

# Analysing Productivity of Scheduled Commercial Banks in India: An Insight into Rural Branches

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## **Abstract**

### **Purpose**

Scheduled Commercial Banks (SCBs) are often reluctant to operate in rural areas, as they are not able to generate enhanced productivity due to lack of economics of scale. But for financial inclusion of the population, it is very much desirable that SCBs extend their operations in rural areas. As a motivational strategy, Reserve Bank of India permitted SCBs to open rural branches without its prior permission from 2009 onwards. But, without minimum productivity cut off being achieved by these branches, it is infeasible to expand branch network into rural areas. Hence, the present paper analyses the productivity performance of rural branches of SCBs in India from 2004-05 till 2011-12. The paper also determines whether the performance of rural branches of SCBs significantly differs from pre permission period i.e. subject to getting the permission from RBI to open bank branches and post permission period i.e. without getting the permission from RBI to open bank branches.

### **Design/Methodology**

Productivity has been measured through three parameters i.e. Deposit per rural branch, Credit per rural branch and Business per rural branch. Paired t test has been also applied to know whether the performance of rural branches of SCBs significantly differs from pre permission period and post permission period.

### **Findings**

The results shows that overall there is an improvement in the productivity performance of rural branches of SCBs in all the three productivity parameters. Paired t test results also show that there is significant increase in these parameters.

### **Originality Value**

First, Productivity of rural branches of scheduled commercial banks has never been studied. Also, the impact on productivity of rural branches of SCBs has not been evaluated since RBI granted permission to the banks to open rural branches without prior consent from RBI has not been evaluated.

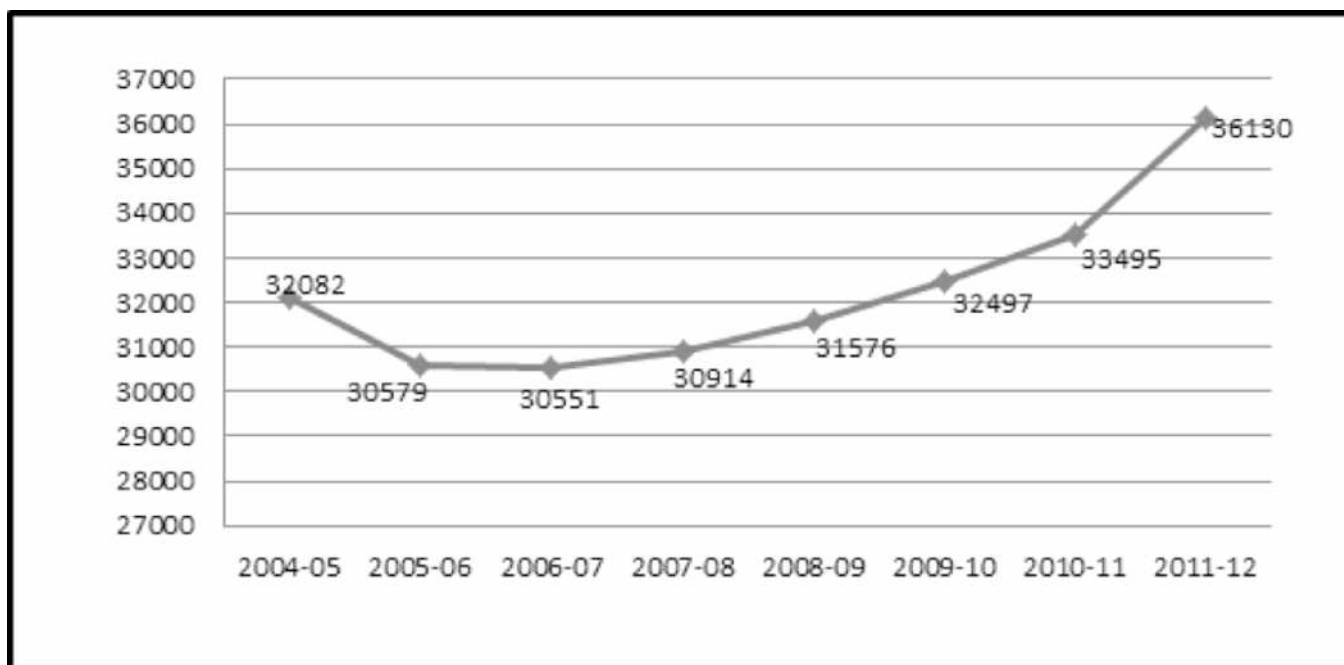
**Keywords:** Productivity, Scheduled Commercial Banks, Rural Branches, Deposit per rural branch, Credit per rural branch, Business per rural branch

**Introduction**

Last two decades have witnessed voluminous growth of Indian Banking sector, since the implementation of banking reforms in 1991-92. But as per a research carried out by the Reserve Bank of India (RBI, 2007), on all India basis, only 59 per cent of the adult population in the country has bank accounts. In rural areas, the coverage of banks is 39 per cent only. There is only one bank for a population of 13000. India has the second highest number of financially excluded household in the world i.e. 135 million households. Bank

branches play essential role in covering the financially excluded. Wide spread of branches in the urban as well rural areas are required in order to reach every unit of population. Hence for financial inclusion, RBI took a series of steps, the foremost being that in 2009 Domestic Scheduled Commercial Banks were permitted to open branches in Tier 3 to Tier 6 centres (with population up to 49,999) without prior permission of the Reserve Bank. As a result, the number of rural branches of Scheduled Commercial banks increased. The same can be seen from Graph I as follows:

**Graph: I Rural Branches of Scheduled Commercial Banks in India**



Branch expansion is desirable only if minimum cut off productivity is achieved. Productivity is the measure of how well resources are brought together in the organisation for accomplishing a set of results (Mali 1987). It is a measure relating a quantity or quality of output to the inputs required to produce it. Productivity refers to a comparison between the quantity of goods or services produced and the quantity of resources employed in turning out these goods or services (Solomon 1985). Bank's productivity is a measure of bank's effectiveness in using all its resources, viz. labour, financial resources, fixed assets, branches etc (Verghese 1983). Productivity measurement is very important for judging long term operational viability of the banks. So, it becomes necessary to evaluate branch productivity for the success of spreading the branch network. Branch Productivity is an important part of total productivity which means units of production by branch in terms of different variables. It can be calculated by dividing variables as Business, Profit, Deposit, Advances and Interest Income etc. with number of branches.

Hence, it indicates the performance of banks in terms of branches.

**Literature Review and Research Gap**

The empirical literature available on the working and performance of banks in India is very vast. The performance of branches of Scheduled Commercial banks in terms of productivity parameters like deposit per branch, credit per branch and business per branch have been studied by many researchers as Athma and Srinivas, 1997; Ramamoorthy, 1997; Aggarwal, 2003; Saggat, 2005; Paul et al. 2005; Kumar et al, 2007; Mittal et al. 2007; and Pal et al., 2008. Paul *et al.* (2005) analysed the performance of Public Sector Banks (PSBs) through productivity ratios during pre and post reform years. The pre reform years were from 1985-86 to 1990-91 and the post reform years were from 1995-96 to 2000-01. The bank group wise productivity per branch i.e. deposit per branch, advances per branch and business per branch were calculated. The study found that the average

productivity per branch of PSBs in terms of deposits, advances and business was higher than the private banks but much lower than the foreign banks during the pre reform years. In the post reform years, productivity of PSBs was lower than both the private and foreign banks. Saggar (2005) studied the productivity trends and average productivity per branch in terms of deposits, credit, and business handled of all the scheduled Commercial banks. The results showed that during the post liberalization period deposit, credit and total business per branch grew at higher rate compared to that of previous periods. Mittal et al. (2007) also analysed the productivity performance of Public Sector Banks vis-a-vis Private Sector Banks and Foreign Banks. Productivity was measured in terms of the outputs (like Business, deposits, advances) per input (employee/branch). The study also found that the deposit per employee ratio of foreign banks were far ahead of the public banks. Even the private sector banks especially the new private sector banks were very comfortably placed as compared to the public sector banks. Though the ratio was showing an increasing trend for the public sector banks but they had to go a long way to be at par with their competitors. Uppal (2011) conducted the study about profitability and productivity performance of various bank groups in era of liberalization. To measure productivity, deposits per branch, credits per branch, business per branch, total expenditure per branch, total earnings per branch were used. Productivity was also highest in foreign banks and new private sector banks. Though, the total earnings per branch had increased in all bank groups but the maximum average of 92.07 was observed in foreign bank group.

As suggested by review of literature, not even a single study has been found that exclusively analyses the efforts of scheduled commercial banks towards the rural sector. Rural banking is mainly studied through RRBs, SHGs, BCs (Patel and Shete, 1980; Khan, 1985; Chavan, 2002; Chidambaram, 2007; Thorat, 2007; Nayak, 2010; Ibrahim, 2010; Chakrabarty, 2011; Ishwar, 2011; Koshal, 2012; Rammohan, 2013) but none of the studies has taken the rural branches of Scheduled Commercial Banks. The growth in the branch network has enabled the SCBs to expand banking activities in the unbanked areas and mobilise rural savings. All scheduled commercial banks in the country have a total branch network of 1, 01,261 branches at the end of March 2012. Of these an appreciable number of 36,130 branches are in rural areas. Since in a country like India where 70 % of population is in the rural and semi urban areas, banks need to focus on expanding their business in these areas. For financial inclusion, financial system needs to uplift the masses and not just the classes. So, it is desirable to study the rural branches of SCBs.

## Objectives of the Study

In the Light of the above discussion, the specific objectives of the paper are as follows:

- 1) To evaluate the performance of rural bank branches in terms of productivity ratios i.e. deposit per rural branch, credit per rural branch and business per rural branch over the study period.
- 2) To analyze the growth pattern in deposit per rural branch, credit per rural branch and business per rural branch over the base year.
- 3) To determine whether the performance of rural branches of SCBs significantly differs from pre permission period i.e. subject to getting the permission from RBI to open bank branches and post permission period i.e. without getting the permission from RBI to open bank branches.

## Research Methodology

The productivity of branches of SCBs has been calculated by using three ratios as:

1. Ratio of Total Rural Deposits to Total Rural Branches
2. Ratio of Total Rural Credits to Total Rural Branches
3. Ratio of Total Rural Business to Total Rural Branches

The sample of the study includes all branches of SCBs operating in rural areas of India. Time period of 8 years is taken starting from 2004-05 till 2011-12. For better analysis of impact of various reforms, especially the grant of freedom to SCBs to open branches without prior permission of RBI; the time period is split into two equal halves as 2004-05 till 2007-08 and 2008-09 till 2011-12. Mean and standard deviation of Deposit per Rural Branch (DPRB), Credit per Rural Branch (CPRB) and Business per Rural Branch (BPRB) is calculated to compare the performance over two time periods. Growth rate (GR %) over the base year is calculated to analyse the trend in productivity ratios. Also, in order to see whether the productivity of rural branches of SCBs significantly differ in the two time periods, paired sample t test is used. The study is based on secondary data available on the website of Reserve Bank of India. Various reports on Trends and Progress in Banking are also used.

## Results and Discussion

The productivity ratios of rural branches of Scheduled Commercial Banks (SCBs) are analysed over two time periods i.e. 2004-05 to 2007-08 (Pre permission period) and 2008-09 till 2011-12 (Post permission period). The same are presented in Table-I as follows:

**Table: I Productivity Ratios of Rural Bank Branches**

Year	Deposit per Rural Branch (DPRB)		Credit per Rural Branch (CPRB)		Business per Rural Branch (BPRB)	
	Ratios	Growth rate (GR %)	Ratios	Growth rate (GR %)	Ratios	Growth rate (GR %)
<b>Pre Permission Period i.e. before getting the permission from RBI to open bank branches</b>						
2004-05	6.66		3.32		9.98	
2005-06	7.41	11.30	4.17	25.55	11.58	16.04
2006-07	8.45	14.05	5.07	21.56	13.52	16.76
2007-08	9.80	16.01	5.92	16.90	15.72	16.35
Mean	8.08		4.62		12.70	
Standard Deviation	1.36		1.12		2.47	
<b>Post Permission Period i.e. after getting the permission from RBI to open bank branches</b>						
2008-09	11.57	18.09	6.61	11.59	18.18	15.64
2009-10	13.03	12.59	7.69	16.31	20.72	13.94
2010-11	14.83	13.83	8.78	14.23	23.61	13.97
2011-12	16.00	7.89	11.58	31.83	27.58	16.79
Mean	13.85		8.66		22.52	
Standard Deviation	1.95		2.13		4.03	

Table: I highlights that the ratio of Deposit per Rural Branch (DPRB) shows continuous increase during the last 8 years. It increases from 6.66 in 2004-05 to 16.00 in 2011-12. The ratio of Credit per Rural Branch (CPRB) and Business per Rural Branch (BPRB) also follow similar trend like DPRB. CPRB is 3.32 in 2004-05 and reaches to 11.58 in 2011-12. BPRB is 27.58 in 2011-12 as improved from 9.98 in 2004-05.

Also during the pre reform period (2004-05 to 2007-08) when permission of RBI was a pre requisite, DPRB shows a continuous improvement from 6.66 in 2004-05, to 7.41 in 2005-06, to 8.45 in 2006-07 and to 9.80 in 2007-08. The growth rate also shows an increasing trend during this period from 11.30 to 16.01. Similarly, the ratio of CPRB is 3.32 in 2004-05 and arrives at 4.17 in 2005-06. Again, the ratio showed progress from 5.07 to 2006-07 to 5.92 in 2007-08. However, the growth rate shows a declining trend from 25.55 in 2005-06 to 21.56 in 2006-07 and 16.90 in 2007-08. In totality, BPRB is 9.98 in 2004-05 and increases to 11.58 in 2005-06 and continues to increase till 2007-08 and rises to 15.72. The growth pattern of BPRB shows positive signs though follow a little erratic pattern. The overall mean of the pre permission period for DPRB, CPRB and BPRB is 8.08, 4.62 and 12.70 respectively.

During the post reform period, DPRB again shows a continuous enhancement from 11.57 in 2008-09 to 13.03 in 2009-10 and arrives at 16.00 in 2011-12. Similarly, the ratio of CPRB showed increment from 6.61 in 2008-09, to 7.69 in 2009-10, to 8.78 in 2010-11 and to 11.58 in 2011-12. In totality, BPRB is improved from 18.18 in 2008-09 to 20.72

in 2009-10. In 2011-12, BPRB is 27.58 which improve from 23.61 in 2010-11. However, the growth rate of all the productivity parameters shows inconsistent pattern though it has positive signs. Moreover, the mean of Post Permission Period of DPRB, CPRB and BPRB is 13.85, 8.66 and 22.52 respectively.

In totality the productivity performance of rural branches of SCBs seems to be satisfactory during the total study period. However, the mean of productivity parameters is much better during 2008-09 to 2011-12, i.e. post permission period.

During 2004-05 to 2007-08 i.e. pre permission period, KYC norms were simplified and availability of No-Frill Accounts was given. This no doubt motivated people to open bank accounts, thereby enhancing DPBR. Also, rural population was allowed to overdraw up to Rs. 1, 00,000 as against a balance of Rs. 50000 only in order to enhance the credit circulation. Credit worth Rs. 25,000 was allowed under General Credit Card/ Kissan Credit Cards (GCCs/KCCs). Information was communicated and circulated in regional languages for the understanding of less educated rural population. Services of NGOs, SHGs and micro finance institutions were availed for better inclusion. During the post permission period, 2008-09 to 2011-12, number of rural branches soared up. Still the productivity performance per branch remained positive. During this period, electronic banking and mobile banking was introduced in rural areas. Doorstep banking services were provided. Not only this, provision of operating accounts through biometric technology was provided which



facilitated even the illiterate customer to operate bank account. This boosted the deposit mobilisation of rural branches. For dissemination of credit, campaign like 'Swabhimaan' was launched under which small and marginal farmers were given credit at low rate of interest. Central Kisan Credit card (CKCC) and Janta Credit card (CJCC) too were developed to provide hassle free credit to branch customers. The use of smart card technology and mobile ATMs boosted the overall business of rural branches. However, the erratic growth rate in productivity parameters seems to be because of transitional phase of rural branches in adapting to these reforms.

As seen from Table: I, the mean performance in the post permission period is much higher than in pre permission period with reference to DPRB, CPRB as well as BPRB. To check whether this difference is statistically significant or not, paired t test has been applied. The following hypotheses have been taken:

$H_{D0}$ : There is no difference in performance between Pre Permission Period and Post Permission Period in deposit per rural branch **ratios**.

$H_{D1}$ : There is difference in performance between

Pre Permission Period and Post Permission Period in deposit per rural branch **ratios**.

$H_{C0}$ : There is no difference in performance between Pre Permission Period and Post Permission Period in credit per rural branch **ratios**.

$H_{C1}$ : There is difference in performance between Pre Permission Period and Post Permission Period in credit per rural branch **ratios**.

$H_{B0}$ : There is no difference in performance between Pre Permission Period and Post Permission Period in business per rural branch **ratios**.

$H_{B1}$ : There is difference in performance between Pre Permission Period and Post Permission Period in business per rural branch **ratios**.

The results of t-test for deposit, credit and business per rural branch are shown in Table: II as follows:

**Table: II Paired Samples Test**

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Deposit Per Rural Branch 2004-05 to 2007-08- Deposit Per Rural Branch 2008-09 to 2011-12	-5.7775	.66304	.33152	-6.8325	-4.7225	-17.427	3	.000*
Credit per Rural Branch 2004-05 to 2007-08 – Credit per Rural Branch 2008-09 to 2011-12	-4.0450	1.09028	.54514	-5.7799	-2.3101	-7.420	3	.005*
Business per Rural Branch 2004-05 to 2007-08- Business per Rural Branch 2008-09 to 2011-12	-9.8225	1.56219	.78109	-12.3083	-7.3367	-12.575	3	.001*
*Significant at 5% level								

As seen in Table-II, there is a significant difference in performance of rural branches of SCBs in Pre Permission Period and Post Permission Period. The results show that there is strong evidence that t value = -17.427, is significant for deposit per rural branch at 5% level 0.000 of significance. Hence,  $H_{p0}$  is rejected. The results also show that there is strong evidence that t value = -7.420, is significant for credit per rural branch **ratios** at 5% level 0.005 of significance. Hence, again  $H_{c0}$  is rejected. Similarly the results also show same result that there is strong evidence that t value = -12.575, is significant for business per rural branch **ratios** at 5% level 0.001 of significance. Hence,  $H_{b0}$  is rejected.

No doubt liberalising norms with respect to opening branches in rural areas without RBIs prior permission was the first most vital steps taken by the Reserve Bank of India, still complementary measures like introduction of core Banking Solutions (CBS) to banking galloped productivity performance. CBS eliminated manual transactions. Also, a board approved three-year Financial Inclusion Plan (FIP) introduced from April, 2009 helped banks to enlarge their customer base. This gave boost to both deposit mobilisation as well as credit dissemination of banks, thereby significantly improving their total business and overall productivity.

### Conclusion

Social welfare cannot be achieved without economic success. So, it is a necessity that banks must achieve a break-even in their profitability and productivity parameters so that the move towards financial inclusion can be facilitated. As indicated by the empirical results of present paper, rural branches of SCBs are performing satisfactory; still there is always a room for improvement. The endeavour of Reserve Bank of India (RBI) should definitely serve as a motivation to SCBs to open more branches in the rural areas and serve as an active player in financial inclusion schemes of the government. The present study would definitely be useful to bankers, financial analyst and policy makers in making more rational strategies for banking in rural areas. However, more comprehensive study covering even the profitability parameters of rural branches of SCBs is recommended for future research.

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