Disparity of Agricultural Credit between Different Regions

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Abstract

Agricultural credit plays an important role in the agricultural sector. Banks provide at least 40% credit to the priority sector out of which 18% should be to the agricultural sector. There is disparity in agricultural credit between different regions in different years measured by the Gini coefficients. Disparities in terms of agricultural credit between different regions can also be found using ANOVA technique.

Key words*:* Agricultural Credit, Priority Sector, Disparity, Gini Co-efficient, Anova

JEL Classification: Q14, C10

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Introduction

Since the early 1970s, Priority Sector Lending (PSL) programme has been an integral part of the banking policy in India. It is a major public policy intervention through which credit is directed to the sectors of national priorities critical for both employment and equity. Though it has been found that the share of agricultural sector to the GDP is reducing, it creates maximum employment opportunity. During the 2000s, the concept of 'financial inclusion' gained global currency through its link with the achievement of the Millennium Development Goals (MDGs) set by the UN.

In case of agricultural credit, when the farmer faces a credit constraint, additional credit supply can raise input use, investment and hence output. This is the liquidity effect of credit. But credit has another important role. In most developing countries where agriculture still remains a risky activity, better credit facilities can help farmers smooth out consumption and therefore, increase the willingness of risk averse farmers to take risks and make agriculture investments. This is the consumption smoothing effect of credit. The working group has attempted to focus on 'credit for agriculture' rather than 'credit in agriculture' (Report of the Working Group, RBI).

Agricultural credit is a portion of credit meant to the priority sector. One of the main tasks of banks, of all types, is to provide sufficient credit to the priority sector. The banks have to allocate 40 % of their Adjusted Net Bank Credit (ANBC) in favour of priority sector of which 18% will be targeted for agriculture. However it has been found that these targets are not achieved by the scheduled commercial banks. Our economy is divided into six regions, namely, Northern Region (NR), North Eastern Region (NER), Eastern Region (ER), Central Region (CR), Western Region (WR), and Southern Region (SR). In this paper variability of agricultural credit in different regions are analyzed and try to explain the possible reasons behind this.

Mohanty, Suchitra and Haque (2003) examine the regional disparities in the flow of institutional credit in India, for the time period of 1981 to 1999. They showed that the volume of credit has increased during the period but there were large scale variations in the flow of institutional credit across regions. The study concluded that the coefficient of inter-regional variations in the supply of both bank credit and cooperative credit have increased over the time, putting the relatively backward regions in more disadvantage position.

Sahu and Rajasekhar (2005) analysed the flow of credit to agriculture sector in India, for the time period of 1981 to 2000, using the basic statistical tools of ratio analysis. The study revealed that the agriculture credit increased during the period 1981 to 2000 but there were also distinct inter-period variations.

Izhar and Masood (2009) analyzed the trend of institutional credit on aggregate agriculture production in India for the time period of 1972 to 2005. They showed that the institutional credit had minimum effect on the growth of agriculture production in the post-reform period. The institutional credit per cultivated area increased tremendously during the post reform period which is due to the constant level of total cultivated area which remains almost same during the whole period.

Data and Methodology

We use the secondary data on agricultural credit given by scheduled commercial banks to the six different regions during the year 1990 to 2013. The data source is handbook of statistics published by RBI in 2016. We use Gini co-efficient and Anova technique to measure disparity.

The Descriptive statistics of Agricultural credit are shown in the following table.

Table: 1 – Descriptive statistics

	NR	NER	ER	CR	WR	SR
Mean	340.9204	15.12250	134.4454	269.6183	226.0408	594.7792
Median	125.0000	5.590000	47.00000	106.0000	90.00000	204.5000
Maximum	1310.000	75.00000	576.0000	1088.000	932.0000	2779.000
Minimum	29.40000	3.440000	19.66000	28.00000	23.42000	62.20000
Std. Dev.	402.9545	18.59775	161.4012	314.7458	257.2079	761.3246
Skewness	1.179184	1.966381	1.476115	1.311516	1.287441	1.645711
Kurtosis	3.032628	6.117023	4.022286	3.488589	3.628293	4.663114
Jarque-Bera	5.562964	25.18245	9.760730	7.119013	7.024774	13.59940
Probability	0.061947	0.000003	0.007594	0.028453	0.029826	0.001114
Observations	24	24	24	24	24	24

The following table shows the region-wise agricultural credit share. It has been seen that the major share of agricultural credit has provided to southern and northern regions. Central and western regions together got about 30% while eastern region's share is only about 10%. Northern region is the mostly deprived region in this context.

Table: 2 – Region-wise share of agricultural credit

YEAR	NR	NER	ER	CR	WR	SR
1990	0.17698	0.020708	0.118348	0.168553	0.140982	0.374428
1991	0.1812	0.019199	0.108127	0.183358	0.139244	0.368872
1992	0.174702	0.019433	0.11299	0.177521	0.151906	0.363448
1993	0.172211	0.017493	0.116333	0.177196	0.164642	0.352125
1994	0.182598	0.017253	0.111661	0.177782	0.137628	0.373079
1995	0.1751	0.019277	0.110763	0.173092	0.139036	0.382731
1996	0.173952	0.017638	0.105205	0.160411	0.153189	0.389605
1997	0.166004	0.016357	0.100069	0.167361	0.151983	0.398225
1998	0.155658	0.012728	0.09148	0.176994	0.153271	0.40987
1999	0.198635	0.010715	0.082341	0.172558	0.153379	0.382372
2000	0.192984	0.009429	0.075897	0.180455	0.157684	0.38355
2001	0.212062	0.007782	0.079767	0.18677	0.14786	0.365759
2002	0.219969	0.00936	0.082683	0.180967	0.162246	0.344774
2003	0.238158	0.009211	0.073684	0.186842	0.152632	0.339474
2004	0.227888	0.008325	0.081165	0.17794	0.151925	0.352758
2005	0.226066	0.007241	0.078842	0.184232	0.148029	0.355591
2006	0.235226	0.008691	0.081692	0.17613	0.172074	0.326188
2007	0.250435	0.007826	0.086957	0.162174	0.16	0.332609
2008	0.223074	0.007302	0.082512	0.17123	0.177437	0.338445
2009	0.234572	0.008078	0.078514	0.183522	0.136349	0.358966
2010	0.226038	0.008457	0.084828	0.181189	0.136597	0.362891
2011	0.223861	0.008894	0.087852	0.164208	0.127332	0.387852
2012	0.206442	0.009788	0.084535	0.163018	0.126535	0.409681
2013	0.193787	0.011095	0.085207	0.160947	0.13787	0.411095

The Gini co-efficient shows the disparity of agricultural credit between the regions during 1990-2013 as shown in the following table. It varies from 0.311 to 0.400. We know that the value of this co-efficient ranges from 0 to 1; 0 showing zero disparity while 1 measuring 100% disparity. Thus in this case the value of the Gini co-efficient suggests that there are moderate levels of disparity in different years and also the level of disparity follows more or less same trend.

Table: 3 – Gini Co-efficient during 1990 – 2013

YEAR	GINI Co-efficient
1990	0.329
1991	0.336
1992	0.323
1993	0.311
1994	0.339
1995	0.341
1996	0.346
1997	0.354
1998	0.374
1999	0.371
2000	0.374
2001	0.371
2002	0.351
2003	0.363
2004	0.365
2005	0.370
2006	0.342
2007	0.353
2008	0.347
2009	0.378
2010	0.373
2011	0.390
2012	0.400
2013	0.391

Source: Own calculation

We use the ANOVA technique to see whether there is any kind of variability among the agricultural credit between the different regions. We also use the t test to measure the variability using two different regions. The following table is the ANOVA table for agricultural credit.

Table: 4 – ANOVA Test for Equality of Means of Agricultural credit Between Regions

Source of Variation	df	Sum of Sq.	Mean Sq.	F Value	Probability
Between	5	4692646.	938529.1	6.031649	0.0000
Within	138	21472905	155600.8		
Total	143	26165551	182975.9		

We see that the p value suggests us to reject the null hypothesis of equality of means between different regions. We now test which pair of regions are responsible for this variability. For this we use t test for agricultural credit.

Table: 4 – t Tests for equality of Means of Agricultural Credit between pair of regions

Pair of Regions	Value of t	P value	Remarks
NR & NER	3.956725	0.0003	YES
NR & ER	2.330271	0.0242	YES
NR & CR	0.683163	0.4979	NO
NR & WR	1.177277	0.2451	NO
NR & SR	-1.443775	0.1556	NO
ER & NER	3.597978	0.0008	YES
ER & CR	-1.872148	0.0676	NO
ER & WR	-1.477744	0.1463	NO
ER & SR	-2.897757	0.0057	YES
CR & NER	3.954299	0.0003	YES
CR & WR	0.525213	0.6020	NO
CR & SR	-1.933621	0.0593	NO
WR & NER	4.006852	0.0002	YES
WR & SR	-2.247940	0.0294	YES
SR & NER	3.728868	0.0005	YES

We have seen that there are significant differences between means of agricultural credit among the regions NR & NER, NR & ER, ER & NER, ER & SR, CR & NER, WR & NER, WR & SR and SR & NER. The mean of NER significantly differs from the means of all the rest of regions. That means NER is somehow neglected in getting agricultural credit from scheduled commercial banks. Again SR is somehow well fed in the form of getting credit in the agricultural sector.

Conclusion

Agricultural sector happens to be one of the main sectors contributing to the economy in terms of production and employment opportunity. Agricultural credit plays an important role in this context. Banks have the target to provide credit to the priority sector. Agricultural sector being one of the priority sectors also is in the targeted list of the scheduled commercial banks. We have seen that Gini co-efficient measuring the disparity between different regions ranges from 0.311 to 0.400 during 1990 – 2013. It confirms that there are disparities in different years. Then we use Anova technique to find that agricultural credit differs significantly between the regions. We see that altogether there are eight pair of regions where the means of agricultural credit varies significantly. We find that North Eastern Region is deprived in terms of getting agricultural credit where as Sothern Region is well fed in terms of getting credit in the agricultural sector.

In an interview during survey of a village a farmer reported that the Banks usually sanction loans on the basis of the area of land holding. This information is confirmed by an executive of a Scheduled Commercial Bank who was once in charge of disbursing agricultural loans. Further the executive informed that the amount of loans varied depending on the recommendations of Block Level Banker's Committee (BLBC) and State Level Banker's Committee (SLBC). SLBC and BLBC comprise of representatives of lead Bank of that Block, representatives of NABARD, those of village committee etc. They fix the maximum amount of loans to be given to a particular unit (say, acre or hectare) of land on the basis of the productivity of the land.

So we can say that the scheduled commercial banks have to provide credit to the agricultural sector on the basis of the needs of a particular region so that a big push can be given to this sector and thereby to the economy of that particular region as a whole.

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