	25.19
TN	118.06	360.75	980.10	1425.06	2200.88	2915.50	41.11	34.34	39.49
TRI	34.16	164.15	287.50	854.93	1243.77	1570.82	76.12	15.03	89.27
UP	47.53	151.26	377.17	526.45	658.83	821.28	43.65	29.87	23.55
WB	132.16	297.26	357.43	595.19	899.24	2226.73	24.98	4.05	104.60
INDIA	49.76	198.36	651.48	693.38	1122.99	1330.15	59.72	45.69	20.83
CV	0.85	0.64	0.98	0.88	0.58	0.56			

Source : Computed from 1. RBI, Banking Statistics (B.S.R.) for Various Years.  
2. Agricultural Statistics for Various Years.

A look into the growth rate of PHC reveals an interesting feature. In the late eighties growth rate was higher for those states which registered a relatively lower growth rate in the earlier periods (eg. West Bengal, Assam, Tripura etc.) and lower for those states which had a higher rate in the earlier periods (eg. Punjab, Jammu & Kashmir, Haryana etc). As a result PHC improved in those states which had a lower growth rate in the earlier periods. This is reflected in the slight lowering of CV of PHC. In 1974 the CV was 0.85. In 1984 it was still higher (0.98). But later it gets reduced. In 1986 CV came down to 0.88; in 1988 to 0.58 and in 1989 to 0.56. In 1974, PHC of 12 states was below the all India level.

Even in 1989 we see that ten states ranked below the national average. If we consider the average PHC of the period 1980-89 the C.V for the 20 states was as high as 0.77 (Table A1 in appendix). Thus the condition was not much better even at the end of the eighties. However, if we make a comparison between PHC of

Table 3.21  
Per Hectare Credit of Net Sown Area of Co-operatives

(in Rs.)

States	Year					Compound Annual Rate of Growth(%)	
	1979	1984	1986	1988	1989	1979-84	1984-89
AP	151.72	220.45	272.81	422.30	404.04	9.06	16.66
ASS	5.28	5.42	5.56	5.56	5.56	0.53	0.52
BTH	41.82	47.23	49.81	274.57	323.51	2.59	116.99
GUJ	165.17	223.11	284.28	409.78	386.65	7.02	14.66
HAR	327.51	556.96	666.11	741.31	766.96	14.01	7.54
HTM	90.44	182.28	238.54	314.75	318.58	20.31	14.96
JK	57.59	47.24	28.27	30.00	42.93	-3.59	-1.82
KAR	95.61	201.69	233.81	291.20	159.35	22.19	-4.20
KER	548.78	969.59	347.33	1702.99	1664.28	15.34	14.33
MP	74.97	82.69	169.90	191.97	199.24	2.06	28.19
MAH	119.57	212.95	235.13	360.93	513.91	15.62	28.27
MAN	158.76	75.02	75.02	75.02	80.22	-10.55	1.39
MEG	43.48	59.29	99.23	97.71	80.00	7.27	6.99
ORI	122.74	146.43	98.21	121.51	31.01	3.86	-15.76
PUN	534.12	814.63	879.40	981.73	1261.00	10.50	10.96
RAJ	73.14	87.93	112.80	180.45	70.46	4.04	-3.97
TN	81.15	303.44	545.27	792.54	1078.24	54.78	51.07
TRT	31.29	23.43	103.57	119.45	138.50	-5.02	98.22
UP	157.02	179.81	131.24	162.40	150.00	2.90	-3.32
WB	90.49	103.35	103.81	107.10	100.00	2.84	-0.65
INDIA	131.36	200.96	239.51	330.01	326.37	10.60	12.48
CV	0.97	1.12	1.05	0.94	0.99		

Source : 1. RBT/NABARD, Statistical Statements Relating to Cooperative Movement in India for various years.

2. Agricultural Statistics for various years.

SCBs and that of cooperatives, we can see that regional variation across the states was higher for PHC of co-operatives than that of SCBs (CV of PHC from co-operatives in 1989 was 0.99 and for the period 1980-89 was 1.11 (Table A6 - appendix and Table 3.21)).

Growth rate of PHC was very low for co-operatives compared to that of SCBs. In the PHC from co-operative also, Kerala ranked first in 1989. But Assam's share was negligibly small.

In short the regional variation in PHC of SCBs continued to persist even by the end of 80s. Ofcourse, with a slight reduction in relation to previous years and in relation to PHC of cooperatives.

#### ***4. Interclass Disparities:***

Apart from the inter regional disparities in the agricultural credit, it will be also useful to analyse the distribution of agricultural credit within a region. In other words, to see whether the agricultural credit from SCBs exhibit intra regional disparities. For this let us have a look into the credit going to different size classes of operational holdings<sup>11</sup>. Tables 3.22 and 3.23 gives the class wise distribution of per hectare short term credit and long term credit respectively.

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<sup>11</sup> Holdings of the size upto 1 hectare, 1 to 2 hectare, above 2 hectare are referred to as marginal, small and large farms respectively. Large small farms include here both medium and large farms (farms of size between 2 and 10 ha are usually referred so as medium).

Table 3.22  
Distribution of Outstanding Per Hectare Short Term Loans issued by the Commercial Banks  
by Size - Class of Holdings

States	1985			1989			Compound Annual Growth Rate (%)		
	Marginal	Small	Large	Marginal	Small	Large	Marginal	Small	Large
AP	773.75	750.81	201.09	1207.16	1374.12	317.50	14.00	20.75	14.47
ASS	31.83	16.16	31.83	66.67	59.79	13.39	27.36	67.48	-14.49
BTH	51.25	79.50	17.93	95.82	124.43	35.98	21.74	14.13	25.17
GAJ	136.96	103.07	65.99	366.67	244.00	109.36	41.93	34.18	16.43
HAR	54.15	148.56	30.70	151.53	151.17	46.92	44.96	0.44	13.21
HIM	148.26	98.21	16.31	213.93	91.03	30.65	11.07	-1.83	21.98
JK	36.42	105.51	145.87	76.72	76.38	245.64	27.66	-6.90	17.10
KAR	475.98	290.10	91.58	853.70	557.68	151.84	19.84	23.06	16.45
KER	1514.36	823.02	421.83	2553.09	1566.40	691.20	17.15	22.58	15.96
MP	34.68	33.96	21.34	100.58	76.50	39.23	47.51	31.32	20.95
MAH	127.97	108.05	53.78	399.04	202.76	95.12	52.96	21.91	19.22
MAN	56.76	27.27	7.04	81.08	39.39	14.08	10.71	11.11	25.00
MEG	468.75	307.35	69.80	671.88	330.88	191.58	10.83	1.91	43.62
ORI	253.32	139.20	66.98	470.73	312.65	78.52	21.46	31.15	4.31
PUN	438.85	409.00	134.32	854.68	843.41	192.39	23.69	26.55	10.81
RAJ	58.57	49.13	7.85	108.88	78.60	12.69	21.48	14.99	15.43
TN	834.49	705.14	229.51	1452.63	1339.28	423.69	18.52	22.48	21.15
TRI	169.16	76.32	57.29	272.90	84.21	57.29	15.33	2.59	0.00
UP	50.87	72.98	40.38	97.62	136.43	76.47	22.97	21.74	22.35
WB	219.06	138.28	109.96	415.93	194.30	90.33	22.47	10.13	-4.46
TNDIA	299.61	223.83	63.83	528.16	415.78	103.73	19.07	21.44	15.63
CV	1.23	1.10	1.07	1.15	1.20	1.13			

Source : 1. RBT, Report on Currency and Finance, Vol. 2, 1986-87 and 1990-91.  
2. Centre for Monitoring Indian Economy (CMIE), Table 7.8-1, September 1990.

Note : Marginal - Up to 1 ha.  
Small - 1 to 2 ha.  
Large - Above 2 ha.

It was the marginal farms, followed by the small farms, that received the highest per hectare credit in short term as well as long term credit in both the years 1985 and 1989 at all India level. In the state level also, this trend was more or less visible especially in short term PHC (with the only exception of Jammu and Kashmir where PHC of small and marginal farms were much lower than the non small farms).

Table 3.23  
Distribution of Outstanding Per Hectare Term Loans issued by the Commercial Banks  
by Size - Class of Holdings

States	1985			1989			Compound Annual Growth Rate (%)		
	Marginal	Small	Large	Marginal	Small	Large	Marginal	Small	Large
AP	223.96	198.45	100.48	353.29	411.17	237.54	11.55	21.44	27.28
ASS	45.50	42.05	71.50	504.67	179.11	91.78	201.83	65.19	5.67
BIH	196.80	270.05	132.59	408.37	599.83	306.33	21.50	24.42	26.21
GUJ	324.88	209.02	210.08	982.37	599.91	270.45	40.48	37.40	5.75
HAR	475.11	650.39	567.37	1118.34	1378.59	1122.25	27.08	22.39	19.56
HIM	181.59	106.73	66.31	425.37	212.56	335.30	26.85	19.83	81.14
JK	35.22	38.19	190.60	84.18	80.31	270.18	27.80	22.06	8.35
KAR	532.91	237.08	164.96	1082.10	597.83	333.40	20.61	30.43	20.42
KER	450.62	397.09	739.08	1088.99	1018.25	872.89	28.33	31.29	3.62
MP	240.36	272.55	185.74	873.56	491.93	455.25	52.69	16.10	29.02
MAH	327.01	192.27	119.15	777.29	455.10	284.35	27.54	27.34	27.73
MAN	51.35	42.42	63.38	110.81	28.79	177.46	23.16	-6.43	36.00
MEG	53.13	22.06	2.97	215.63	80.88	21.78	61.18	53.33	126.67
ORI	191.40	171.56	58.96	511.53	303.61	170.27	33.45	15.39	37.76
PUN	1666.91	1037.30	900.30	2051.08	2565.92	1374.60	4.61	29.47	10.54
RAJ	380.84	255.84	72.13	656.85	503.54	197.47	14.49	19.36	34.76
TV	239.44	211.12	200.72	637.81	554.97	530.43	33.27	32.57	32.85
TRI	88.79	57.02	160.42	227.10	107.89	480.21	31.16	17.85	39.87
UP	151.55	229.36	383.84	329.12	394.39	626.95	23.43	14.39	12.67
WB	167.16	161.67	386.27	433.99	208.50	836.30	31.93	5.79	23.30
INDIA	236.55	229.66	188.05	547.43	489.63	363.84	26.28	22.64	18.70
CV	1.14	0.96	0.98	0.70	1.05	0.77			

Source : 1. RBI, Report on Currency and Finance, Vol. 2, 1986-87 and 1990-91.  
2. Centre for Monitoring Indian Economy (CMIE), Table 7.8-1, September 1990.

Note : Marginal - Up to 1 ha.  
Small - 1 to 2 ha.  
Large - Above 2 ha.

In the marginal farms' short term PHC Kerala stood far above all other states. In 1985 and 1989 PHC of marginal farms in Kerala came upto Rs. 1514 and Rs. 2553 respectively. (Ofcourse, Kerala is the only state where the largest proportion of area under operational holdings within the state lie in the marginal farms).

With regard to long term PHC also, in most of the States, marginal farms availed the highest PHC followed by small farms. However



five states (J&K, Tripura, Manipur, W.B and UP) maintained higher proportion of long term PHC in the medium and large farms than in small and marginal farms in 1985 and in 1989. Though in 1985 Kerala and Assam, were also having a higher PHC in non small farms later they improved the share of marginal and small farms.

With respect to the growth rate between 1985 and 1989, at all India level as well as state level, marginal farms registered the highest growth rate followed by small farms.

In short, SCBs maintained a positive bias towards the marginal and small farms. As the small and marginal farms are more limited in terms of 'owned funds', such a preferential treatment for the small and marginal farms is not only desirable but necessary to reduce the inter class disparities. Whether this bias would continue in the present regime of phasing out of directed credit is an open question.

### ***3.5 Concentrations of rural assets and cultivable land and the agricultural credit***

Next, we shall look into another dimension of the disparity of agricultural credit viz its association with the rural wealth. We want to see whether concentration of rural assets is associated with the supply of SCBs' agricultural credit per hectare. Conventional approach of SCBs has been to provide credit on the basis of the credit worthiness of the borrower. Hence the greater the assets of the borrower the greater the credit worthiness and as a result the larger the flow of credit. As A.K. Sen pointed out,

"a bigger farmer ... can borrow money at a lower rate of interest because of his greater credit worthiness"<sup>12</sup>. If this norm is regionally translated it may mean that the greater the assets per household in a region the larger would be the flow of credit. In the seventies the banks had revealed such an asset orientation in the supply of agricultural credit<sup>13</sup>. It would be interesting to see whether this trend persisted even later.

Average value of assets for the rural household and the distribution of assets in different decile groups and the Gini coefficient of concentration of rural assets across the states is given in Table 3.34. The figures talk for themselves concerning the inter personal and inter regional inequalities. In the all India level, while the lowest 10 percent of the rural household' owned just 0.4 percent of the assets, the top 10 percent owned about 50 percent of assets. Between the two bench mark years of 1971-72 and 1981-82 there was no considerable reduction in the inequality. A look at table 2.25 confirms this fact.

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<sup>12</sup> Amartya Kumar Sen, "Size of Holdings and Productivity" The Economic Weekly, Vol.16, February 1964, p.323.

<sup>13</sup> Tara Shukla (1971), S.K. Basu (1979) etc.

**Table 3.24**  
**State Wise Percentage Share of Assets Owned by Households in the**  
**Lowest and Highest Groups**

State	Average value of assets per household (Rs.)		Percentage share of assets owned by					Co-efficient of concentration
			10 %	Lowest		Top		
				25%	50%	25%	10%	
AP	26,247	0.3	1.8	7.0		74.3	50.2	0.6612
ASS	20,503	1.0	3.1	13.8		62.8	40.2	0.5454
BTH	32,347	0.6	1.9	8.7		71.7	48.1	0.6331
GUJ	36,876	0.6	2.6	10.8		68.4	44.5	0.5846
HAR	90,950	0.6	2.8	10.7		67.1	33.3	0.5595
HTM	62,558	0.9	5.4	18.9		57.7	32.7	0.4678
J&K	59,001	1.1	5.7	19.8		58.3	32.9	0.4649
KAR	33,052	0.3	2.0	10.3		70.4	48.0	0.6229
KER	76,476	0.6	2.0	9.9		72.3	38.0	0.6048
MP	29,725	0.6	2.5	11.6		66.9	44.2	0.5901
MAH	35,077	0.3	1.5	8.8		71.6	48.5	0.6325
ORT	17,630	0.5	2.9	10.7		71.3	45.2	0.6050
PUN	96,631	0.3	1.4	6.1		76.9	42.0	0.6535
RAJ	40,888	0.7	4.1	15.8		64.4	40.6	0.5260
TN	19,520	0.3	1.9	7.7		76.6	52.7	0.6660
UP	44,660	0.6	2.8	12.3		69.7	44.0	0.5754
WB	20,710	0.2	2.1	8.7		68.8	44.2	0.6081
INDIA	36,090	0.4	1.7	9.1		72.3	49.5	0.6354

Source: RBI, All India Debt and Investment Survey 1981-81.

**Table 3.25**  
**Percentage Share in the Value of Total Assets**  
**by Different Household Categories**

Household Category	Percentage share in value of total assets	
	1971	1981
Lowest 10 percent of household	0.0	0.4
Lowest 25 percent of household	1.3	1.7
Top 25 percent of household	74.8	72.3
Top 10 percent of household	50.7	49.5

Source: All-India Debt and Investment Survey 1981-82 p.2.

Regional variations in the ownership of assets per household was Rs. 36090 at all-India level. But out of the 17 states considered, 9 states were below the national average. For Punjab the average value of assets per rural household was Rs.96631 (followed by Haryana - Rs.90950) while that in Orissa was only Rs. 17630. The intensity of the inequality in the asset distribution can be better perceived by the Gini-coefficient of concentration of assets. At the all India level, Coefficient of concentration was as high as 0.6354 and in states AP and TN it was still higher.

Now, if the banks still continue the asset orientation in the disbursement of agricultural credit, naturally, the tendency of the flow of credit towards the richer sections and regions might still continue almost the same in the face of this continued variation in the sharing of assets. We shall test the association between the agricultural credit and concentration of rural assets by testing the significance of correlation of SCBs' agricultural credit per hectare with average value of assets per household, and also with Gini coefficient of concentration of rural assets across the states. The correlation results is given in table 3.27. A positive and significant correlation is observed for SCBs' PHC with both the measures of concentration of rural assets. It suggests that the credit policy still had on it a drag of the past - being oriented to assets than to the purpose of the loan. It means that left to itself, the banks would channel a major portion of the funds towards the rich regions and the rich farmers. It is in this context the need and relevance of directed credit programmes for the priority sectors becomes clearer and significant. The new policy change towards phasing out of directed credit programme

would only aggravate the inter regional as well as inter personal disparities.

### *Concentration of Cultivable Land in Large Holdings*

Concentration of rural assets comprises the total assets - land and non-land. As such it covers the entire strata of households of a region irrespective of the size of their land holdings. Rich peasants can be of two types: those with large<sup>14</sup> operational holdings and those who own only medium or semi-medium land holdings. In other words, to be a rich peasant one need not necessarily be an owner of a large farm, though, however, a large farm owner is usually a rich peasant. Therefore, a look into the concentration of rural assets may not tell much about the concentration of land. So we would test the significance of correlation between per hectare credit and concentration of cultivable land in large operational holdings to see whether the two are correlated or not.

In the table given below (Table 3.26) state-wise data for the percentage of large holdings to total holdings is given for two time points, 1980-81 and 1985-86. The states are also ranked in terms of the data.

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<sup>14</sup> According to Agricultural Census' definition, holdings upto 2 hectares are small; 2-4 hectares are semi-medium, 4-10 hectares are medium and above 10 hectares belong to large farms.

**Table - 3.26**  
**Percentage of Area Under Large Holdings to Area Under Total Holdings**

States	1980-81		1985-86	
	% of large holdings to total landholdings	Rank	% of large holdings to total landholdings	Rank
AP	18.69	8	16.91	8
ASS	14.17	9	14.08	9
BIH	10.53	11	8.07	13
GUJ	24.80	5	20.92	5
HAR	31.34	3	24.29	4
HTM	12.72	10	9.69	11
J&K	4.31	18	4.39	16
KAR	24.52	6	19.90	6
KER	7.20	14	9.70	10
MP	34.02	2	28.22	3
MAH	21.57	7	17.44	7
MAN	0.24	20	0.57	20
MEG	4.49	17	4.30	17
ORT	7.40	13	6.35	14
PUN	28.44	4	29.85	2
RRJ	49.59	1	47.36	1
TAM	8.71	12	9.24	12
TRI	6.39	15	2.52	19
UP	6.18	16	4.81	15
WB	3.66	19	3.56	18

Source: CMTE, September 1990, (Table 7.8-3).

In both the periods the first five states with highest percentage of large holdings were Rajasthan, Madhya Pradesh, Haryana, Punjab, and Gujarat respectively. Manipur, West Bengal, Jammu & Kashmir, Meghalaya, Uttar Pradesh and Kerala stand out with lowest percentage of large holdings. Tripura has shown considerable decrease in the percentage of large holdings during 1985-86. Spearman's rank correlation coefficient for the ranks of the 2 periods is found to be very high (+0.96). That means, the states with higher percentage of large holdings remained the same during the early and latter part of 80's.

In order to see whether the proportion of large holdings of a state might have influenced the agricultural credit, it won't be proper

to take the crude measure of percentage of large holding as the variable. We need some weighting. For example in 1985-86 percentage of large holdings in Haryana (a well irrigated state) was 24.29 and that of Rajasthan (a rather dry region) was 47.36. But if we consider agricultural productivity and cultivator density, Rajasthan's large holdings would lag far behind that of Haryana. Therefore it is better that this percentage of large holdings be weighted with the cultivator density. For this let us take the ratio of the all India average size of holding and the average size of holding of each state. Let the former be denoted as 'K' and, the latter 'Ki'. Then the weight we give is 'K/Ki'. If 'Pi is the percentage of large holdings in the 'ith' state the weighted index can be written as:

$$P_i(w) = P_i \times K/K_i.$$

when cultivator density is higher in a state than the all India level  $K_i$  will be smaller than  $K$  and  $P_i$  gets inflated and vice-versa. The Table 3.27 gives a display of this variable.

Table 3.27  
Weighted Index of Concentration of Cultivated Area in Large Holdings

States	Percent of Large Holdings to Total Holdings (Pi)		Average Size of Holding (Ki)		[K / Ki]		Weighted Index [ Pi * (K/Ki)]	
	1980-81	1985-86	1980-81	1985-86	1980-81	1985-86	1980-81	1985-86
AP	18.69	16.91	1.94	1.72	0.95	0.98	17.73	18.26
ASS	14.17	14.08	1.36	0.78	1.35	2.15	19.18	30.53
BTH	10.53	8.07	1.00	0.87	1.84	1.93	19.37	20.32
GUJ	24.80	20.92	3.45	3.29	0.53	0.51	13.23	12.67
HAR	31.34	24.29	3.52	2.76	0.52	0.61	16.38	19.07
HTH	12.72	9.69	1.54	1.24	1.19	1.35	15.20	17.23
JK	4.31	4.39	0.99	0.86	1.86	1.95	8.01	8.42
KAR	24.52	19.90	2.73	2.41	0.67	0.70	16.52	17.09
KER	7.20	9.70	0.43	0.36	4.28	4.67	30.81	33.60
MP	34.02	28.22	3.42	2.91	0.54	0.58	18.31	19.64
MAH	21.57	17.44	3.11	2.65	0.59	0.63	12.76	13.68
ORI	7.40	6.35	1.59	1.47	1.16	1.14	8.57	8.46
PUN	28.44	29.85	3.82	2.77	0.48	0.61	13.70	17.25
RAJ	49.59	47.36	4.44	4.34	0.41	0.39	20.55	19.20
TN	8.71	9.24	0.67	0.64	2.75	2.63	23.91	22.86
UP	6.18	4.81	1.01	0.93	1.82	1.81	11.27	11.17
WB	3.66	3.56	0.95	0.92	1.94	1.83	7.10	6.69
INDIA	22.81	20.25	1.84	1.68	1.00	1.00	22.81	22.81

Source : Computed from area of size of holdings from CMIE, September 1990 (Table 7-8.3).

We assume a positive correlation between this weighted index of concentration of cultivable land and large holdings on per hectare agricultural credit of SCBs because the owners of large holdings can act as a pressure group on banks to get more funds. The correlation result is given in Table-3.28.



**Table 3.28**  
**Correlation of SCBs' PHC with Measures of Concentration of**  
**Rural Assets and of Cultivable Land in Large Holdings**  
 N = 17)

Variables	1981-82
Average value of Assets per household	0.552**
Coefficient of concentration of rural assets	0.395**
Weighted index of concentration of land in large holdings	-0.526*

\* - significant at 5% level

\*\* - significant at 10% level

The negative correlation coefficient of the concentration of cultivable land in large holdings is an ominous trend. It means that banks are financing more the small farms than the large ones. Coming to 1985-86 the correlation coefficient is higher than in 1980-81<sup>15</sup> which implies that the negative correlation between these two variables have become stronger. The analysis of per hectare credit of various size classes also confirmed this relationship (Tables 3.22 and 3.23). It implies that even when SCBs provide credit in favour of rural assets, it is not indicative of their preference for large holdings. In fact the SCBs deserve a compliment for remaining above the pressures of the large farm lobbies.

To sum up, in this chapter, we were tracing the trends and patterns of agricultural financing of SCBs. We have seen that since 1969 an unprecedented growth of banking infrastructure took place. As a result bank offices increased from 8262 (in 1969) to 60528 (in 1993). Along with this deposit mobilisation and credit disbursement also grew enormously. Agricultural credit from SCBs

<sup>15</sup> Coefficient of correlation was -0.531 significant at 5% level.

shot up from Rs. 709 crores of 15266 crores between 1969 and 1989. Growth of total institutional credit to agriculture was from Rs. 985 crores to 37574 crores between 1971 and 91 at an annual rate of growth of 177 percent. By the late eighties SCBs have over taken the co-operatives in the quantum of agricultural credit and in its growth rate.

Regarding regional disparities, banking infrastructure development has reduced the regional disparities in the banking density. However the banking variables like per capita credit, per capita deposit etc. have registered only slight reduction in the regional variations.

Agricultural credit showed considerable regional disparity in terms of percentage share of credit group to various states and in terms of per hectare credit. Anyhow the regional variation was slightly less in the eighties compared to previous years and in relation to PHC from co-operatives.

SCBs have made conscious efforts in reducing inter class disparity and as a result the marginal and small farms were getting a PHC higher than that of medium or large farms.

Concentration of rural assets showed a positive correlation with agricultural credit per hectare whereas the weighted index of concentration of cultivable land in large holdings had a negative correlation.

## Chapter 4

### DETERMINANTS OF REGIONAL DISPARITIES OF COMMERCIAL BANKS' AGRICULTURAL CREDIT

In the fore-going chapter we traced the growth of SCBs' agricultural credit since 1969 and especially during the nineteen eighties. We saw that the outstanding agricultural credit of SCBs which was Rs. 3152 crores at the beginning of eighties grew at a compound annual growth rate of 38.43 percent and reached Rs. 5266 crores by 1989. In order to assess the regional disparity accross the states with regard to Commercial banks' agricultural credit we standardised the agricultural credit into per hectare credit of net shown area and we observed that the regional disparity in this per hectare credit, which is an indicator of the agricultural credit to a state in relation to the level of agricultural activities, measured in terms of coefficient of variation was considerably high inspite of its slight decrease compared to seventies. The Coefficient of Variation of the average per hectare agricultural credit for the period 1980 - '89 was found to be 0.77 for the 20 states (Table A.3) This was higher than the variation observed in the other banking variables like percapita overall credit and percapita deposit (Table A.3).

Naturally a question arises here - Why such a regional disparity even in this standardise norm of agricultural credit? What are the factors behind this regional variation? In this chapter our attempt is to find an answer to this question. In the light of our analysis and existing literature and apriori reasoning we shall trace certain banking and other socio - economic variables, which we hope, would be able to explain the variation in the per hectare agricultural credit across the states. We divide this chapter into

2 sections. In section-1 we formulate the hypotheses to be tested and explain the method of our analysis and in Section-2 test of hypotheses and the interpretation of the results is made.

#### ***4.1 Formulation of hypothesis and method of Analysis***

To trace the determinants of the regional disparity of agricultural credit of SCBs in terms of the multiple regression analysis. The variables we consider in this analysis are listed below.

##### ***The variables***

##### ***Dependent variables (Y):***

SCBs' outstanding agricultural credit per hectare of net sown area is taken as the dependent variable in our analysis. The rationale behind taking agricultural credit per hectare was explained in chapter 2. One point to be added here is that we have preferred here credit per hectare of NSA to credit per hectare of Gross Cropped Area (GCA). This is due to two reasons. One, compared to GCA, NSA is more stable because GCA is more susceptible to larger fluctuations resulting from various agro climatic factors than NSA. Two, and more important, we have already selected intensity of cultivation as an explanatory variable in our analysis. Therefore if we take credit per hectare of GCA as the dependent variable, we would get trapped into a circular reasoning because GCA itself is a product of NSA and intensity of cultivation. (See Table A1, in appendix for data for 1980-89).

##### ***Explanatory variables:***

As we already mentioned, it is on the basis of a priori reasoning and in the light of existing literature we have selected a few

explanatory variables for our model. Broadly these variables may be classified into 3 groups viz. Banking Variables, Institutional Variables and Productivity Variables.

#### **Banking Variables**

Three variables relating to SCBs are considered here.

1. Per capita overall outstanding credit of SCBs ( $X_1$ )
2. Per capita deposit of SCBs ( $X_2$ )
3. Population (in '000s) per bank office ( $X_3$ )

#### **Institutional Variables**

Two socio economic variables are considered under this head.

1. Degree of urbanisation ( $X_4$ ) which is measured as a ratio of percentage of urban population in a state to the percentage of urban population in all India.
2. Strength of co-operative Movement in a region measured in terms of agricultural credit per hectare from co-operatives ( $X_5$ ).

#### **Productivity Variables**

Four variables related to the agricultural productivity are included here:

1. Percent of gross irrigated area to gross cropped area ( $X_6$ )
2. Intensity of cultivation ( $X_7$ )
3. Percent of area under non-food crops ( $X_8$ )
4. Consumption of fertilizer per hectare ( $X_9$ ).

These are the nine explanatory variables we have included in our analysis. Not that it is an exhaustive list of all relevant variables, but these, being, are the key variables we hope would be

able to explain a large proportion of variation of the agricultural credit per hectare from SCBs. Correlation matrix reveals that most of these variables are significantly correlated to the dependent variables (Y) (See Table 4.1).

Table 4.1  
Correlation Matrix

Variables	Y	X1	X2	X3	X4	X5	X6	X7	X8	X9
Y	1.0000**									
X1	.6874**	1.0000**								
X2	.6540**	.9027**	1.0000**							
X3	-.7072**	-.4964**	-.5835**	1.0000**						
X4	.1452	.4726**	.3996**	-.1368	1.0000**					
X5	-.0485	.1240	.1051	-.1332	.0872	1.0000**				
X6	.3403**	.1440	.1873*	-.3009**	.2921**	-.1070	1.0000**			
X7	.2770**	-.0738	-.0303	-.1850*	-.4813**	-.0721	.2360**	1.0000**		
X8	.3202**	.6266**	.4880**	-.1582	.5032**	.1805	-.0771	-.5098**	1.0000**	
X9	.6366**	.6328**	.6382**	-.5293**	.5839**	-.0140	.6273**	.0697	.2610**	1.0000**
N of cases:		200	2-tailed Signif: * - .01 ** - .001							

### Formulation of Hypotheses

#### 1. Per capita outstanding credit of SCBs ( $X_1$ )

In chapter 3 we observed that per capita credit from SCBs registered considerable increase since 1969. From a sheer Rs. 68 in 1969 the per capita credit increased to Rs.1097 in 1989 (Table-3.1). But at the same time we saw that regional dispersion of per capita credit across the states was considerably high even by the end of eighties (CV was 0.67 in 1989) inspite of a decline it registered over the years. Even in 1989 per capita credit of 12 states remained below the national average (Table 3.17).

Thus we see that per capita credit itself is a variable having much regional dispersion and also we see from Table 4.1 that the

correlation coefficient between SCBs' agricultural credit per hectare of NSA (henceforth 'Y') and per capita credit was positive and significant. Therefore we may safely include this variable among the explanatory variables to see how far per capita credit influenced Y. We assume a positive impact of per capita credit ( $X_1$ )<sup>1</sup> on Y. Therefore we formulate a hypothesis here to be tested.

#### Hypothesis - 1

Level of overall credit of SCBs as indicated by per capita credit determines the level of agricultural credit.

#### 2. Per capita deposit ( $X_2$ )

We are familiar with the banking principle that 'credit creates deposit'. But equally true is its inverse too that 'Deposit creates credit'. Deposit gives credit worthiness to the borrower. Report of the Banking Commission had also pointed out that one of the most important forms of assets that give credit worthiness is the bank deposit<sup>2</sup>. Naturally, increase in deposit may lead to increase in credit. In fact bank deposits and bank advances are mutually related in the sense that aggregate deposit is an explanatory variable of aggregate credit and aggregate credit would influence aggregate deposit<sup>3</sup>.

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<sup>1</sup> Data on per capita credit for eighties is given in Table A2 (Appendix)

<sup>2</sup> RBI: Report of the Banking Commission 1972.

<sup>3</sup> Supply function of bank credits and demand function of bank deposits as given by Khusro and Sidharthan highlights this point. In their model demand function of bank deposit and supply function of bank advances are as follows:

For interstate comparison we have adopted per capita deposit and we saw that per capita deposit also showed much regional variation across the states, though it has declined to a certain extent (Table 3.16).

Since deposit and credit are intimately related deposit (in terms of per capita deposit<sup>4</sup>) may be having some influence on agricultural credit too. Therefore we postulate the second hypothesis.

### Hypothesis - 2

The level of bank deposit measured in terms of per capita deposit determines bank credit per hectare of NSA.

### 3. Population per Bank Office ( $X_1$ )

In chapter 3 we discussed in detail the growth of banking infrastructure and the consequent increase in bank density whereby the population per bank office (measured in '000s) shrank considerably.

There are many studies which show that commercial banks' branch expansion positively increased the supply of overall credit as well

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$$D^d = D^d (rt, A, Y)$$
$$A^s = A^s (D, R, ra) \text{ where}$$

$D^d$  - demand for deposit,  $A^s$  is supply of bank advance;  $Y$  - national income,  $R$  - bank reserves,  $rt$  - rate of interest paid on deposits and  $ra$  - rate of interest on advances. ("An Econometric Model of Banking in India" Technical Studies, Vol.1, Banking Commission (1972) pp.1-78.

<sup>4</sup> See table A3 in appendix for data on per capita deposit for eighties.



as agricultural credit<sup>5</sup>. We have also found very high correlation between  $X_3$  and Y (Table 4.1, correlation coefficient =  $-.707$ , significant at .1 percent level). The negative correlation means that as population per bank office decline (in other words, as number of bank offices increases) agricultural credit per hectare increases. By including the variable  $X_3$  in our regression model<sup>6</sup> we hypothesise the following:

### Hypothesis-3

As the population per bank office diminishes agricultural credit per hectare of NSA increases.

### 4. Degree of Urbanization ( $X_4$ )

We have computed degree of urbanisation of a state as a ratio of the percent of urban population in the State to the percent of urban population in India. In other words we are considering here the relative urbanisation of a state with respect to the all India level.

By bringing in urbanisation into the explanatory variables our intention is to reflect not only the urbanisation as such, but along with that, a reflection of the level of secondary and tertiary sector growth of a region. Urbanisation, in general, is intimately related to industrialisation<sup>7</sup>. Therefore level of

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<sup>5</sup> See for example Clive Bell (1990), Binswanger (1993), M.V. Gadgil (1988) etc.

<sup>6</sup> Data on population per bank office for the period 1980-1989 is given in Table A4 (in appendix).

<sup>7</sup> See also S. Kuznets (1959), six lectures on Economic Growth pp. 58.

urbanisation, to a great extent, is a reflection of the level of secondary and tertiary activities of the region. If so, a higher degree of urbanisation may imply a higher level of economic development.

The degree of urbanisation did not registered any notable decline in the eighties<sup>8</sup>. (Coefficient of variation that was 0.37 in 1980 remained at 0.34 in 1989). During 1980s eleven states were below the national level of urbanisation. While Maharashtra stood first in the degree of urbanisation throughout the decade, (degree was at 1.49) Himachal Pradesh had only 0.42 degree of urbanisation. In short there was much regional variation with regard to level of urbanisation.

The logic behind the inclusion of this variable into the model may be stated as follows: A larger proportion of bank credit is going every year to the non-agricultural sector. For example, in the eighties an average of 84 percent of bank credit had gone to non-agricultural sector. Also we see that there is positive correlation between overall credit and agricultural credit (as reflected between per capita credit and per hectare agricultural credit, Table-4.1). If so, a larger part of agricultural credit might be flowing to more urbanised centres. Urban centers being relatively more economically developed we may conclude that agricultural credit flow towards the more developed regions resulted in a multiplied flow of funds at such centres. Let us postulate this problem as a hypothesis.

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<sup>8</sup> See Table A5 (in appendix). Data for the inter censal years are projections on the basis of 1971, 1981 and 1991 census data.

#### Hypothesis - 4

Level of economic development of a state as indicated by the degree of urbanisation increases the level of SCBs' agricultural credit per hectare.

#### *6. Strength of Co-operative Movement of a Region as Indicated by Co-operatives' Agricultural Credit per Hectare ( $X_6$ )*

Co-operative credit institutions considered in this study are the Primary Agricultural Credit Societies (PACs), Central Land Development Banks (CLDBs) and Primary Land Development Banks (PLDBs) because they are the institutions providing credit directly to the ultimate farmers. In order to see whether the co-operatives influence the agricultural credit supply of SCBs we shall regress Y on  $X_6$ . The implication of this variable is important. In the multi agency approach of agricultural financing, co-operatives and SCBs are supposed to operate in such a way that regions and persons not financed by one institution be helped by the other. But some studies have shown that the credit from both these institutions were going into the same direction<sup>9</sup>. Therefore, it is to be tested whether this trend continued the same or differed in the eighties<sup>10</sup>. We presume that in the eighties banks have become more aware of their respective roles in filling the gap left by the other institution. Therefore let us formulate our hypothesis as follows.

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<sup>9</sup> R.B.I., Organisational Framework for the implementation of social objectives, Report of a Study Group of National Credit Council (1969) p.28, Kablon and Karam Singh (1984), S.K. Basu (1979) p.147 etc.

<sup>10</sup> Data relating to co-operatives' per hectare credit for the 1980's is given in table - A6 (Appendix).

### **Hypothesis - 5**

SCBs' agricultural credit per hectare flows into areas where co-operative credit movement is weak.

### **6 Percent of Gross Irrigated Area to Gross Cropped Area ( $X_6$ )**

Irrigation not only results in greater agricultural output but has even much wider impacts. Binswanger's study<sup>11</sup>, for example reveals that irrigation potential increases the density of all major infrastructure variables like regulated markets, rural electrification, rural road etc. Commercial banks have tended to be located in areas of better irrigation. Naturally banks would provide a larger share of agricultural credit to irrigated areas because such areas are characterised by relatively low risk of agriculture and therefore less repayment problems for the bank.

When we look into the data of irrigated area we notice that the interstate disparity continues in the same pace from 1969 upto 1989. The CV was 0.64 in 1969. In 1989 and also for 1980-89 it was the same. In the eighties while Punjab had 89.44 percent of irrigated area Tripura had only 9.52 percent. This wide disparity may naturally affect the agricultural credit of SCBs. Table A<sub>7</sub> presents the data relating to the percent of gross irrigated area of the 20 states for the eighties<sup>12</sup>. A hypothesis that we formulate here is the following:

### **Hypothesis - 6**

The higher the percentage of gross irrigated area to the gross

<sup>11</sup> Binswanger et.al. Op.cit.pp.349-352.

<sup>12</sup> See Appendix.

cropped area of a region the greater the SCBs' credit to agriculture per hectare of NSA.

#### **7. Intensity of Cultivation ( $X_7$ )**

Intensity of cultivation of a state may be measured as the percentage of GCA to NSA. Increase in intensity of cultivation means increased agricultural activities and therefore increased demand for credit. Variations in intensity may therefore lead to variations in credit disbursal too. Table A<sub>1</sub> provides the data of intensity of cultivation for the 20 states. In 1969 the disparity was as high as 1.43. But by 1980 it has considerably decreased to 0.14. Throughout the eighties we see that this level of CV remains almost same. During the period 1980-89 Himachal Pradesh, Punjab and Tripura were the three topmost states with 167.13 percent, 164.4 percent and 164.15 percent of cultivation intensity respectively. The lowest three states were Karnataka, Gujarat and Meghalaya with an intensity of cultivation of 109.84 percent, 110.71 percent and 112.98 percent respectively. How far the regional levels of intensity of cultivation affected the agricultural credit in the eighties? To understand this we propose the following hypothesis to be tested.

#### **Hypothesis - 7**

The higher the intensity of cultivation of a state the greater the per hectare credit to agriculture from SCBs.

#### **8. Percent of Area Under non food Crops ( $X_8$ )**

Area under cultivation is broadly classified into area under food crops and area under non-foodcrops. Non-food crops or cash crops

can fetch more monetary benefits and is an attraction for banks to finance. Therefore variations in the level of area under non food crops can influence agricultural credit significantly. As we observed in the introductory chapter, there was a greater shift from food crops to cash crops during 1980s. Parallel to that there was a decline in the area under food crops.

Annual rate of growth (compound) of cash crops increased from 10.4 percent (in seventies) to 11.5 percent in the eighties whereas growth rate of food crops declined in eighties than in seventies. (See Table 4.2).

Table 4.2  
Area Under Non-food Crops

States	Compound Annual Rate of Growth (in percentage)			
	1970-71 to 1980-81		1980-81 to 1988-89	
	Food Crops	Non- Food Crops	Food Crops	Non-Food Crops
AP	-7.7	-7.9	-8.4	44.7
ASS	20.6	39.0	1.6	21.1
BIH	1.1	9.2	-4.7	-10.8
GUJ	-12.4	14.9	5.4	-14.8
HAR	3.4	70.0	5.3	-1.0
HIM	7.3	-60.0	-1.1	150.0
JK	9.1	0.0	4.8	40.0
KAR	-7.9	9.3	8.6	28.0
KER	-8.6	-11.7	-28.2	18.2
MP	5.6	0.0	0.8	39.8
MAH	8.7	2.9	2.8	13.0
MAN	42.9	0.0	-15.0	100.0
MEG	0.0	16.7	8.3	14.3
NAG	100.0	0.0	25.0	0.0
ORI	19.7	112.7	-1.7	29.9
PUN	23.2	24.1	12.0	6.5
RAJ	-4.1	35.1	3.2	37.9
TN	-21.0	-8.9	0.2	24.7
TRI	11.1	-25.0	-3.3	33.3
UP	4.3	2.9	1.2	-28.1
WB	-0.3	84.4	3.8	-14.1
INDIA	1.9	10.4	1.3	11.5
CV	2.6	2.5	10.4	1.5

Source : CMIE, Sept. . 1992.

Another important feature to be noted is that regional variation in the rate of growth of cash crops has infact decreased in the eighties whereas that of food crops increased considerably.

How far these developments influenced the supply of agricultural credit is to be analysed. For this we include percentage of area under non-food crops as an explanatory variable. Our hypothesis is the following:

**Hypothesis - 8**

Increase in the percentage of area under non food crops leads to higher amount of agricultural credit per hectare from SCBs.

**9. Consumption of Fertilizer per Hectare ( $X_9$ )**

The new agricultural technology is a package programme. The major aspect of the new agricultural technology which gave birth to the 'Green Revolution' is its input orientation. Use of fertilizer has become one of the major ingredient of the new package for the qualitative improvement of agriculture.

Fertilizer statistics data of per hectare consumption of fertilizers shows a very high growth over the years since the late sixties. The Table presented in the appendix (Table A<sub>9</sub>) reveals that while the all India average fertilizer consumption per hectare (in Kg) which was 10.7 in 1968-69 rose upto 62.4 kg by 1988-89. A 500 percent increase! However, the consumption varied considerably across the states. Ofcourse, Punjab ranked first all throughout these years in fertilizer consumption followed by Tamil Nadu,

Andhra Pradesh and Uttar Pradesh. Also other states of green revolution belt were growing fast in fertilizer consumption.

When we look into the coefficient of variation of fertilizer consumption for the 20 states, we learn that it has not declined much over the years. In 1969 CV was 0.85 and in 1980-89 it remained at 0.81. The growth rate in the fertilizer consumption also registered much regional fluctuations in the period 1980-89 (See Chart A1 in appendix). These variations in the consumption of fertilizers across the states could vary the demand as well as supply of agricultural credit from SCBs. Correlation between fertilizer consumption per hectare and per hectare SCBs' credit was positive and significant<sup>13</sup>. In a study made by Tara Shukla for the period 1960-69, she too found that there was significant correlation between institutional credit to agriculture and fertilizer use<sup>14</sup>. So let us see how far the fertilizer consumption per hectare determined the per hectare flow of agricultural credit of SCBs in the eighties. We assume a positive impact and it is postulated below.

#### **Hypothesis - 9**

Increase in fertilizer consumption per hectare leads to increase in SCBs' agricultural credit per hectare.

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<sup>13</sup> Correlation coefficient = 0.64 significant at 1% level on 2-tailed test.

<sup>14</sup> Tara Shukla, "Regional Analysis of Institutional Finance to Agriculture", Indian Journal of Agricultural Economics, Vol.26, 1971, Rapporteur's report on Institutional Credit to Agriculture, p.542.



To perceive the explanatory variables of our study at a glance, a descriptive statistics is given below:

Table 4.3

Descriptive Statistics of the Variables for the period 1980-89

Variables	Mean	Standard Deviation	Coefficient of Variation
$X_1$ Per capita overall out-standing credit (Rs.)	647.30	414.88	0.66
$X_2$ Per capita Deposit (Rs.)	1023.69	591.39	0.59
$X_3$ Population per bank office (in '000s)	16.00	5.62	0.34
$X_4$ Degree of Urbanisation(%)	21.20	7.71	0.36
$X_5$ Per hectare credit of co-operatives (Rs.)	249.41	154.43	0.70
$X_6$ Percent of gross irrigated area to gross cropped area (%)	30.91	19.64	0.64
$X_7$ Intensity of cultivation(%)	133.87	19.60	0.15
$X_8$ Percent of area under non-food crops (%)	20.32	12.08	0.60
$X_9$ Consumption of fertilizer per hectare (Kg)	40.10	31.74	0.81
Y Dependent variable: agricultural credit per hectare from Scheduled Commercial Banks (Rs.)	675.05	512.41	0.77

#### Method of Analysis

We have made use of the Ordinary Least Square (OLS) estimation of Multiple Regression Analysis in order to assess the major determinants responsible for the regional variations of agricultural credit per hectare of NSA. The functional form of the regression model used is log-linear model of the following form:

$$\ln Y = a_0 + a_1 \ln X_1 + a_2 \ln X_2 + a_3 \ln X_3 + a_4 \ln X_4 + a_5 \ln X_5 + a_6 \ln X_6 + a_7 \ln X_7 + a_8 \ln X_8 + a_9 \ln X_9 + U \quad [\text{Eq.4.1}]$$

Where  $Y$  - the dependent variable viz agricultural credit per hectare of NSA from SCBs

$X_1, X_2 \dots X_9$  - are the explanatory variables .

Where,

$X_1$  = Percapita overall outstanding credit of SCBs

$X_2$  = Percapita deposit of SCBs

$X_3$  = Population (in thousands) per bank office

$X_4$  = Degree of urbanisations

$X_5$  = Strength of Cooperative movement

$X_6$  = Percent of gross irrigated area to gross cropped area

$X_7$  = Intensity of cultivations

$X_8$  = Percent of area under non-food crops

$X_9$  = consumption of fertilizers per hectare

$a_1, a_2 \dots a_9$  - are their respective slope coefficients

$a_0$  - is the intercept and

$U$  - the error term

The data used in the analysis is the pooled data of the 20 states for the 10 year period from 1979-80 to 1988-89. Therefore the number of observations of each variables is 200 ( $N=200$ ). The regression results are given in the table 4.4 (See Eq.4.1). The coefficient of determination ( $R^2$ ) or the adjusted  $R^2$  ( $\bar{R}^2$ ), the measure of 'goodness of fit' of the model was found to be very high and its F-Statistic was significant at 1 percent level. Besides, the actual signs of the regression coefficients were found to be quite in accordance with our expectation. Therefore we can legitimately approve of the 'goodness of fit' of our model.

Table 4.4

Analysis of Regression of Commercial Banks' Agricultural Credit Per Hectare of Net Sown Area (Y)

Parameters	Equation 4.1	Equation 4.2
Constant	.194 (.126)	-.954 (-.394)
Regression Coefficients of		
X <sub>1</sub>	.520 (5.081)*	.515 (4.736)*
X <sub>2</sub>	-.238 (-2.495)*	-.195 (-1.941)*
X <sub>3</sub>	-.864 (-8.646)*	-1.009 (-9.993)*
X <sub>4</sub>	-.545 (-4.475)*	-.192 (-1.836)**
X <sub>5</sub>	-.099 (-3.877)*	-.121 (-4.337)*
X <sub>6</sub>	.048 (.649)	--
X <sub>7</sub>	1.081 (3.532)*	1.630 (3.399)*
X <sub>8</sub>	.244 (3.819)*	.209 (3.110)*
X <sub>9</sub>	.294 (4.225)*	--
X <sub>10</sub>	--	.147 (2.171)*
R <sup>2</sup>	.780	.752
F	75.009*	72.436*
$\bar{R}^2$	.770	.742

- statistics are in parenthesis

\* - refers to significant at 1 percent or 5 percent level

\*\* - refers to significant at 10 percent level

Coefficient of the variables are in elasticity form.

However among the explanatory variables X<sub>6</sub> (percent of irrigated area to GCA) didn't become significant even at 10 percent level. But theoretically as well as empirically X<sub>6</sub> is an important variable. Now a look at the correlation matrix reveals that there was very high inter correlation (rather, multi-collinearity)

between  $X_6$  and  $X_9$  (fertilizer consumption per hectare of GCA)<sup>15</sup>. When we tried a regression after dropping  $X_9$  we found that  $X_6$  immediately became significant. But  $X_9$  is also a key variable to be considered. Therefore we have taken a ratio of the variables  $X_9$  and  $X_6$  and named it as  $X_{10}$ .  $X_{10}$  therefore refers to fertilizer consumption per hectare of irrigated area and as such it combines the two variables  $X_6$  and  $X_9$ . We have formulated another regression equation with this variable as follows:

$$\ln Y = a_0 + a_1 \ln X_1 + a_2 \ln X_2 + a_3 \ln X_3 + a_4 \ln X_4 + a_5 \ln X_5 + a_6 \ln X_6 + a_7 \ln X_7 + a_8 \ln X_8 + a_{10} \ln X_{10} + U \quad [\text{Eq. 4.2}]$$

Where the variables and parameter refer to the same as in Equ. 4.1  
 $X_{10}$  = ratio of fertilizer consumption per hectare of GCA to percent of irrigated area to GCA.

Regression results of the equation 4.2 is also given in Table 4.4. Here too  $R^2$  was as high as 0.742 with a significant F-value. The signs of the parameters also had a theoretical consistency. An important factor to be noted is that in our equation 3.2 the variable  $X_{10}$  has become highly significant which in turn implies that both fertilizer consumption and percent of irrigated area have a significant influence on Y. Thus all our explanatory variables have become significant in explaining the variation of the dependent variable Y.

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<sup>15</sup> Empirically also, we know that application of the chemical fertilizers are supposed sufficient irrigation and they move together.

### *3.2 Interpretation of the Regression Result and Test of Hypotheses*

Here we undertake a brief interpretation of the regression results as given by equation 3.2 in order to explain the variation of SCBs' agricultural credit per hectare of NSA (Y).

1. Spread of bank office is a major determinant of SCBs' agricultural credit per hectare.

Regression coefficient of  $X_1$  is found to be -1.009 significant at 1 percent level. The negative sign implies that as population per bank office (in '000s) decreases, Y increases. It is when the bank branches expand, the population per bank office decreases. Therefore branch expansion of SCBs enhances agricultural credit per hectare. Therefore hypothesis : 3 is accepted. History of agricultural finance of SCBs is in support of this finding. Between 1969 and 1989 when the bank branches expanded from 8262 to 57699 (i.e 76 times) agricultural credit supply increased from Rs. 188 crores to 18,593 crores (ie 98 times). A recent study made by the World Bank Economist Binswanger for 83 districts of India for the period 1960/61 to 1981/82 has shown that branch expansion of commercial banks had accelerated the pace of private agricultural investment<sup>16</sup>. In our study the regression coefficient of -1.009 means that when population per bank office (in /000s) reduces by one unit (here by one thousand) agricultural credit per hectare increase by Rs. 1.009 units.

In the light of this finding we should think seriously about the impact of post 1990 decline in branch expansion and that too in the

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<sup>16</sup> A 10% increase in commercial bank branches increased investment in animals and pump sets by 4 to 8% and on tractors by 1.4% see H. Binswanger et al, Op.cit, p. 355.

rural centres. We shall take it for discussion in the next chapter.

### 2. Level of overall credit determines level of agricultural credit:

Level of overall credit, as represented by per capita credit ( $X_1$ ) shows a positive and significant impact on Y and therefore we shall accept the hypothesis : 1. Regression coefficient of  $X_1$  was 0.515 which means that when per capita credit increases in a region by Rs. 100 agricultural credit per hectare may show an increase of Rs. 52. Thus increase in the overall credit in a place attracts more agricultural credit also.

But the significant positive correlation between degree of urbanisation ( $X_1$ ) and  $X_1$  (Table 4.1) leads us to conclude that areas of higher economic development attracts more overall credit. In addition to this, if more agricultural credit happens to flow to the areas with more overall credit, it would result in a multiplied flow of funds in the economically better of regions. As far as states lying below the national average in per capita credit are concerned, this phenomenon would create and perpetuate a vicious circle of underdevelopment. This calls for some definite policy measure to be implemented. We shall come back to this point in the next chapter.

### 3. Per capita deposit has shown a negative impact on agricultural credit per hectare:

The regression coefficient of  $X_2$  was found to be negative and significant. Therefore the hypothesis : 2 which assumes a positive impact of  $X_2$  on Y stands rejected. Though this result looks a bit baffling at first, it is understandable. In order to understand

this problem, let us see whether the per capita deposit had a negative impact on the overall credit too. For this we have run a regression of per capita credit ( $X_1$ ) on per capita deposit and the other related banking variables plus the degree of urbanisation which represents the level of non-agricultural activities. The equation used in the analysis was the following:

$$\ln X = a_0 + a_2 \ln X_2 + a_3 \ln X_3 + a_4 \ln X_4 + a_5 \ln X_5 + U \quad [\text{Eq.4.3}]$$

where  $X_1$  - per capita credit  
 $X_2$  - per capita deposit  
 $X_3$  - Population per bank office  
 $X_4$  - Degree of urbanisation  
 $X_5$  - Cooperatives' agricultural credit per hectare  
 $a_0$  - the intercept  
 $U$  - error term

Results of the regression analysis of the equation 4.3 in given below:

Table - 4.5  
 Result of the Regression Analysis of Per capita Credit ( $X_1$ )  
 Equation 4.3  
 (N = 200)

Parameters:	Regression Coefficient of						
Constant	$X_2$	$X_3$	$X_4$	$X_5$	$R^2$	F	$\bar{R}^2$
-.692 (-1.400)	.985 (24.631)*	.096 (1.169)	.183 (4.395)**	.022 (.998)	818	218.405*	.814

t. Statistics are in parenthesis  
 \* refers to significant at 1 percent or better  
 \*\* refers to significant at 5 percent or 10 percent level.  
 Coefficients are in elasticity form.

Equation 4.3 has shown a very high  $R^2$  with significant F value. Out of the four variables only 2 variables are significant. The most important point to be noted is that regression coefficient of  $X_2$  is positive, significant and also quite large. This means that

increase in per capita deposit is a powerful variable to explain per capita credit. Secondly the positive and significant regression coefficient of  $X_4$  reveals that increase in non agricultural activity positively influences per capita credit.

Now let us come back to our problem. In the light of these findings the negative impact of  $X_2$  on  $Y$  may mean that increase in the deposit is linked with increased flow of credit to non-agricultural sector and as a consequence agricultural credit is slashed along with an increase in deposits.

It implies that the benefits of banking is largely restricted to a group who are creditors as well as depositors. Certainly, the number of depositors are much higher in the non agricultural sector than in the agricultural and the increased deposits become more beneficial to the non-agricultural sector.

In this context, the relevance for the stipulation of a higher C-D ratio for the rural and under developed regions becomes clearer. Lowering of C-D ratio in the rural/semi urban centres in the post 90s raise much concern.

For a more balanced regional growth, maintaining a higher C-D ratio as well as a higher Investment + Credit - Deposit ratio in favour of the rural and under developed regions is essential.

**4. Intensity of cultivation leads to increased flow of agricultural credit per hectare:**

Hypothesis : 7 is accepted because parameter of  $X_7$  is positive and



significant. It means that SCBs preferred areas of higher cultivation intensity in providing finance. It is quite natural that in such areas agricultural activities and thereby demand for credit would be more.

It would be interesting to see whether there is any relationship between intensity of cultivation and farm size. It is argued that small holdings exhibit greater cropping intensity<sup>17</sup>. If so SCBs were financing more the small holdings than the medium and large, by way of their preference for cropping intensity. Empirically it is quite true. In Chapter 3 we observed that the per hectare credit from SCBs was much higher in small and marginal farms than in non small farms (Tables 3.22 & 3.23). Indeed, it is quite a welcoming trend. But in the future if cropping intensity tends towards large farms on account of capital intensive technology will SCBs' credit also follow the large ones? In such a case SCBs may have to follow an equity criterion too along with mere productivity concerns.

#### 5. Percent of area under non-food crops attracts more agricultural credit per hectare:

The variable  $X_8$  had shown a positive influence on Y and the regression coefficient of  $X_8$  was positive and significant (Table 4.3, Eq.4.2). Hypothesis 8 that postulates that increase in area under non food crops leads to increase in per hectare credit is accepted.

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<sup>17</sup> A.K. Sen, "size of Holdings and Productivity", The Economic Weekly, Vol.16, 1964 p.322. See also G.R. Saini, "Holding size, productivity and some related Aspects of Indian' Agriculture" Economic and Political Weekly, June 1971.

In table A.2 we had observed that in those states where the annual growth rate of area under non-food crops was slower in the 70s picked up in 80s and as a result the regional variation in the growth of area under non-food crops decreased in the 80s. If so, we may rightly argue that one reason behind the slight reduction noticed in the disparity in agricultural credit per hectare in the 80's may be this reduction in the regional variation in the growth of area under non food crops.

**6. SCBs' agricultural credit per hectare has flowed more to regions where co-operative credit was weak:**

Regression coefficient of  $X_5$  was found to be negative and significant (-.121 significant at 1 percent level). It means that agricultural credit per hectare from SCBs was more where the co-operatives' credit per hectare was less. This validates our hypothesis 5.

The negative impact of  $X_5$  on Y is an important finding. It means that SCBs have become more conscious as to finance areas and persons not covered by the cooperatives. In fact this is what is required of both SCBs and co-operatives. We saw early that in late 60s and in early 70s credit was flowing to almost the same beneficiaries from both these institutions. Therefore a slight reversal of trend seen in the eighties is welcome.

**7. The higher the degree of urbanisation the lower the agricultural credit per hectare:**

Just the opposite was our hypothesis (Hypothesis : 4). We assumed that both agricultural as well as non agricultural credit may flow

more to regions of higher urbanisation, resulting in a multiplied flow of funds in such centres. But the negative regression coefficient of  $X_4$  reveals that agricultural credit per hectare is less where urbanisation is more. Therefore hypothesis 4 is rejected. Its implication is that even though in more urbanised centres more bank credit is attracted, (as seen in the positive regression coefficient of  $X_4$  in Eq.4.3) lion's share of it is going to the non agricultural sectors. Empirically also it is true. In the case of Maharashtra, for instance, (the state with highest degree of urbanisation) of the total bank credit of Rs. 30,163 crores at the end of December 1991, as much as Rs. 23,714 Crores (or 78.6 percent) is attributable to the city of Bombay or Rs. 25,496 Crores (84.5 percent) to its metropolitan centres as a whole. The balance of bank credit of Rs. 4667 Crores for the rest of Maharashtra just compares with that of Rs. 3824 crore for Bihar<sup>18</sup>, per hectare agricultural credit of Maharashtra was only Rs. 868 in 1989 which was comparatively low (Table A1). This calls for a healthy distribution of credit between the sectors.

#### **8. Extent of irrigation and fertilizer consumption positively influences agricultural credit per hectare:**

We mentioned early that variable  $X_{10}$  refers to the ratio of variables  $X_9$  and  $X_6$ . In the regression parameter of  $X_{10}$  was 0.147 which was significant at 5 percent level. It means that both, extent of irrigation and of fertilizer consumption of a region leads to an increase in the agricultural credit per hectare. Therefore both hypothesis 6 and 9 are accepted.

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<sup>18</sup> R.B.I. Staff Paper, Op.cit pp.2

Study of Binswanger et al, which we quoted earlier had also found that irrigated area is preferred by banks<sup>19</sup>. The negative correlation between percent of gross irrigated area ( $X_6$ ) and population per bank office ( $X_3$ ) which we observed in Table-4.1 also means the same.

Increased fertilizer consumption leading to increased credit per hectare implies that SCBs' agricultural financing has taken up an input orientation. That means banks give a weighage to the purpose of credit.

In chapter 2 we had found that even in the beginning of 80's asset orientation was predominant in SCBs' financing of agriculture. If this input orientation is a sign of shift from the asset orientation, it is, certainly, a welcoming trend.

*To sum up:*

To sum up, in this chapter we have made an attempt to explain the regional variation of SCBs' agricultural credit per hectare by way of multiple regression analysis. The model we used could explain the variation to a great extent. By using the Equation 4.2 we found that all the 9 explanatory variables were significant in explaining the variation of agricultural credit per hectare. While the variables per capita credit, percent of area under non food crops, intensity of cultivation and the fertilizer consumption per hectare irrigated area showed positive influence on SCBs' agricultural credit per hectare, the other variables viz. population per Bank Office, co-operatives' agricultural credit per

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<sup>19</sup> Binswanger et.al. Op.cit. p.363.

hectare, per capita deposit and degree of urbanisation showed a negative impact. We have also mentioned in brief the major implications of the regression findings. In the light of this analysis we shall present in the next chapter certain remarks and suggestions for a more balanced distribution of SCBs' agricultural credit.

APPENDIX

Table - A.1

Per Hectare Credit to Agriculture from Commercial Banks

(in Rs.)

STATES	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90
AP	366.84	392.20	494.94	595.97	888.20	997.01	1193.51	1430.80	1505.66	1518.53	938.37
ASS	171.44	230.74	251.11	213.81	305.62	315.28	326.53	566.66	656.67	802.80	384.07
BHR	162.02	208.17	334.41	329.05	324.31	372.45	465.33	579.94	709.20	823.83	430.87
GUJ	174.40	241.08	265.53	293.12	353.80	391.59	467.60	552.76	711.46	805.98	425.73
HAR	425.86	503.21	611.06	597.03	1415.46	1536.99	1844.56	1366.93	1789.40	1833.90	1192.44
HTM	221.28	176.33	442.14	543.33	703.63	731.08	970.71	979.00	1122.59	1259.93	715.00
JK	158.74	208.26	245.71	289.17	688.48	782.89	755.31	591.18	737.43	624.24	508.14
KAR	256.90	315.80	381.38	441.46	538.04	708.09	1011.02	1147.17	1261.83	1397.98	745.97
KRR	658.80	938.70	1102.98	1067.39	1480.00	1674.04	1924.14	3266.86	2924.31	3048.16	1808.54
MP	77.88	103.22	128.05	144.56	174.78	210.91	259.94	332.00	382.11	477.65	229.11
MAH	77.36	75.87	120.24	116.69	156.16	188.61	460.60	597.97	581.80	867.61	324.29
MAW	178.69	216.33	262.17	358.85	328.39	373.71	325.51	566.45	636.75	774.99	402.18
MCG	57.96	90.82	118.81	150.56	254.66	291.23	792.88	1479.45	1275.21	1294.83	580.64
ORT	136.53	149.67	204.06	276.82	316.79	372.78	421.69	524.24	627.82	843.33	387.37
PUN	550.83	794.28	945.33	1055.51	2892.93	3753.11	2543.65	1926.39	2008.93	2229.24	1870.02
RAJ	89.79	115.14	138.72	172.13	206.12	250.96	307.39	337.36	525.90	465.75	260.93
TR	472.57	783.50	876.34	978.18	980.10	1194.53	1425.06	1868.90	2200.88	2915.50	1369.56
TRT	201.65	213.70	213.03	473.77	287.50	340.54	854.93	1254.70	1243.77	1570.82	665.44
UP	194.98	258.45	308.68	373.79	377.17	421.47	526.45	567.79	658.83	821.28	450.89
WB	261.25	350.89	395.06	370.28	357.43	474.65	595.19	634.84	899.24	2226.73	656.56
NRAN	244.79	318.32	391.99	442.07	651.48	769.10	693.38	786.21	1122.99	1330.15	675.05
SD	162.09	242.70	277.62	284.64	637.55	803.34	612.06	703.04	651.58	749.49	512.41
CT	0.66	0.76	0.71	0.64	0.98	1.04	0.88	0.89	0.58	0.56	0.77

SOURCE : Computed from RSR Credit data and NSA data from Agricultural Statistics

Table - A.2

## Per Capita Outstanding Credit of Commercial Banks

(in Rs)

STATES	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1980-89
AP	284.00	341.00	324.00	393.00	550.00	643.00	734.00	861.00	1005.00	1191.00	632.60
ASS	133.00	124.00	176.00	173.00	312.00	354.00	323.00	416.00	515.00	666.00	319.20
BTH	116.00	132.00	132.00	170.00	174.00	199.00	220.00	245.00	294.00	341.00	202.30
GUJ	497.00	487.00	539.00	586.00	704.00	837.00	929.00	1073.00	1268.00	1560.00	848.00
HAR	565.00	517.00	628.00	760.00	1029.00	1195.00	1395.00	1431.00	1433.00	1730.00	1068.30
HTK	160.00	206.00	383.00	326.00	550.00	610.00	788.00	664.00	760.00	907.00	535.40
JK	193.00	239.00	269.00	367.00	615.00	786.00	744.00	676.00	706.00	794.00	538.90
KAR	455.00	416.00	472.00	587.00	734.00	846.00	1059.00	1338.00	1468.00	1673.00	904.80
KER	416.00	468.00	514.00	565.00	765.00	841.00	931.00	1222.00	1321.00	1469.00	851.20
MP	141.00	153.00	178.00	220.00	272.00	318.00	376.00	483.00	563.00	733.00	343.70
MAH	924.00	885.00	938.00	1379.00	1748.00	2078.00	2157.00	2164.00	2293.00	2976.00	1754.20
MAN	57.00	52.00	62.00	74.00	113.00	134.00	219.00	284.00	351.00	445.00	179.10
MKG	74.00	77.00	99.00	110.00	167.00	218.00	377.00	524.00	594.00	611.00	285.10
ORT	110.00	136.00	161.00	207.00	264.00	308.00	367.00	487.00	603.00	776.00	341.90
PUN	685.00	697.00	855.00	945.00	1542.00	1964.00	1764.00	1644.00	1689.00	2009.00	1379.40
RAJ	206.00	206.00	236.00	285.00	365.00	424.00	467.00	512.00	568.00	739.00	400.80
TN	511.00	535.00	612.00	641.00	778.00	905.00	1046.00	1291.00	1494.00	1904.00	971.70
TRI	109.00	107.00	159.00	197.00	261.00	315.00	361.00	471.00	558.00	673.00	321.10
UP	167.00	179.00	210.00	256.00	316.00	314.00	378.00	426.00	478.00	585.00	330.90
WB	492.00	434.00	505.00	601.00	575.00	761.00	722.00	864.00	1016.00	1404.00	737.40
INDIA	408.00	408.00	465.00	554.00	683.00	794.00	862.00	969.00	1078.00	1343.00	756.40
MAH	314.75	319.55	372.60	442.10	591.70	702.50	767.85	853.80	948.85	1159.30	647.30
SD	233.31	221.70	245.40	315.53	426.72	522.60	510.32	503.26	518.98	651.02	414.88
CV	0.74	0.69	0.66	0.71	0.72	0.74	0.66	0.59	0.55	0.56	0.66

Source: RBI, B.S.R. (Various issues), Census of India, 1981

Table - A3

Per Capita Deposit from Commercial Banks

( in Rs.)

States	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1980-89
AP	316.56	395.81	462.01	570.98	695.53	844.16	971.32	1141.89	1337.16	1499.77	823.52
ASS	169.70	198.14	242.50	285.47	353.82	458.95	522.16	633.08	752.68	826.70	444.32
BTH	198.11	249.15	278.54	336.64	400.05	504.75	607.31	729.24	890.08	1023.55	521.74
GOJ	702.86	845.81	943.67	1072.11	1295.19	1483.24	1681.10	1945.29	2280.25	2653.61	1490.31
HAR	447.06	553.31	663.55	764.21	906.54	1109.50	1334.90	1634.25	1941.43	2274.86	1162.96
HTM	442.37	545.40	659.40	776.81	954.42	1112.23	1416.09	1701.00	2103.67	2436.84	1214.22
JR	546.03	627.58	692.47	814.65	966.83	1250.18	1494.27	1797.62	2037.17	2309.33	1253.61
KAR	453.51	550.35	631.51	732.73	867.50	1046.69	1213.96	1414.49	1670.34	1913.98	1049.51
KER	505.04	614.63	712.17	842.94	1032.45	1228.08	1448.44	1722.80	1961.91	2227.28	1229.57
KP	205.58	245.99	283.81	343.86	413.90	515.11	626.39	775.29	921.16	1052.81	538.39
MAH	996.21	1208.65	1310.55	1538.66	1849.00	2288.87	2783.38	3121.35	3638.52	4329.49	2306.47
MAE	150.57	131.71	143.86	157.07	147.71	219.57	284.57	379.43	498.71	583.50	269.67
MRC	386.08	416.54	483.00	547.08	693.46	975.92	1124.23	1490.85	1913.38	2013.85	1004.44
ORT	135.72	177.57	197.95	246.30	274.39	346.73	407.46	496.73	610.77	710.60	360.42
PUH	1044.01	1286.28	1509.32	1760.16	2061.30	2450.74	2920.55	3493.55	4092.51	4618.01	2523.64
RAJ	217.90	266.24	315.93	385.26	460.54	576.15	687.22	824.57	987.81	1146.20	586.78
TK	474.89	543.98	610.26	738.91	866.03	1067.92	1200.00	1426.20	1649.08	1934.41	1051.17
TRT	149.90	195.48	194.95	265.67	311.76	394.38	521.43	640.71	817.86	983.76	447.59
UP	282.05	354.36	405.56	516.11	581.61	708.20	828.82	1003.65	1217.90	1369.29	726.76
WB	694.00	836.12	946.05	1095.45	1196.88	1401.22	1706.58	1974.40	2267.05	2569.62	1468.74
MAH	425.91	512.15	584.35	689.25	816.45	999.13	1189.01	1417.32	1679.47	1923.87	1023.69
SD	260.79	318.86	361.29	415.81	492.34	581.88	696.12	800.04	922.58	1064.14	591.39
CV	0.61	0.62	0.62	0.60	0.60	0.58	0.59	0.56	0.55	0.55	0.59

Source : RBI , B.S.R. (various issues)

Census of India , 1981



Table - A4

## POPULATION PER BANK OFFICE

(Population in '00(Rs.))

STATES	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1980-89
AP	21	19	18	16	15	13	13	13	12	12	15
ASS	43	39	35	30	28	23	21	20	19	18	28
BHR	35	29	25	23	22	18	17	16	16	15	22
GUJ	15	14	14	13	12	11	11	11	11	10	12
HAR	16	16	15	14	13	12	12	11	11	10	13
HTM	13	11	10	9	9	8	8	8	7	6	9
JK	15	13	11	10	9	9	8	8	8	8	10
KAR	13	13	12	12	11	10	9	9	9	8	11
KER	12	11	10	10	10	9	9	9	9	9	10
MP	28	24	21	19	16	14	14	14	13	13	18
MAH	18	17	16	15	14	13	13	13	12	12	14
MAW	41	39	37	32	28	24	21	21	21	21	29
MCG	24	23	20	17	14	11	10	10	10	9	15
ORT	33	27	21	20	18	16	15	15	14	14	19
PUN	11	10	10	9	9	8	8	8	8	8	9
RAJ	22	21	19	18	16	13	13	13	12	12	16
TN	17	16	15	14	13	12	12	12	12	12	14
TRT	27	24	24	23	23	20	15	15	14	13	20
UP	28	27	23	21	19	16	15	15	14	14	19
WB	27	24	22	21	20	17	16	16	15	14	19
NRAN	22.95	20.85	18.90	17.30	15.95	13.85	13.00	12.85	12.35	11.90	16.0
SD	9.38	8.31	7.41	6.33	5.71	4.56	3.79	3.66	3.51	3.53	5.62
CV	0.41	0.40	0.39	0.37	0.36	0.33	0.29	0.29	0.28	0.30	0.34

Source : RBI , B.S.R. (various issues)  
Census of India , 1981

Table - A5

## Degree of Urbanisation

(Percentage of Urban Population in a State to the Percentage of Urban Population in India)

STATES	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1980-89
AP	0.98	0.98	0.99	1.00	1.00	1.01	1.02	1.02	1.03	1.04	1.01
ASS	0.42	0.42	0.42	0.42	0.42	0.42	0.43	0.43	0.43	0.43	0.42
BTN	0.53	0.53	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52
GUJ	1.31	1.31	1.32	1.32	1.32	1.32	1.33	1.33	1.33	1.34	1.32
HAR	0.92	0.92	0.93	0.93	0.94	0.94	0.95	0.95	0.96	0.96	0.94
HTM	0.32	0.32	0.32	0.32	0.33	0.33	0.33	0.33	0.33	0.34	0.33
JK	0.89	0.89	0.89	0.90	0.90	0.90	0.91	0.91	0.92	0.92	0.90
KAR	1.22	1.22	1.22	1.22	1.21	1.21	1.21	1.21	1.21	1.20	1.21
KRR	0.79	0.79	0.82	0.84	0.87	0.90	0.93	0.96	0.99	1.02	0.89
MP	0.84	0.84	0.85	0.85	0.86	0.87	0.87	0.88	0.89	0.90	0.86
MAH	1.48	1.48	1.48	1.48	1.49	1.49	1.49	1.50	1.50	1.50	1.49
MAN	1.11	1.11	1.11	1.11	1.10	1.10	1.10	1.09	1.09	1.08	1.10
MEG	0.76	0.76	0.76	0.75	0.75	0.75	0.74	0.74	0.74	0.73	0.75
ORI	0.50	0.50	0.50	0.50	0.51	0.51	0.51	0.51	0.52	0.52	0.51
PUN	1.17	1.17	1.17	1.17	1.16	1.16	1.16	1.16	1.16	1.16	1.16
RAJ	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
TK	1.39	1.39	1.38	1.38	1.37	1.36	1.36	1.35	1.35	1.34	1.37
TRI	0.46	0.46	0.48	0.49	0.51	0.52	0.54	0.56	0.57	0.59	0.52
UP	0.76	0.76	0.76	0.76	0.76	0.76	0.77	0.77	0.77	0.77	0.76
WB	1.12	1.12	1.11	1.11	1.10	1.10	1.09	1.08	1.08	1.07	1.10
INDIA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
NEAR	0.89	0.89	0.90	0.90	0.90	0.90	0.91	0.91	0.91	0.92	0.90
SD	0.33	0.33	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.31	0.32
CV	0.37	0.37	0.36	0.36	0.36	0.35	0.35	0.35	0.35	0.34	0.35

SOURCE : Computed from Census of India, 1981 &amp; 1991

Table - A6

## Per Hectate Credit of NSA from Co-operative Banks

(in Rs.)

States	1980	1981	1982	1983	1984	1985	1986	1988	1989	1980-89
AP	151.72	237.15	163.34	217.90	220.45	262.92	272.81	422.30	404.04	262.58
ASS	5.28	7.61	5.44	5.43	5.42	5.42	5.56	5.56	5.56	5.56
BIH	41.82	36.65	71.77	65.53	47.23	59.80	49.81	274.57	323.51	189.82
GUJ	165.17	144.48	207.87	205.46	223.11	273.44	284.28	409.78	386.65	257.29
HAR	327.51	500.12	503.78	570.63	556.96	587.88	666.11	741.31	766.96	415.86
HTM	90.44	116.46	133.88	169.26	182.28	196.93	238.54	314.75	318.58	242.10
JK	57.59	56.43	63.76	75.05	47.24	36.37	28.27	30.00	42.93	47.94
KAR	95.61	140.85	129.42	148.10	201.69	200.44	233.81	291.20	159.35	243.67
KRR	548.78	767.23	726.60	773.88	969.59	1173.55	1347.33	1702.99	1664.28	554.27
KP	74.97	76.89	87.80	93.83	82.69	114.08	169.90	191.97	199.24	177.49
MAH	119.57	165.08	184.19	201.90	212.95	216.85	235.13	360.93	513.91	227.19
MAN	158.76	91.66	75.02	75.02	75.02	75.02	75.02	75.02	75.02	95.10
MCG	43.48	82.51	14.09	32.36	59.29	60.06	99.23	97.71	80.00	156.80
ORT	122.74	140.17	126.03	191.90	146.43	126.53	98.21	121.51	31.01	227.90
PUN	534.12	656.81	755.82	886.50	814.63	967.93	879.40	981.73	1261.00	530.94
RAJ	73.14	92.44	99.96	107.40	87.93	100.38	112.80	180.45	70.46	174.29
TN	81.15	61.89	165.85	220.29	303.44	383.07	545.27	792.54	1078.24	219.57
TRI	31.29	57.13	39.39	27.67	23.43	43.84	103.57	119.45	138.50	117.88
UP	157.02	137.67	151.32	161.86	179.81	171.67	131.24	162.40	150.00	176.82
WB	90.49	96.23	101.06	79.88	103.35	101.62	103.81	107.10	100.00	149.63
MEAN	148.53	183.27	190.32	215.49	227.15	282.08	311.08	427.81	460.25	249.41
SD	147.14	203.14	209.51	236.47	253.47	303.41	327.67	400.26	447.90	154.43
CV	0.99	1.11	1.10	1.10	1.12	1.08	1.05	0.94	0.97	1.11

SOURCE 1. Statistical statements relating to Co-operative Movement in India, Part -I Credit Societies, (various issues)  
2. Agricultural Statistics,

Table - A7

## Percent of Gross Irrigated Area to Gross Cropped Area

STATES	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1980-89
AP	34.5	35.4	35.9	35.4	37.8	36.6	35.8	37.3	35.4	41.4	36.55
ASS	17.3	17.0	16.5	16.0	15.9	15.4	15.1	15.7	15.5	15.5	15.99
BH	32.6	32.6	33.7	34.7	34.8	36.7	36.3	36.7	39.3	40.3	35.77
GUJ	20.8	21.8	23.1	23.9	25.2	27.0	29.0	24.7	22.9	22.9	24.13
HAR	64.4	60.6	59.3	67.1	63.2	63.6	65.7	69.1	62.9	67.8	64.37
HTH	16.6	16.5	17.0	16.6	17.0	17.1	17.4	17.3	17.7	17.4	17.06
JK	40.5	40.2	40.5	40.4	40.9	40.5	41.1	38.8	39.6	41.8	40.43
KAR	15.2	15.7	16.0	16.0	16.9	18.0	18.1	19.0	18.8	22.0	17.57
KER	13.9	13.3	13.2	13.6	13.8	14.7	13.9	15.0	13.6	13.7	13.87
MP	10.7	11.5	11.5	12.4	12.7	13.9	13.4	15.6	15.1	16.7	13.35
MAR	12.2	12.3	13.2	12.5	13.1	12.3	11.8	12.4	12.1	12.1	12.40
MAH	32.6	31.9	31.3	40.8	40.8	39.9	40.5	42.1	39.9	39.5	37.93
MCG	22.8	22.8	25.2	24.8	24.1	23.7	23.9	23.8	21.3	21.3	23.37
ORT	20.2	19.6	22.9	24.1	21.0	23.1	23.3	22.5	22.7	25.6	22.50
PUN	87.2	85.5	86.1	88.9	89.9	90.5	91.0	91.2	91.7	92.4	89.44
RAJ	24.9	21.6	20.0	22.2	21.3	22.2	21.3	24.7	30.0	23.2	23.14
TR	51.6	50.9	49.6	45.3	40.8	49.5	47.5	43.6	43.8	44.5	46.71
TRT	9.9	8.9	9.0	9.0	9.6	9.6	9.7	9.8	10.5	9.2	9.52
UP	46.7	46.3	46.9	49.1	48.5	50.7	50.8	51.2	57.0	55.9	50.31
WB	20.8	24.0	23.5	26.2	25.2	25.2	23.9	23.3	22.8	23.0	23.79
NRAM	29.77	29.42	29.72	30.95	30.63	31.51	31.48	31.69	31.63	32.31	30.91
SD	19.49	18.87	18.70	19.72	19.37	19.72	19.99	20.01	19.96	20.53	19.64
CV	0.65	0.64	0.63	0.64	0.63	0.63	0.64	0.63	0.63	0.64	0.64

SOURCE: Agricultural Statistics

Table - A 8

Intensity of Cultivation (Percentage of GCA to NSA)

STATES	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1980-89
AP	116.60	114.40	115.20	115.70	117.10	116.10	116.00	116.30	116.00	119.40	116.28
ASS	124.12	125.10	127.90	132.20	132.90	137.70	140.30	134.30	136.70	136.70	132.79
BTH	131.80	134.10	135.20	128.10	135.30	134.90	136.60	137.10	138.10	138.30	134.95
GGJ	110.79	111.70	112.80	114.20	115.40	107.50	100.30	113.60	110.40	110.40	110.71
HAR	136.67	151.60	159.20	147.60	158.00	152.40	155.00	156.40	144.90	168.70	153.05
HIM	164.81	165.40	165.60	167.80	163.70	170.30	167.10	169.00	169.30	168.30	167.13
JK	135.60	136.20	136.60	138.40	138.70	140.00	140.70	141.10	143.50	146.90	139.77
KAR	107.56	107.70	108.10	107.70	108.20	110.50	109.60	112.30	114.10	112.60	109.84
KRR	130.02	131.30	133.90	131.30	131.20	131.60	130.80	129.90	131.20	133.90	131.51
MP	113.19	114.40	115.50	116.80	117.70	116.70	118.60	116.30	117.50	117.60	116.43
MAH	109.80	109.10	111.30	110.70	112.90	112.60	115.20	110.00	108.50	108.90	110.90
MAK	167.86	167.90	171.40	134.30	131.40	134.30	132.10	135.70	134.30	135.70	144.50
MCG	115.91	116.10	104.70	106.70	109.80	111.40	110.40	110.50	122.40	121.90	112.98
ORT	136.78	142.70	140.30	139.00	151.80	139.50	146.40	147.80	152.70	146.00	144.30
PUN	156.28	161.40	164.60	134.60	165.60	167.40	170.60	171.90	176.20	175.50	164.41
RAJ	115.23	113.60	119.40	117.50	116.30	113.60	116.50	114.30	115.60	116.80	115.88
TN	123.83	120.70	120.40	114.70	118.80	122.50	119.70	117.50	116.40	116.30	119.08
TRI	158.96	161.40	166.80	169.40	169.00	167.10	165.20	157.70	161.10	164.80	164.15
UP	139.09	142.70	143.30	143.40	145.10	145.60	145.20	146.30	142.60	146.70	144.00
WB	141.54	136.90	132.80	125.80	146.80	146.90	149.50	153.70	157.00	155.70	144.66
MEAN	131.82	133.22	134.25	129.80	134.29	133.93	134.29	134.59	135.43	137.06	133.87
SD	18.28	19.59	20.98	17.49	19.32	19.55	20.23	19.79	19.87	20.88	19.60
CV	0.14	0.15	0.16	0.13	0.14	0.15	0.15	0.15	0.15	0.15	0.15

SOURCE: AGRICULTURAL STATISTICS

Table - A9

## Percentage of Area under Non -Food Crops to Total Area

STATES	1980	1981	1982	1983	1984	1985	1986	1987	1989	1980-89
AP	22.27	25.64	22.60	24.05	24.37	26.89	27.86	34.10	35.27	27.01
ASS	17.46	18.45	17.89	19.07	19.18	19.81	19.20	19.10	21.23	19.04
BIH	4.75	7.65	4.35	4.63	4.53	4.43	5.12	9.70	7.19	5.82
GUJ	50.15	50.00	48.21	48.18	46.60	49.33	49.40	62.70	44.72	49.92
HAR	19.99	20.40	21.84	24.30	22.95	24.32	24.59	26.90	19.42	22.75
HIM	3.29	2.22	3.91	3.49	3.53	3.35	3.48	9.30	5.43	4.22
JK	8.38	5.62	9.05	8.94	9.28	9.63	10.79	14.60	7.37	9.30
KAR	27.67	30.68	27.43	27.85	22.95	29.93	29.10	33.50	34.28	29.27
KER	38.49	37.89	38.66	40.10	40.94	42.57	43.97	44.25	48.26	41.68
MP	15.85	13.55	16.52	16.63	16.98	18.84	18.74	20.30	17.85	17.25
MAH	26.10	27.37	27.55	28.74	26.71	26.54	28.40	31.10	29.30	27.98
MAN	2.00	2.34	1.17	2.61	2.61	2.56	2.49	21.10	10.53	5.27
MKG	12.93	12.63	12.31	12.69	12.42	13.44	13.68	38.10	38.10	18.48
ORI	10.50	14.46	11.25	11.89	12.31	12.05	12.34	24.50	18.27	14.17
PUN	24.34	25.61	24.94	24.58	22.74	21.08	22.03	23.10	17.50	22.88
RAJ	26.26	27.01	28.33	28.74	27.88	30.43	27.09	27.60	27.70	27.89
TG	23.29	24.15	22.82	23.95	23.49	25.17	25.89	36.60	34.50	26.65
TRI	8.60	9.09	6.78	7.78	8.08	8.15	8.89	36.60	12.12	11.79
UP	6.91	7.33	7.70	7.63	7.18	7.94	7.80	18.21	16.69	9.71
WB	11.74	14.35	13.61	13.66	13.02	14.20	16.46	24.00	16.16	15.24
MEAN	18.05	18.82	18.35	18.98	18.39	19.53	19.87	27.77	23.09	20.32
SD	11.94	12.08	11.85	11.98	11.55	12.39	12.32	12.23	12.39	12.08
CV	0.66	0.64	0.65	0.63	0.63	0.63	0.62	0.44	0.54	0.60

SOURCE: AGRICULTURAL STATISTICS

Table - A 10

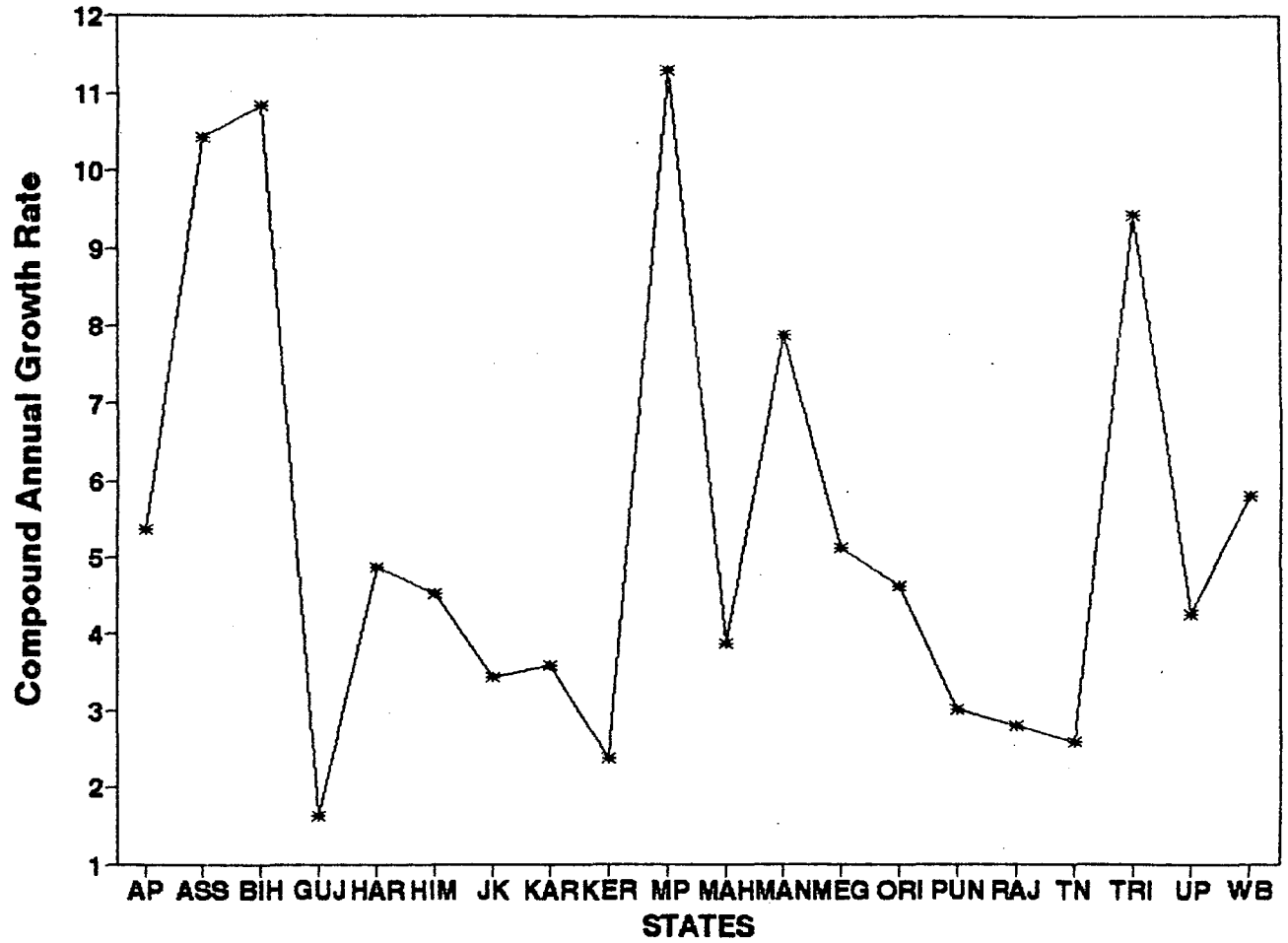
## Fertilizer Consumption Per hectare of GCA

(in Kg.)

STATES	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1980-89
AP	42.70	45.90	50.00	53.00	69.20	76.70	69.60	67.20	83.47	116.00	67.38
ASS	2.06	2.80	3.30	4.10	5.30	3.90	4.70	4.70	5.47	7.00	4.33
BTH	15.90	17.80	18.00	18.50	26.60	39.60	52.00	51.40	53.70	58.30	35.18
GUJ	36.60	34.40	38.60	38.70	46.90	49.40	41.30	38.60	45.30	58.70	42.85
HAR	39.70	42.50	45.50	47.40	59.20	63.40	70.20	72.90	78.57	89.90	60.93
HIM	15.00	17.40	19.50	19.50	19.30	22.70	24.70	26.90	28.23	30.90	22.41
JK	23.50	21.40	21.80	32.30	36.70	29.10	37.00	30.00	37.40	52.20	32.14
KAR	33.20	31.10	34.40	38.30	45.40	53.00	49.80	52.80	57.77	67.70	46.35
KER	36.20	33.40	32.90	36.90	45.40	44.70	49.80	49.30	57.73	74.60	46.09
KP	7.40	9.20	10.90	11.00	14.60	16.80	19.40	21.80	24.80	30.80	16.67
MAH	21.30	21.20	26.60	26.30	31.80	29.20	33.60	31.80	35.67	45.00	30.17
MAN	14.60	14.50	15.40	18.30	21.00	20.20	26.30	30.70	45.07	73.80	27.99
MEG	8.30	12.20	9.50	11.70	11.90	13.90	14.40	16.20	15.77	14.90	12.88
ORI	8.50	9.60	9.90	10.80	13.10	13.70	16.90	13.00	14.13	16.40	12.60
PUN	106.80	117.90	123.70	127.80	149.30	151.40	159.90	159.90	158.17	154.70	140.96
RAJ	8.60	8.00	7.90	9.10	11.80	11.30	12.00	13.10	14.50	17.30	11.36
TN	69.30	63.20	66.70	58.60	86.70	114.50	110.80	97.10	104.07	118.00	88.90
TRT	5.50	5.10	7.00	6.80	9.60	8.20	13.90	18.20	19.40	21.80	11.55
UP	43.30	49.40	32.20	60.60	68.30	65.30	81.40	70.70	75.37	84.70	63.13
WB	30.60	35.90	32.80	33.00	45.20	58.00	58.40	63.70	68.23	77.30	50.31
MEAN	28.45	29.65	30.33	33.14	40.87	44.25	47.31	46.46	51.14	60.50	41.21
SD	24.48	25.87	26.78	27.63	33.46	36.55	36.94	35.37	35.92	38.57	32.16
CV	0.86	0.87	0.88	0.83	0.82	0.83	0.78	0.76	0.70	0.64	0.80

SOURCE: FERTILIZER STATISTICS

**FIG. 4.A1. FERTILIZER CONSUMPTION  
DURING 1980-89**





## Chapter 5

### CONCLUSIONS

We started with the problems of regional disparities involved in the agricultural credit from commercial banks which was conceived to be a major reason for the regional variations in the growth performance of agriculture and also for the decline in agricultural investment. We saw that this problem assumes more relevance and importance in the context of new financial reforms in agricultural credit sector. The analyses of the problem involves two steps. First, we analysed the trends and patterns of agricultural credit and assessed the regional variation in agricultural credit. Secondly the determinants of the regional disparity were traced by employing multiple regression analysis. The main points and findings of our study and their implications are presented below.

The entry of commercial banks into active agricultural finance since 1969 ushered in a new era of increased institutional credit to agriculture. Bank branches expanded enormously and the branch expansion maintained a positive bias towards the rural centres and underbanked regions till the end of eighties. Concomitant to this, deposit mobilisation and credit disbursement of SCBs increased phenomenally. Agricultural credit grew considerably from a sheer 9 percent of the total bank credit in 1969 to 17 percent in 1989. SCBs have now overtaken even the cooperatives in the supply of agricultural credit.

A look at these developments from the angle of regional disparity revealed that with regard to banking infrastructure; regional variations considerably decreased in the eighties. Also there was

reduction in the regional disparity concerning per capita deposit and per capita credit. Regional disparities of agricultural credit, though slightly reduced in the eighties, is still quite significant. However, inter class disparities with regard to agricultural credit reduced considerably thanks to the preferential treatment of small and marginal farms by the banks. Also we traced certain banking variables and socio-economic variables that could explain the variations in agricultural credit across the states, in terms of per hectare credit.

SCBs had maintained a positive bias towards the rural and underbanked regions in the branch expansion and that helped in the reduction of regional disparity of banking infrastructure. But after 1990, the trend is seen to be reversed. In the supply of agricultural credit SCBs are now ahead of cooperatives in the quantum of credit as well as annual growth rate. Even though the agricultural credit has increased considerably, the increasing production cost and investment expenditure reveal the insufficiency of the credit disbursed. In the eighties SCBs provided more credit per hectare to the marginal and small farms than to the medium and large ones.

Regional disparity of agricultural credit remains considerably high, even though it showed a slight decline in the eighties compared to the seventies. Cooperatives show much more regional disparity in agricultural credit than the SCBs. Spread of bank offices can help in reducing regional disparity of agricultural credit. SCBs' agricultural credit flowed more in favour of intensity of cultivation and irrigation. Cash crops attract more

agricultural credit from SCBs. Banks have shown an input orientation in the supply of agricultural credit. Overall bank credit from SCBs show high association with level of non-agricultural activities.

The findings of our study provide certain important policy implications.

First of all, the new trend seen in the branch expansion of SCBs which shows a bias in favour of urban centres, and the recommendation for abolishing of branch licensing would only increase the regional disparity in agricultural credit and as such needs a reconsideration. The newly initiated policy of phasing out of directed credit programme goes against the spirit of our finding that the directed credit programmes helped in reducing the regional disparity in the supply of agricultural credit and in the interclass disparity and may lead to aggravating the inequalities.

The decline in the growth rate of agricultural credit disbursed by the cooperatives raises concern. Infact cooperatives, are supposed to have a built-in-bias for agriculture is increasingly financing non-agriculture. For instance, in Kerala, out of the credit of Rs.577 crores advanced by the PACs in 1987-88 only Rs.327 crores was for agricultural activities which means about 43 percent of its credit went to non-agricultural activities. Unless cooperatives enhance their share to agriculture, agricultural finance would face a setback in the coming years.

The association of overall credit and level of non agricultural activities reveal that unless government makes conscious effort in enhancing the infrastructure for non agricultural activities in the underdeveloped region so as to decentralise non-agricultural activities, flow of funds will concentrate in more urbanised centres leaving the backward regions in a vicious circle of backwardness. Also, the impact of irrigated area on agricultural credit calls for an important task on the part of government to increase agricultural infrastructure in the agriculturally backward regions. This assumes more significance in the context of lowering of agricultural investment (mainly public sector investment) in the eighties.

Such infrastructural investments are crying needs for developing agriculture in the agriculturally backward regions. For example, the under developed regions are mainly the eastern Indian states and the relatively low rainfall regions spreading from north to south in the western part of the country. In these low rainfall regions a wider spread of flow irrigation can enhance productivity. This may induce private investments in wells and pumps for tapping seeped water. In places where irrigation projects can't reach, other alternatives of land building, and terracing etc. are to be done to conserve water and soil. In eastern Indian states more attention is to be given for flood control and expansion of tube wells. Also consolidation of fragmented holdings is to be encouraged. Thus a list of urgent infrastructural requirements for developing agriculture in backward regions would be much larger and wider.

The fact that agricultural credit of SCBs went towards regions where cooperative credit was less in an ominous one which reveals the banks' consciousness of credit widening. Even in later years a conscious effort is needed so that instead of SCBs and cooperatives financing in an additive way the same persons and ends the two agencies should be selective in financing projects not covered by the other. This will help to widen the credit coverage.

The fact that regional disparities in agricultural credit remains quite high even in eighties call~~s~~ for the measures to be taken to reduce the same. This may enhance balanced growth of agricultural development and thereby to a more egalitarian economy.

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