

## Progress of District Central Co-operative Banks in India: A Snapshot on Productivity

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### **Abstract**

In the prevailing competitive environment, it is well recognized that the success of co-operative banking institutions is highly dependent on the productive employment of available resources. Basically, there are two main resources of any financial institution viz. employees and buildings (offices). Here, it may truly be said that optimum use of available employees and infrastructure facilities leads to high efficiency and profitability. District Central Co-operative Banks (DCCBs) are very common institutions among co-operative credit institutions in India. Against this backdrop, productivity of District Central Co-operative Banks (DCCBs) is studied in this attempt. The study finds that employees of DCCBs have worked efficiently for increasing the productivity of their respective banks consistently. It is also observed that branch-wise productivity of the banks have been increased with good growth rate. But, employee-wise productivity has been increased with higher rate than that of branch wise productivity.”

### **Keywords:**

Co-operative Banks, Employee Productivity, Branch Productivity, Financial Inclusion

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### **Introduction**

During one and half century, cooperatives have been found of various types in different countries across the world. Throughout the world, there are nine lakhs societies being working in about one hundred countries with very significant number of members ( Shahrabaki et. al. 2012). Co-operation is as old as the human society and considered as bedrock of any civilization. To fulfill the present requirement towards financial inclusion in India, the co-operative banking channel is more suitable to cater the needs of unbanked segment of our nation (Anand Sinha, 2012). Last year-2012 has been celebrated as International Year of Co-operatives under the theme – 'Co-operative enterprises build a better world'. This has given a great recognition to the co-operative institutions across the world. Further, it is found that co-operatives have been playing an important role in national development and to empower the society (Dr. A.P.J. Abdul Kalam,

2012). Co-operative banks have unique position in the rural credit delivery system in India (Bhagwati Prasad, 2005). They are important instruments for inclusive growth. They also continue to play significant role in alleviating poverty, generating employment and in providing higher remunerative returns to the farmers (Sh. Sharad Pawar, 2009). In the prevailing competitive environment, it is well recognized that the success of co-operative banking institutions is highly dependent on the productive employment of available resources. Basically, there are two main resources of any financial institution viz. employees and buildings (offices). Here, it may truly be said that optimum use of available employees and infrastructure

facilities leads to high efficiency and profitability. Against this backdrop, productivity of District Central Co-operative Banks (DCCBs) has been studied in this attempt.

Our former Prime Minister Sh. Lal Bahadur Shastri cited that higher productivity requires more efficient use of all types of resources. So productivity is concerned with efficiency and effectiveness with which various factors of production (employees and other resources) are used in producing the output (deposits/advances). It is also known as achieving highest level of performance with low level of cost incurred on inputs.

$$\text{Productivity} = \frac{\text{Performance Achieved}}{\text{Resources Consumed}} = \frac{\text{Effectiveness}}{\text{Efficiency}} = \frac{\text{Output}}{\text{Input}}$$

Hence, productivity does not mean of the volume of the output (production), but it is a relationship between output and input. In banking sector, outputs are deposits, advances and profits and inputs include employees and branches. But it is half of total productivity of any concern because above discussed formula considers quantitative aspect of productivity only. As European Productivity Agency, in case of productivity, has highlighted that productivity is an attitude of mind and mentality of progress of the constant improvement of that which exists. So, it may be said that improving productivity is a challenge before the productive units especially for service providing units like banks nowadays and in case of co-operative banks, it has great significance and concern in the present era of competition and different kinds of inclusions.

#### **District Central Co-operative Banks (DCCBs) in India: Brief Description**

Within the short-term co-operative credit structure, Primary Agricultural Credit Societies (PACSS) at the village level form the base level, while District Central Co-operative Banks (DCCBs) are placed at the intermediate level and the State Co-operative Banks (StCBs) work at the apex level. District Central Co-operative Banks (DCCBs) form the middle tier of co-operative credit institutions. They form a useful link between primary agriculture credit societies at the base and the apex bank at the top. They draw their funds from share capital, deposits, and loans from StCBs, R.B.I. and NABARD and commercial banks. The main function of DCCBs is to finance the primary agriculture credit societies. They link between StCBs and PACSS to provide credit to both farmers and other beneficiaries. They also mobilize the savings from different groups of the society (both urban and rural areas) by offering various deposit schemes. They also provide other banking facilities like locker facility, cheque facility, transfer of funds, payment of bills etc. DCCBs lay

down common policies and provide administrative guidance for the proper and efficient functioning of PACSS in their area of operation. They also supervise and control the working of PACSS. They are of two kinds, viz., 'pure' and 'mixed'. Those banks the membership of which is confined to co-operative organizations only are included in the 'pure' type, while those banks the membership of which is open to co-operative organizations as well as to individuals are included in the mixed type.

#### **Insights from Related Studies**

Very vast literature is available on performance analysis of co-operative banks in India. But in case of analyzing productivity of the same banking institutions, appropriate work is yet to be done either in shape of Ph.D. theses and research paper/articles or research projects because the thrust of researchers has been on studying productivity of commercial banks. The following studies are reviewed for getting some facts for the present study:

Sequeira (2012) examined the productivity in co-operative banks of Dakshina Kannada district of Karnataka state for the period 1990-1998. He found that the productivity of co-operative banks of this district had increased during the period and also found that co-operative banks which adopted information technology had shown good progress.

Kodan et. al (2010) found that productivity of public sector banks group had been better than private and foreign sector banks groups. They also highlighted that public and private sector banks groups were operating under increasing return to scale and foreign sector banks group was operating under decreasing return to scale. They also found that public and private sector banks were labour intensive and foreign sector banks were capital intensive.

Cheema and Aggarwal (2002) have studied the productivity of commercial banks. They took the productivity as a

measure to know whether the resources or inputs had been used efficiently or not. They found that commercial banks were operating below the level of efficiency.

Karampal and Goyal (2008) found that public sector banks were growing with consistent pace and intra-group variations were less than other sectors and also found that private and foreign sector banks were showing significant relation between earnings per employee and profits per employee during the study period.

Chahal and Singh (2009) studied the productivity of StCBs of Northern region of India. They found that the productivity of Chandigarh State Co-operative Bank Ltd. was better than the other five StCBs followed by Haryana, Himachal Pradesh, Rajasthan and Punjab State Co-operative Bank Ltd respectively. Jammu and Kashmir State Co-operative Bank Ltd. had been performing poor in terms of selected productive parameters during 2003-2007.

Besides these studies, the researcher has reviewed many studies in respect of productivity of DCCBs. It is found that some studies with this aspect have been undertaken but those are conducted at district and state level. No constructive work has been found in this regard. Hence the present paper is an attempt to fill this research gap.

### **Objective and Research Methodology**

This paper is an attempt to measure and analyze the productivity of all District Central Co-operative Banks (DCCBs) of India together in terms of per employee and per branch.

### **Research Design**

This paper is descriptive-cum-analytical in nature because it describes the role of DCCBs and analyses the productive performance of these banks.

### **Sample Size**

There were 371 DCCBs (with 13327 branches) in India at the end of March, 2011. The study covers all DCCBs for achieving the objective.

### **Hypotheses**

H<sub>1</sub>: There is no significant relationship between employee productivity and branch wise productivity during the reference period.

H<sub>2</sub>: There is no significant relationship between the growth in employee productivity and branch wise productivity during the reference period.

### **Variables studied**

- For measuring employee productivity, deposits per employee, credit (loans outstanding) per employee, business per employee have been considered.

- Branch wise productivity has been calculated by deposits per branch, credit per branch, business per branch.

### **Collection of Data**

This study is purely based on secondary sources and the required information has been collected by visiting website of National Federation of State Co-operative Banks Ltd. (NAFSCOB). Some journals like Productivity, Indian Journal of Finance, Finance India, Bank Quest etc. have also been accessed to know the relevant variables and make the methodology stronger about the productivity of a bank.

### **Time-Period**

A period of ten years from 2001-02 to 2010-11 is taken to carry out the study.

### **Tools/Techniques applied for analysis**

To analyze the data, average, standard deviation, minima, maxima, Average Compound Growth Rate, Karl Pearson's Correlation Coefficient and Spearman's Rank Correlation have been applied for this study. SPSS has been used for calculating the values of ACGRs and Karl Pearson's Correlation Coefficients and Rank Coefficients are calculated manually.

### **Limitations of the Study and Scope for Future Research**

In this study, only quantitative aspects of productivity have been considered. Qualitative dimensions and determinants of productivity of these banks remain to be studied. These two main aspects may attract the attention of the researchers particularly for those who are of this area and policymakers also.

### **Data Analysis, Results and Discussion**

It is very essential to study the physical indicators of DCCBs and growth in these indicators because the status of these indicators determines the policy of DCCBs in respect to providing employment opportunities and spreading banking business.

### **State of Physical and Human Resources of DCCBs**

Before analyzing the productivity of DCCBs, it is very useful to see and review the growth in number of banks, their branches and employees. Table 1 depicts the trend and statistics for the same.

**Table 1: Status of Physical and Human Resources of DCCBs in India: 2002-2011**

	Number of Banks	Number of Branches	Branches per Bank	Employees	Employees per Bank
2002	371	13068	35	113088	305
2003	366	12956	35	110078	301
2004	368	12933	35	110058	299
2005	368	12858	35	109124	297
2006	370	12991	35	105885	286
2007	371	12928	35	91768	247
2008	372	13151	35	90035	242
2009	373	13233	35	89259	239
2010	372	13181	35	87554	235
2011	371	13227	36	87928	237
<b>Mean</b>	<b>370</b>	<b>13053</b>	<b>35</b>	<b>99478</b>	<b>269</b>
<b>Min</b>	<b>366</b>	<b>12858</b>	<b>35</b>	<b>87554</b>	<b>235</b>
<b>Max</b>	<b>373</b>	<b>13233</b>	<b>36</b>	<b>113088</b>	<b>305</b>

Source: NAFSCOB, Mumbai

During 2002 -11, the number of banks under study has been 370 on an average. Further table 1 reveals that there are, on an average, 13053 branches of all DCCBs in India. Minimum number of branches was in the year 2005 and maximum of that was in 2009. It means that one DCCB has had 35 branches on an average during the reference period of time as table under consideration is depicting. But the strength of employees of these banks reduced during 2002-2011 from 1, 13,088 to 87928. This decline attracts the

attention of the policy makers and concerned authority. Further, the same table also reveals that on an average, one DCCB has had 269 employees. This variable is also showing decreasing trend in the providing employment opportunities. This is also a matter of concern. It is also observed from this analysis that though number of branches has been increased, employees of DCCBs have been reduced during that study period.

#### Employee Productivity of DCCBs

**Table 2: Employee Productivity of DCCBs in India: 2002-2011**

	(Rs. in Lakhs)		
	Deposits per employee	Credit per Employee	Business per employee
2002	59	45	104
2003	66	48	114
2004	70	50	120
2005	74	56	130
2006	82	62	144
2007	100	93	194
2008	118	107	224
2009	139	109	248
2010	167	120	287
2011	183	140	323
<b>Mean</b>	<b>106</b>	<b>83</b>	<b>189</b>
<b>S.D.</b>	<b>44.37</b>	<b>34.73</b>	<b>78.55</b>
<b>ACGR (%)</b>	<b>12.00</b>	<b>12.08</b>	<b>12.03</b>

Source: NAFSCOB, Mumbai

In any organisation, human resources are the main pillars. Their work determines the progress of any concern. If they work efficiently, the productivity increases definitely of that organisation. It highlights the importance of employee productivity. Here, employee productivity of DCCBs during 2002-12 is shown in table 2 by taking three indicators of productivity. Deposits per employee have been Rs. 106 lakhs on an average and it increased with a phenomenal pace i.e. 12 percent as ACGR shows. Further, the average amount of credit per employee is Rs. 83 lakhs during the study period. Though the ACGR is almost equal (12.08 percent) to that of deposits per employee, the absolute amount of employee-wise advances has been less than that of deposits per employee. Here, it may be said that these DCCBs need to see the factors behind this trend. Additionally, business per

employee as a variable is considered to know the productivity in total. It has also shown a significantly growth as the other two variables showed. Here, one question arises that the productivity results, which are found here, are good or not. Any researcher cannot say without comparing these results with the results of productivity of their counter banks like urban co-operative banks, regional rural banks and scheduled commercial banks. But, it is clear from the table under reference that growth in productivity of DCCBs during 2002-11 is up to mark.

Additionally, to know the associations among the above discussed variables of productivity, Karl person's correlation co-efficient are also calculated by using SPSS. It is given in table no. 3.

**Table 3: Correlations Matrix for Deposits per Employee, Credit per Employee and Business per Employee**

		DPE	CPE	BPE
DPE	Pearson Correlation	1	.972**	.995**
	Sig. (2-tailed)		.000	.000
	N	10	10	10
CPE	Pearson Correlation	.972**	1	.991**
	Sig. (2-tailed)	.000		.000
	N	10	10	10
BPE	Pearson Correlation	.995**	.991**	1
	Sig. (2-tailed)	.000	.000	
	N	10	10	10

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 3 shows that significant and positive high degree of relationships at level of 1 percent exit between the amount of deposits per employee and credit per employee, deposits per employee and business per employee and credit per employee and business per employee during the years 2002-11. As the pervious table shows that business per employee as an indicator is not showing additional significant result but it can justify the results of other variables. It is concluded that employees of DCCBs have been giving almost equal

time for mobilizing deposit and advancing loans for their respective banks as the correlation co-efficient have shown. It is very favourable for the growth of DCCBs in the present competitive era.

#### **Branch wise Productivity of DCCBs**

Next aspect of productivity is to calculate and analysis the results and benefits of branches expansion by DCCBs during last decade.

**Table 4: Branch wise Productivity of DCCBs in India: 2002-2011**

	(Rs. in Lakhs)		
	Deposits per branch	Credit per branch	Business per branch
2002	511	386	898
2003	559	408	966
2004	594	424	1019
2005	626	479	1105
2006	667	504	1171
2007	713	661	1374
2008	806	730	1536
2009	935	735	1670
2010	1110	797	1907
2011	1220	928	2148
<b>Mean</b>	<b>774</b>	<b>605</b>	<b>1379</b>
<b>S.D.</b>	<b>228.69</b>	<b>179.53</b>	<b>403.58</b>
<b>ACGR (%)</b>	<b>9.08</b>	<b>9.16</b>	<b>9.12</b>

Source: NAFSCOB, Mumbai

It is measured again by three variables -deposits per branches, credit per branch and business per branch. Table 4 shows that average amount of deposits per branch during the study period is Rs. 774 lakhs with a variation of Rs. 229 lakhs and average of credit per branch is Rs. 605 lakhs. When we see the branch productivity in total i.e. business done by a branch, it has been, on average, Rs. 1379 lakhs. But this time as per these three indicators, the growth in the business done by DCCBs has been below 10 percent i.e. 9.08, 9.16 and 9.12 percent respectively. Even though, these ACGRs are showing good growth in branch -wise

productivity of the banks understudy for the period under consideration.

Table 5 repeats the same results in case of correlation coefficient among the indicators used for branch productivity as the results have been found in respect of employee productivity variables. There is again high degree and positive relationship among deposits per employee, credit per employee and business per branch. These associations are again statistically significant at the level of 1 percent significance.

**Table 5 : Correlations Matrix for Deposits per Branch, Credit per Branch and Business per Branch**

		DPB	CPB	BPB
DPB	Pearson Correlation	1	.954**	.991**
	Sig. (2-tailed)		.000	.000
	N	10	10	10
CPB	Pearson Correlation	.954**	1	.985**
	Sig. (2-tailed)	.000		.000
	N	10	10	10
BPB	Pearson Correlation	.991**	.985**	1
	Sig. (2-tailed)	.000	.000	
	N	10	10	10

\*\* . Correlation is significant at the 0.01 level (2-tailed).

It concludes that the whole branch of a DCCB gives equal importance on both functions viz. deposit mobilization and providing loans to their beneficiaries. Because in the present environment, every bank will have to focus equally on collecting savings and advancing credit facility. So, DCCBs are not the exception in this respect.

### Testing of Hypotheses

The two hypotheses were set to verify and to achieve the objective of this paper. So, to test these hypotheses, Spearman's Rank Correlation is applied.

H<sub>1</sub>: There is no significant relationship between employee productivity and branch wise productivity during the

reference period.

Here, for employee productivity only- business per employee an indicator and for representing branch wise productivity-business per branch have been considered. Table 6 gives the picture about the procedure of applying

spearman's rank correlation method. Here, co-efficient is exact 1. It means the null hypothesis is not accepted during the study period. It concludes that there is perfect positive relationship between labour productivity and branch productivity achieved by all DCCBs together for the time-period under study.

**Table 6: Business per Employee and Business per Branch: Spearman's Rank Correlation**

	Business per employee	Rank(a)	Business per branch	Rank(b)	d(a-b)	d <sup>2</sup>
2002	104	1	898	1	0	0
2003	114	2	966	2	0	0
2004	120	3	1019	3	0	0
2005	130	4	1105	4	0	0
2006	144	5	1171	5	0	0
2007	194	6	1374	6	0	0
2008	224	7	1536	7	0	0
2009	248	8	1670	8	0	0
2010	287	9	1907	9	0	0
2011	323	10	2148	10	0	0
<b>Total</b>						<b>∑d<sup>2</sup>=0</b>

$$p = 1 - \frac{6\sum d^2}{n(n^2 - 1)} = 1 - \frac{6(0)}{10(10^2 - 1)} = 1$$

Now the second hypothesis is tested. The same methodology is applied to test this hypothesis

H<sub>2</sub>: There is no significant relationship between the growth in employee productivity and branch wise productivity during the reference period.

**Table 7: Growth in Business per Employee and Business per Branch: Spearman's Rank Correlation**

	Growth in Business per employee	Rank(a)	Growth in Business per branch	Rank(b)	d(a-b)	d <sup>2</sup>
2002	-	-	-	-	-	-
2003	10	2.5	68	3	-0.5	0.25
2004	6	1	53	1	0	0
2005	10	2.5	86	4	-1.5	2.25
2006	14	4	66	2	2	4
2007	50	9	203	7	2	4
2008	30	6	162	6	0	0
2009	24	5	134	5	0	0
2010	39	8	237	8	0	0
2011	36	7	241	9	-2	4
<b>Total</b>						<b>∑d<sup>2</sup>=14.50</b>

$$p = 1 - \frac{6\sum d^2}{n(n^2 - 1)} = 1 - \frac{6(14.50)}{9(9^2 - 1)} = 0.88$$

Here, correlation co-efficient is 0.88. It means high degree and positive relationship exists between the growth in per employee productivity and branch -wise productivity of DCCBs during 2002-11. Hence, the null hypothesis is again not accepted under the given variable and period of time. So, it is found that both hypotheses are not accepted as per spearman's Rank correlation method for the given period of time.

**Conclusion**

Financial institutions like banks can be more sound by achieving high level of productivity. Financial sector

reforms focus greatly on improving efficiency and productivity. In co-operative banking system, DCCBs have great significance. They have played and will play very important role in socio-economic development of the society. They are very common institutions among co-operative credit institutions in India. The study finds that employees of DCCBs have been working efficiently for improving the productivity of their respective banks consistently as ACGRs have shown. Further it is found that branch-wise productivity of the banks have been increased with good growth rate. But, employee-wise productivity has been increased with higher rate than that of branch wise

productivity. It may be said here that providing employment opportunities has been found more beneficial than opening branches by DCCBs during the study. It is happened when number of employees is showing decreasing trend. So, it may be said that employees of DCCBs have worked efficiently and effectively. It may be suggested that DCCBs should appoint more human resource for their growth and sustainability because it would be beneficial to DCCBs and there is great and significant association between labour productivity and branch production in both -absolute term growth rate-wise. i.e. when labour productivity increases, productivity of that branch definitely will enhance. DCCBs need to provide some more impressive benefits to their employees and renovate their branches to make them attractive. Particularly, they are considered real friends by the farmers in India. So, they should greatly emphasize on the requirements of that strata of the society. But, they have also been facing some problems like dual control, lack of professionalism, low level of technology and less focus on holding training and development programmes for their employees. The need of the time is that government should see the co-operative banking model as a suitable structure for achieving the goals of financial inclusion. This system would be economical and provide results quickly if it is monitored properly and the role of DCCBs will be very impressive for the same.

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