

MANAGEMENT OF NON-PERFORMING ASSETS OF DISTRICT CENTRAL CO-OPERATIVE BANK

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ABSTRACT

Banking sector in India especially District Central Co-operative Banks (DCCBs) have been facing the challenge of Non-Performing Assets (NPAs). NPAs are those assets which are not been yielding revenue for a long period of time. In recent years failures of Co-operative Banks have been relatively high due to mounting of NPAs. To solve the problem of existing NPAs, quality of appraisal, supervision and follow up should be improved. A strong and viable District Central Co-operative Bank (DCCB) leads to the success of rural financing within the district. The Burdwan District Central Co-operative Bank Ltd. (BDCCBL) plays a pivotal role in financing of the Burdwan district but these DCCBs are not free from this problem. In this context, it is the need of the hour/honour to present this study to reveal the trend, causes and impact of NPAs in rural credit structure, in general, and the BDCCBL, in particular. In achieving this, both mathematical and statistical tools have been adopted in order to arrive at meaningful inferences. The overall picture of NPA management is not satisfactory of the bank under the study. Last but not least, measures required to be taken to reduce NPA, either partially or fully, are suggested in order to put BDCCBL on sound footing.

KEYWORDS: DCCBs, BDCCBL, NPAs Trend, Management, Performance.

Introduction

In recent times failures of Cooperative Bank have been relatively high. While failure of each bank is a somewhat a unique experience; recent studies have identified a few factors that most of the failing banks seem to have in common features. Most of the banks that failed seem to do so because of problems in their loan portfolio. Non-performing loans grow to such an extent that revenues fall off and loan loss expenses as well as operating costs, absorb all the retained earnings. The bad loan situation usually arises from a combination of factors. Failing banks often have inadequate systems of early spotting of the problem of loan. When troubles of the banks become evident to depositor, then it usually/must pay higher interest rates to secure funding; further increasing its operating costs. Eventually expenses may erode what limited earnings are available and bank capital begins to fall. Finally, failing banks have frequent problems of cost/expense control. NPA is an important parameter in the analysis of the financial performance of the banks. The biggest weakness and problems they faced was huge NPAs in their portfolio of assets. This study aims to check what is the position and level of NPAs of Co-operative Banks which is core and heart of rural development in India and which handles the major portion of banking business in India (Ahmad and Jegadeeshwaran, 2013). Proper management of NPAs is necessary to improve profitability of the banks and comply with capital adequacy norms. Growth of NPAs on the balance sheet of banks erodes the solvency, profitability and financial health of banks (Samir and Kamra 2013). To solve the problem of existing NPAs either fully or partially, quality of appraisal, supervision and follow up should be improved.

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In order to help the banking sector to assess the quality of their credit portfolio, Reserve Bank of India (RBI) introduced the 'Health Code System' (HCS) of classification of loan accounts in 1985. Such classification, however, had nothing to do with the assessment of provisioning requirements against bad and doubtful loan accounts, which are being assessed on the basis of shortfall in realizable value of securities charged to the banks when compared to the amount of loan outstanding. In this background, the Committee on the Financial System suggested that the loan accounts/assets may be classified under the four categories, viz. [The Committee Report on the Financial System, GOI (1991), p.55].

- Standard Assets(SA)
- Sub-standard Assets(SSA)
- Doubtful Assets and(DA)
- Loss Assets(LA)

Non-Performing Assets (NPAs)

The Non-Performing Assets (NPAs) is the sum total of last three categories of assets, i. e., NPAs = Sub-standard Assets + Doubtful Assets + Loss Assets. In general when, loans and advances given by banks to its customers are asset to the bank. But, when repayment of interest and principal is overdue, such asset is classified as NPA in the financial reports of banks. As per norms of RBI on NPAs of Co-operative Bank, with effect from March 31, 2004 year-end, all banks will have to classify a loan as NPA if interest and/or installment of principal remain overdue for a period of more than 90 days as against 180 days permitted previously.

Types of NPA

There are two types of NPA, viz.

- Gross NPA (GNPA)
- Net NPA (NNPA)
- **Gross NPA (GNPA)**

Gross NPAs are the sum total of all loan assets that are classified as NPAs as per RBI guidelines as on balance sheet date. Gross NPA reflects the quality of the loans made by banks. The Gross NPA is a better indicator than Net NPA of the quality of the loan portfolio (Rajaraman and Vasishtha 2002). A high GNPA ratio indicates low quality of credit portfolio. It consists of all the non-standard assets like as sub-standard, doubtful, and loss assets. It can be calculated with the help of following:

$$\text{Gross NPA (GNPA)} = \text{Sub-standard Assets} + \text{Doubtful Assets} + \text{Loss Assets}$$

$$\text{Gross NPA Ratio} = (\text{Gross NPA}) / (\text{Gross Advances}) \times 100$$

- **Net NPA (NNPA)**

Net NPAs are those type of NPAs in which the bank has deducted the provision regarding NPAs. Net NPA shows the actual burden of banks. It can be calculated by following:

$$\text{Net NPA} = \text{Gross NPA} - \text{Provision against NPA}$$

$$\text{Net NPA Ratio} = (\text{Gross NPA} - \text{Provisions}) / (\text{Gross Advances} - \text{Provisions}) \times 100$$

Objectives

The main objective of this study is to analysis the trend of NPAs of BDCCBL operating in the district of Burdwan, West Bengal in terms of physical and financial indicators. The other specific objectives of the study are as follows:

- To study the conceptual framework of NPAs in banking sector.
- To examine trends of GNPA and NNPA of BDCCBL for the period from 2006-07 to 2014-15, i.e., for a period of 9 years.
- To suggest preventive measures for efficient and effective management of NPA level by the bank.

Methodology

The present study is analytical in nature. The study adopted the use of secondary data obtained from the annual accounts and reports of 'The Burdwan District Central Co-operative Bank Ltd. (BDCCBL)', a District Central Co-operative Bank functioning in the district of Burdwan, West Bengal for the period from 2006-07 to 2014-15. To analyze and interpret the collected data, among others, trend

value has been calculated with the help of least square method of time series analysis and t-test as statistical tool has been used to test hypothesis.

NPA Trend Analysis

Trend analysis has been made through the trend value of the indicators of NPA management. The trend value has been calculated with the help of least square method of time series analysis (Gavade-Khompi, 2013). Four major indicators has been used to analyze the trend of NPA management, viz. (1) Percentage of GNPA to Gross Loans & Advances, (2) Percentage of GNPA to Total Assets, (3) Percentage of NNPA to Net Loans & Advances and (4) Percentage of NNPA to Total Assets (Mahajan, 2014). Trend analysis has immense advantages that it can be used to predict the future values. This is possible by forecasting the future NPA based on the data available of the past. With the help of trend analysis, we can predict the future and track the variances.

Trend Analysis of Percentage GNPA on Gross Loans & Advances

Time series analysis has been used for analyzing the trend of NPAs of BDCCBL. The percentage of GNPA to Gross Loans & Advances of BDCCBL has been calculated to measure the trend of the percentage of GNPA to Gross Loans & Advances growth and to predict the future pattern. Table and Line diagram have been used to make comparative analysis of the study.

Trend Analysis of Percentage GNPA on Gross Loans & Advances of BDCCBL

Percentage of GNPA, GNPA indices and trend values of GNPA of BDCCBL are presented in Table 1.

Table 1: Percentage of GNPA on Gross Loans & Advances, GNPA Indices and Trend Values of GNPA of BDCCBL

Year	Percentage of GNPA to Gross Loans & Advances	Indices	Trend Values (Y _i)	Deviation
2006-07	16.20	100	16.30	-0.10
2007-08	16.27	100.43	16.29	-0.02
2008-09	15.93	98.33	16.28	-0.35
2009-10	18.34	113.21	16.27	2.07
2010-11	15.33	94.63	16.26	-0.93
2011-12	14.49	89.44	16.25	-1.76
2012-13	16.59	102.41	16.24	0.35
2013-14	17.11	105.62	16.23	0.88
2014-15	16.06	99.14	16.22	-0.16

Source: Results computed from Annual Reports of BDCCBL, 2006-07 to 2014-15.

$$(Y_i = 16.30 - 0.0095 * X_i \quad r = 0.024119 \quad t = 0.06383142)$$

Y_i stands for computed values of percentage of GNPA based on the least squares equation in the form of Y_i = a + bX_i, where the equation comes to Y_i = 16.30 - 0.0095 * X_i with origin at the year 2006-07; X unit = 1 year and Y unit = Percentage of GNPA to Gross Loans & Advances.

From 2006-07 to 2014-15. The indices of GNPA of BDCCBL are in comparison to 100 in the base year 2006-07 as given in the Table-1. Exceptional increase in percentage on GNPA of BDCCBL is observed in the year 2009-10 and 2013-14. This is, perhaps, due to lapse of NPA management, i.e., decrease the recovery rate and or increase in addition to NPA in any reasons.

The linear least squares trend values of percentage of GNPA on Gross Loans & Advances of BDCCBL are shown in Table-1. The yearly decrease in percentage of GNPA on Gross Loans & Advances comes to 0.0095 percent, very slow. The trend values of percentage of GNPA on Gross Loans & Advances were more than the actual values throughout the study period except the 2009-10, 2012-13 and 2013-14. The negative deviations were shown during the study period significantly except 2009-10, 2012-13 and 2013-14.

Actual and trend values of percentage of GNPA on Gross Loans & Advances of BDCCBL are shown in Fig. 1 below.

Fig. 1: Actual and trend values of percentage of GNPA on Gross Loans & Advances of BDCCBL

The deviations are positive in the years except 2009-10, 2012-13 and 2013-14 and while these are negative in the rest of the years. The negative deviations during the periods were significant because increase recovery and decrease in addition to NPAs. *Test of significance of observed correlation coefficient (r) between the actual values and trend values of the percentage of GNPA on Gross Loans & Advances of BDCCBL*

H₀: There is no significant correlation between the actual values and trend values of percentage of GNPA on Gross Loans & Advances of BDCCBL.

H₁: There is a significant correlation between the actual values and trend values of percentage of GNPA on Gross Loans & Advances of BDCCBL.

To test the significance of correlation between the actual values and trend values of percentage of GNPA on Gross Loans & Advances of BDCCBL, correlation and t-test has also been followed with (n-2), i.e., 7 degrees of freedom, the test is two-tailed. It can be observed that there exist a positive correlation between actual values and trend values of GNPA. It is also observed that the tabulated value of 't' is 2.37 at 5% level of significance (n-2), i.e., 7 degrees of freedom while the calculated value is 0.06383142. As the calculated value is less than the tabulated value of 't' it is observed that the H₀ is accepted at 5% level of significance and we can conclude that the actual and trend values are not correlated.

Trend Analysis of the Percentage of GNPA on Total Assets

Time series analysis has been used for analyzing the trend of NPAs of BDCCBL. The percentage of GNPA to Total Assets of BDCCBL has been calculated to measure the trend of the percentage of GNPA to Total Assets growth and to predict the future pattern. Table and Line diagram have been used to make comparative analysis of the study.

Trend Analysis of Percentage of GNPA on Total Assets of BDCCBL

Percentage of GNPA, GNPA indices and trend values of GNPA of BDCCBL are presented in Table-2.

Table 2: Percentage of GNPA on Total Assets of BDCCBL

Year	Percentage of GNPA to Total Assets	Indices	Trend Values (Y _i)	Deviation
2006-07	5.77	100	5.59	0.17
2007-08	5.87	101.73	5.50	0.37
2008-09	5.38	93.24	5.40	-0.02
2009-10	5.00	86.65	5.31	-0.30
2010-11	4.69	81.28	5.21	-0.52
2011-12	4.81	83.36	5.11	-0.31
2012-13	5.24	90.81	5.02	0.22
2013-14	5.26	91.16	4.92	0.33
2014-15	4.90	84.92	4.83	0.07

Source: Results computed from Annual Reports of BDCCBL, 2006-07 to 2014-15.

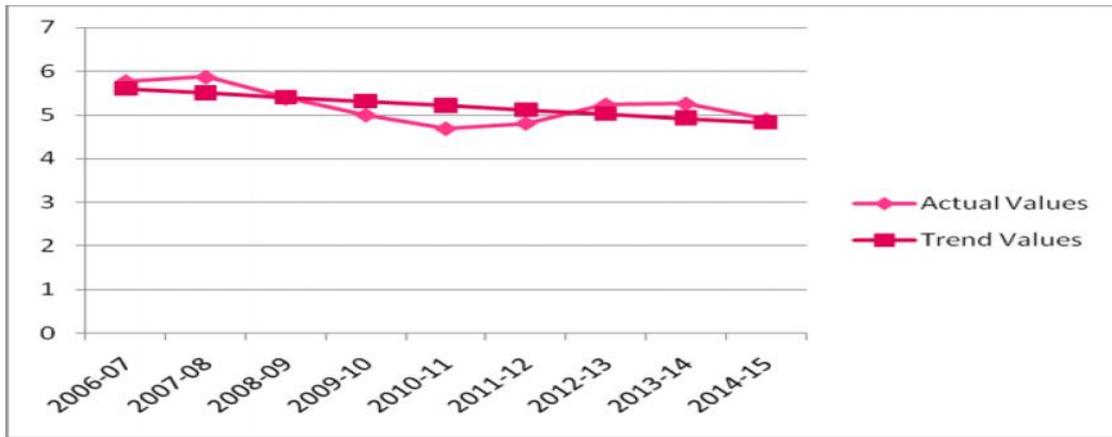
$$Y = 5.597 - 0.096 * X \quad r = 0.642747 \quad t = 2.21393373$$

The percentage of GNPA on Total Assets of BDCCBL shows slowly decreasing trend throughout the study period from 2006-07 to 2014-15. The indices of GNPA of BDCCBL are in comparison to 100 in the base year 2006-07 as given in the Table-2. Exceptional increase in percentage on GNPA of BDCCBL is observed in the year 2012-13 and 2013-14. This is, perhaps, due to lapse of NPA management, i.e., decrease in the recovery rate and or increase in addition to NPA in any reasons.

The linear least squares trend values of percentage of GNPA on Total Assets of BDCCBL are shown in Table-2. The yearly decrease in percentage of GNPA on Total Assets comes to 0.096 percent, very slow. The trend values of percentage of GNPA on Total Assets were more than the actual values during the study period except the 2012-13, 2013-14 and 2014-15. The negative deviations were shown during the study period significantly except 2012-13, 2013-14 and 2014-15.

Actual and trend values of GNPA on Total Assets of BDCCBL are shown in Fig. 2.

Fig. 2: Actual and trend values of GNPA on Total Assets of BDCCBL



The deviations are positive in the years except 2008-09 to 2011-12 and while these are negative in the rest of the years. The negative deviations during the periods were significant because increase recovery and decrease in addition to NPAs.

Test of significance of observed correlation coefficient (r) between the actual values and trend values of percentage of GNPA on Total Assets of BDCCBL

H₀: There is no significant correlation between the actual values and trend values of percentage of GNPA on Total Assets of BDCCBL.

H₁: There is a significant correlation between the actual values and trend values of percentage of GNPA on Total Assets of BDCCBL.

To test the significance of correlation between the actual values and trend values of percentage of GNPA on Total Assets of BDCCBL, correlation and 't' test has also been followed; the test is two-tailed. It can be observed that there exist a positive correlation between actual values and trend values of GNPA. It is also observed that the tabulated value of t is 2.37 at 5% level of significance (n-2), i.e., 7 degrees of freedom while the calculated value is 2.21393373. As the calculated value is less than the tabulated value of 't' it is observed that the H₀ is accepted at 5% level of significance and we can conclude that the actual and trend values are not correlated.

Trend Analysis of the Percentage of NNPA on Net Loans & Advances

Time series analysis has been used for analyzing the trend of the percentage of NPAs of BDCCBL. The percentage of NNPA on Net Loans & Advances of BDCCBL has been calculated to measure the trend of the percentage of NNPA on Net Loans & Advances growth and to predict the future pattern. Table and Line diagram has been used to make comparative analysis of the study.

Trend Analysis of the Percentage of NNPA on Net Loans & Advances of BDCCBL

Percentage of NNPA, NNPA indices and trend values of NNPA of BDCCBL are presented in Table 3.

Table 3: Percentage of NNPA on Net Loans & Advances of BDCCBL

Year	Percentage of NNPA to Net Loans & Advances	Indices	Trend Values (Y _i)	Deviation
2006-07	5.16	100	4.18	0.98
2007-08	4.61	89.34	4.53	0.08
2008-09	4.29	83.14	4.88	-0.59
2009-10	5.08	98.45	5.24	-0.16
2010-11	4.65	90.12	5.59	-0.94
2011-12	4.89	94.77	5.94	-1.05
2012-13	7.19	139.34	6.29	0.89
2013-14	7.65	148.25	6.64	1.01
2014-15	6.76	131.01	6.99	-0.24

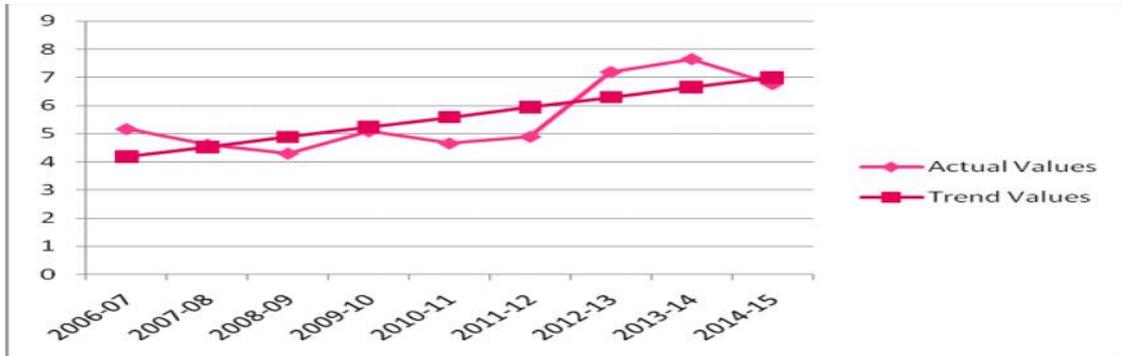
Source: Results computed from Annual Reports of BDCCBL, 2006-07 to 2014-15.

$$Y = 4.18 + 0.352 * X \quad r = 0.767231 \quad t = 3.16494166$$

The percentage of NNPA on Net Loans & Advances of BDCCBL shows fluctuating trend throughout the study period from 2006-07 to 2014-15. The indices of NNPA of BDCCBL are in comparison to 100 in the base year 2006-07 as given in the Table-3. Exceptional increase in percentage on NNPA of BDCCBL is observed in the year 2013-14. This is, perhaps, due to lapse of NPA management, i.e., decrease in the recovery rate and or increase in addition to NPA in any reasons.

The linear least squares trend values of the percentage of NNPA on Net Loans & Advances of BDCCBL are shown in Table-3. The yearly increase in percentage of NNPA on Net Loans & Advances comes to 0.352 percent, very slow. The trend values of the percentage of NNPA on Net Loans & Advances were more than the actual values during the study period except 2006-07, 2007-08, 2012-13 and 2013-14. The negative deviations were shown during the study period significantly except 2006-07, 2007-08, 2012-13 and 2013-14.

Actual and trend values of NNPA on Net Loans & Advances of BDCCBL are shown in Fig. 3 below.

Fig. 3: Actual and trend values of the percentage of NNPA on Net Loans & Advances of BDCCBL

The deviations are negative in the years except 2006-7, 2007-08, 2012-13 and 2013-14 and while these are positive in the rest of the years. The negative deviations during the periods were significant because increase recovery and decrease in addition to NPAs.

Test of significance of observed correlation coefficient (r) between the actual values and trend values of the percentage of NNPA on Net Loans & Advances of BDCCBL.

H₀: There is no significant correlation between the actual values and trend values of the percentage of NNPA on Net Loans & Advances of BDCCBL.

H₁: There is a significant correlation between the actual values and trend values of the percentage of NNPA on Net Loans & Advances of BDCCBL.

To test the significance of correlation between the actual values and trend values of the percentage of NNPA on Net Loans & Advances of BDCCBL, correlation and 't' test has also been followed; the test is two-tailed. It can be observed that there exist a high positive correlation between actual values and trend

values of the NNPA. It is also observed that the tabulated value of t is 2.37 at 5% level of significance ($n-2$), i.e., 7 degrees of freedom while the calculated value is 3.16494166. As the calculated value is more than the tabulated value of ' t ', it observed that the H_0 is rejected at 5% level of significance and we can conclude that the actual and trend values are correlated.

Trend Analysis of the percentage of NNPA on Total Assets

Time series analysis has been used for analyzing the trend of NPAs of BDCCBL. The percentage of NNPA on Total Assets of BDCCBL has been calculated to measure the trend of the percentage of NNPA on Total Assets growth and to predict the future pattern. Table and Line diagram has been used to make comparative analysis of the study.

Trend Analysis of the Percentage of NNPA on Total Assets of BDCCBL

Percentage of NNPA, NNPA indices and trend values of NNPA of BDCCBL are presented in Table 4.

Table 4: Percentage of NNPA to Total Assets of BDCCBL Trend

Year	Percentage of NNPA to Total Assets	Indices	Trend Values (Y _t)	Deviation
2006-07	1.62	100	1.30	0.31
2007-08	1.46	90.12	1.38	0.08
2008-09	1.27	78.39	1.45	-0.19
2009-10	1.38	85.18	1.53	-0.15
2010-11	1.26	77.78	1.61	-0.35
2011-12	1.46	90.12	1.68	-0.22
2012-13	2.04	125.93	1.76	0.28
2013-14	2.11	130.25	1.83	0.28
2014-15	1.86	114.81	1.91	-0.05

Source: Results computed from Annual Reports of BDCCBL, 2006-07 to 2014-15.

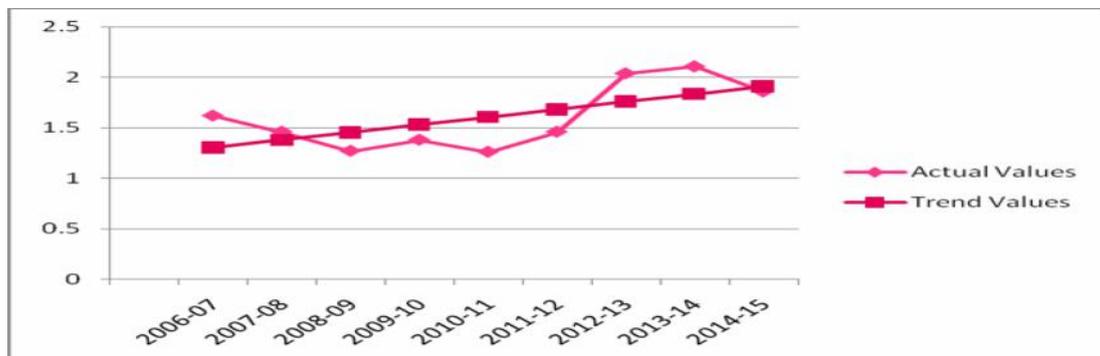
$$Y = 1.3047 + 0.0755 * X \quad r = 0.640613 \quad t = 2.20729456$$

The percentage of NNPA on Total Assets of BDCCBL is shown fluctuating trend throughout the study period from 2006-07 to 2014-15. The indices of NNPA of BDCCBL are in comparison to 100 in the base year 2006-07 as given in the Table-4. Exceptional increase in percentage on NNPA of BDCCBL is observed in the year 2013-14. This is, perhaps, due to lapse of NPA management, i.e., decrease in the recovery rate and or increase in addition to NPA in any reasons.

The linear least squares trend values of the percentage of NNPA on Total Assets of BDCCBL are shown in Table-4. The yearly increase in percentage of NNPA on Total Assets comes to 0.0755 percent. The trend values of the percentage of NNPA on Total Assets were more than the actual values during the study period except the 2006-07, 2007-08, 2012-13 and 2013-14. The negative deviations were shown during the study period significantly except 2006-07, 2007-08, 2012-13 and 2013-14.

Actual and trend values of NNPA to Total Assets of BDCCBL is shown in Fig. 4 below.

Fig. 4: Actual and trend values of NNPA to Total Assets of BDCCBL



The deviations are negative in the years except 2006-07, 2007-08, 2012-13 and 2013-14 and while these are positive in the rest of the years. The negative deviations during the periods were significant because increase recovery and decrease in addition to NPAs.

Test of significance of observed correlation coefficient (r) between the actual values and trend values of the percentage of NNPA on Total Assets of BDCCBL.

H₀: There is no significant correlation between the actual values and trend values of the percentage of NNPA on Total Assets of BDCCBL.

H₁: There is a significant correlation between the actual values and trend values of the percentage of NNPA on Total Assets of BDCCBL.

To test the significance of correlation between the actual values and trend values of the percentage of NNPA on Total Assets of BDCCBL, correlation and 't' test has also been followed; the test is two-tailed. It can be observed that there exist a high positive correlation between actual values and trend values of NNPA. It also be observed that the tabulated value of 't' is 2.37 at 5% level of significance (n-2) , i.e., 7 degrees of freedom while the calculated value is 2.20729456. As the calculated value is less than the tabulated value of 't', it is observed that the H₀ is accepted at 5% level of significance and we can conclude that the actual and trend values are not correlated.

Findings of the Study

- The percentage of GNPA on Loans & Advances shows a fluctuating trend throughout the study period but exceptional increase in the year 2009-10 and 2013-14. The trend values of percentage of GNPA on Gross Loans & Advances were more than the actual values throughout the study period except the 2009-10, 2012-13 and 2013-14. It is observed that there exist a positive correlation between actual values and trend values of GNPA to Loans & Advances. It is also observed that the actual and trend values are not correlated.
- The percentage of GNPA on Total Assets of BDCCBL shows slowly decreasing trend during the study period but exceptional increase in the year 2012-13 and 2013-14. The trend values of percentage of GNPA on Total Assets were more than the actual values during the study period except the 2012-13, 2013-14 and 2014-15. It is observed that there exist a positive correlation between actual values and trend values of GNPA to Total Assets. It is also observed that the actual and trend values are not correlated.
- The percentage of NNPA on Net Loans & Advances of BDCCBL shows fluctuating trend all through the study period but exceptional increase in the year 2013-14. The trend values of percentage of NNPA on Net Loans & Advances were more than the actual values during the study period except the 2006-07, 2007-08, 2012-13 and 2013-14. It is observed that there exist a high positive correlation between actual values and trend values of NNPA to Net Loans & Advances. It is also observed that the actual and trend values are correlated.
- The percentage of NNPA on Total Assets of BDCCBL is shown fluctuating trend throughout the study period but exceptional increase in percentage on NNPA of BDCCBL is observed particularly in the year 2013-14. The trend values of percentage of NNPA on Total Assets were more than the actual values during the study period except the 2006-07, 2007-08, 2012-13 and 2013-14.

It is observed that there exist a high positive correlation between actual values and trend values of NNPA to Total Assets. It is also observed that the actual and trend values are not correlated.

The overall picture of NPA management is not satisfactory of the bank under the study. This is, perhaps, due to improper management of NPAs, i.e., decrease in the recovery rate and or increase in addition to NPA in any reasons.

Suggestions

The scenario of NPAs and its management is quite serious in BDCCBL. So, the bank has to take some preventive measures to manage NPAs properly. To manage the NPAs properly some prolific suggestions are made below:

- Loans provided by the bank need to be done pre-sanctioning evaluation and post-disbursement monitoring so that NPA would remain under control. Close follow-up will generally ensure success.

- Once accounts become NPA, then banks should take appropriate steps to with an eye to recovery entire over dues.
- Bank may file suits promptly against willful defaulters. The bank should vigorously follow-up the legal cases.
- Wherever feasible, in case of never-ending NPAs, bank can consider entering into compromise settlements with the borrowers.
- Management of NPAs is to be made more effective with help of introduction of professional expertise in view of keeping the level of NPAs under control and to improve profitability as well as liquidity of the bank.

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