



PERFORMANCE EVALUATION OF QUALITY OF ASSETS OF REGIONAL RURAL BANK WORKING IN GUJARAT

Dr. Labhubhai Jivrajbhai Vanani

ABSTRACT :

The rising trend of NPA among the nationalised banks of India is not only a problem for the banks but also a major concern for the economy. It not only affects the profitability of the banks but also hampers the economic development of the country. In this paper, the researchers attempt to assess the growth rate of NPAs of RRBs in Gujarat (DGGB, BGGB and SGB) from 2005-06 to 2014-15 but also compares the NPA recovery rate between the RRBs. The paper also analyses the growth in Gross and Net NPAs of 3 banks with respect to gross and net advances of respective Banks and the growth in Gross and Net NPAs of 3 banks with respect to total assets of respective banks during this period. The findings clearly reveal that that the SaurashtraGramin Bank (DGGB) which operates in the rural districts of Gujarat, manages NPA better than Dena GujaratGramin Bank (DGGB)& Baroda Gujarat Gramin Bank (BGGB), during this period. The paper which is descriptive in nature is based on secondary data and the data have been extracted from the annual reports of Dena GujaratGramin Bank (DGGB), Baroda Gujarat Gramin Bank (BGGB) and Saurashtra Gramin Bank (DGGB).



KEYWORDS : nationalised banks of India , Baroda Gujarat Gramin Bank (BGGB) , significant progress.

INTRODUCTION

Regional Rural Bank has made a significant progress after the restructuring of RRBs which was started in 2005 by amalgamating 196 RRBs to 56 in 2015. The action of consolidation helped the RRBs in improving their functioning and achieving economies of the scale and better managerial control. It also helped in branch expansion, deposit mobilization, loans and advances, and investment maximization. Non-Performing Assets is the major problem faced by RRBs. Government of India has taken step to control the NPA which is affecting the performance of RRBs. Recently our GOI has directed Regional Rural Banks to become slim by cutting jobs and out-sources non-core function such as IT maintenance, such remittance and house – keeping to improve the profitability and productivity of Regional Rural Banks. This move is based on the recommendation of S.K Mitra committee on HR policy for RRBs. NPAs play a major role in the performance of RRBs, the increase on NPAs suggests high level of credit defaults which affects the performance and profitability of RRBs the efficiency of RRBs is reflected by level of return which it get on its assets.

Non- Performing Assets: - (NPA)

The assets of the Regional Rural Banks are classified into two namely performing Assets are considered as performing assets as the borrower regularly pays his installment and interest on or before due date and non- performing assets. Non-Performing Assets is defined as a credits facility in which the interest principal has remained past due for a specific period of time.

Meaning and definition of Non – Performing assets:-

There are many experts who have defined NPAs, among them, the best suited definition of an Non – performing Assets is;

According to Mohan. B and Rajesh. K. A. Non – Performing Assets is one which does not generate income for the Bank. In other words an advance account which ceases to yield income in a non – performing assets”

“ A non performing assets (NPA) is a loan or advance for which the principal or interest payment remained overdue for a period of go days” Banks are required to classify NPAs further into substandard, Doubtful and loss assets.

Standard assets:-

Assets which has remained NPA for a period less than or equal to 12 months.

Substandard assets:-

Assets which has remained NPA for a period less than or equal to 12 months.

Objective of Non- performing Assets:-

To find out the trend of Non – performing Assets of Baroda Gujarat Gramin Banks(BGGB) and Dena Gujarat Gramin Bank (DGGB) and SaurashtraGramin Bank (SGB) from 2005-2006 to 2014-2015

To analysis the growth in gross Non – performing assets and et Non- Performing Assets of Baroda Gujarat Gramin Bank (BGGB), Dena Gujarat Gramin Bank (DGGB) and SaurashtraGramin Bank (SGB) with respect to Gross and Net advance of respective RRBs from 2005-06 to 2014-15.

To analysis the growth in gross Non – Performing Assets of Baroda Gujarat Gramin Bank (BGGB), Dena Gujarat Gramin Bank (DGGB), and SaurashtraGramin Bank (SGB) with respect to total assets of respective RRBs from 2005-06 to 2014-15

To analysis the comparative growth in the recovery rate of Baroda Gujarat Gramin Bank (BGGB), Dena Gujarat Gramin Bank (DGGB) and SaurashtraGramin Bank (SGB) during 2005-06 to 2014-15

Limitation of Non Performing Assets;;

the important limitation of Non Performing Assets are as under:-

- 1) The study of Non Performing Assets of BGGB and DGGB limited to the Indian bank and till the end of the year 2015.
- 2) The basis for identifying Non Performing Assets is taken from the research bank of India publication.
- 3) Non Performing Assets are changing with the time .The study is done in the present environment without foreseeing future developments.

Table No. 1.1
'Asset Classification - Standard' of Dena Gujarat Gramin Bank

Year	'Asset Classification - Standard'	Ratio = CY/BY* 100%	rank	Expected value	residual = observed - Expected	(observed - Expected)^2	Component = (observed - Expected)^2 / Expected
a	b	c	d	e = avg(c)	e - c	(e-c)^2	(e-c)^2/e
2005-06	2,807,209	100	10	282	-181.98	331.17	117.44
2006-07	4,263,849	152	9	282	-130.09	169.24	60.02
2007-08	5,290,329	188	8	282	-93.53	87.47	31.02
2008-09	5,967,061	213	7	282	-69.42	48.19	17.09
2009-10	6,259,056	223	6	282	-59.02	34.83	12.35
2010-11	7,060,410	252	5	282	-30.47	9.28	3.29
2011-12	8,619,600	307	4	282	25.07	6.29	2.23
2012-13	10,747,076	383	3	282	100.86	101.72	36.07
2013-14	12,500,250	445	2	282	163.31	266.70	94.58
2014-15	15,642,953	557	1	282	275.26	757.69	268.70
Mean	7,915,779					Chi-square statistic	6.43
Variance	15,871,017,335,453					Df	9

Table No. 1.1.1, Dena Gujarat Gramin Bank, the 'Standard Assets' was Rs. 2,807,209 in 2005-06, Rs. 4,263,849 in 2006-07, Rs. 5,290,329 in 2007-08, Rs. 5,967,061 in 2008-09, Rs. 6,259,056 in 2009-10, Rs. 7,060,410 in 2010-11, Rs. 8,619,600 in 2011-12, Rs. 10,747,076 in 2012-13, Rs. 12,500,250 in 2013-14, Rs. 15,642,953 in 2014-15.

Hypothesis Testing:

Null Hypothesis (H₀): There is no significant difference in 'Standard Assets' of Dena Gujarat Gramin Bank during the period of study.

Alternative Hypothesis (H₁): There is significant difference between 'Standard Assets' of Dena Gujarat Gramin Bank during the period of study.

Level of Significance: 0.05

Chi-square Test:

The calculated value of chi-square test is 6.43, whereas the table value of chi-square is 16.916 at 0.05 level of significance which is higher than calculated value. Hence, we will fail to reject H₀ mean the standard assets follow the same trend for the Dena Gujarat Gramin Bank.

Table No. 1.2
'Asset Classification - Standard' of Baroda Gujarat Gramin Bank

Year	'Asset Classification - Standard'	Ratio = CY/BY* 100%	rank	Expected value	residual = observed - Expected	(observed - Expected)^2	Component = (observed - Expected)^2 / Expected
A	B	c	d	e = avg(c)	e - c	(e-c)^2	(e-c)^2/e
2005-06	2,444,083	100	10	229	-129.31	167.22	72.92
2006-07	3,316,916	136	9	229	-93.60	87.61	38.21
2007-08	4,044,542	165	8	229	-63.83	40.74	17.77
2008-09	4,309,594	176	6	229	-52.99	28.08	12.24
2009-10	4,288,822	175	7	229	-53.84	28.98	12.64
2010-11	4,835,238	198	5	229	-31.48	9.91	4.32
2011-12	5,981,644	245	4	229	15.43	2.38	1.04
2012-13	7,081,826	290	3	229	60.44	36.53	15.93
2013-14	9,101,632	372	2	229	143.08	204.72	89.27
2014-15	10,642,057	435	1	229	206.11	424.80	185.25
Mean	5,604,635					Chi-square statistic	4.50
Variance	6,842,882,398,136					df	9

Table No. 1.1.2, Baroda Gujarat Gramin Bank, the 'Standard Assets' was Rs. 2,444,083 in 2005-06, Rs. 3,316,916 in 2006-07, Rs. 4,044,542 in 2007-08, Rs. 4,309,594 in 2008-09, Rs. 4,288,822 in 2009-10, Rs. 4,835,238 in 2010-11, Rs. 5,981,644 in 2011-12, Rs. 7,081,826 in 2012-13, Rs. 9,101,632 in 2013-14, Rs. 10,642,057 in 2014-15.

Hypothesis Testing:

Null Hypothesis (H₀): There is no significant difference in 'Standard Assets' of Baroda Gujarat Gramin Bank during the period of study.

Alternative Hypothesis (H₁): There is significant difference between 'Standard Assets' of Baroda Gujarat Gramin Bank during the period of study.

Level of Significance: 0.05

Chi-square Test:

The calculated value of chi-square test is 4.50, whereas the table value of chi-square is 16.916 at 0.05 level of significance which is higher than calculated value. Hence, we will fail to reject H₀ mean the standard assets follow the same trend for the Baroda Gujarat Gramin Bank.

Table No. 1.3
'Asset Classification - Standard' of SaurashtraGramin Bank

Year	'Asset Classification - Standard'	Ratio = CY/BY* 100%	rank	Expected value	residual = observed - Expected	(observed - Expected)^2	Component = (observed - Expected)^2 / Expected
A	B	c	d	e = avg(c)	e - c	(e-c)^2	(e-c)^2/e
2005-06	3,615,498	100	10	248	-147.59	217.81	87.98
2006-07	4,413,928	122	9	248	-125.50	157.51	63.62
2007-08	5,365,320	148	8	248	-99.19	98.38	39.74
2008-09	6,536,818	181	7	248	-66.79	44.60	18.02
2009-10	7,220,452	200	6	248	-47.88	22.92	9.26
2010-11	7,918,041	219	5	248	-28.58	8.17	3.30
2011-12	9,889,223	274	4	248	25.94	6.73	2.72
2012-13	12,961,649	359	3	248	110.92	123.03	49.69
2013-14	15,533,644	430	2	248	182.06	331.44	133.87
2014-15	16,059,899	444	1	248	196.61	386.56	156.13
Mean	8,951,447					Chi-square statistic	5.64
Variance	20,292,554,801,632					df	9

Table No. 1.1.3, SaurashtraGramin Bank, the 'Standard Assets' was Rs. 3,615,498 in 2005-06, Rs. 4,413,928 in 2006-07, Rs. 5,365,320 in 2007-08, Rs. 6,536,818 in 2008-09, Rs. 7,220,452 in 2009-10, Rs. 7,918,041 in 2010-11, Rs. 9,889,223 in 2011-12, Rs. 12,961,649 in 2012-13, Rs. 15,533,644 in 2013-14, Rs. 16,059,899 in 2014-15.

Hypothesis Testing:

Null Hypothesis (H₀): There is no significant difference in 'Standard Assets' of SaurashtraGramin Bank during the period of study.

Alternative Hypothesis (H₁): There is significant difference between 'Standard Assets' of SaurashtraGramin Bank during the period of study.

Level of Significance: 0.05

Chi-square Test:

The calculated value of chi-square test is 5.64, whereas the table value of chi-square is 16.916 at 0.05 level of significance which is higher than calculated value. Hence, we will fail to reject H₀ mean the standard assets follow the same trend for the SaurashtraGramin Bank.

Table No. 1.4
'Asset Classification - Standard'

Year	Dena Gujarat Gramin Bank	Baroda Gujarat Gramin Bank	SaurashtraGramin Bank
2005-06	100	100	100
2006-07	152	136	122
2007-08	188	165	148
2008-09	213	176	181
2009-10	223	175	200
2010-11	252	198	219
2011-12	307	245	274
2012-13	383	290	359
2013-14	445	372	430
2014-15	557	435	444
Mean	282	229	248
Variance	2.0140	1.1455	1.5524

Above table indicate the data regarding 'Standard Assets' ratio of all three sample banks for the period of 2005-06 to 2014-15 (10 years).

Hypothesis Testing:

Null Hypothesis (H₀): There is no significant difference between mean values of 'Standard Assets' of selected sample banks during the period of study.

Alternative Hypothesis (H₁): There is significant difference between mean values of 'Standard Assets' of selected sample banks during the period of study.

Analysis Method: One-way ANOVA

Descriptive Summary:

	Count	Sum	Average	Variance
Dena Gujarat Gramin Bank	10	28.1980	2.8198	2.0140
Baroda Gujarat Gramin Bank	10	22.9314	2.2931	1.1455
SaurashtraGramin Bank	10	24.7585	2.4759	1.5524

Source of Variation	Sum of Square	Degree of Freedom	Mean sum of square	F-calculated	P-value	F crit
Between Groups	1.430	2	0.7151	0.4553	0.6390	3.3541
Within Groups	42.407	27	1.5706			
Total	43.837	29				

Interpretation:

The calculated F value is 0.4553 whereas F critical value is 3.3541 at 0.05 level of significance which is higher than calculated value. Hence, we will fail to reject H₀ mean there is no significant difference between mean values of 'Standard Assets' of selected sample banks during the period of study.

Table No. 1.5
'Asset Classification - Sub-Standard' of Dena Gujarat Gramin Bank

Year	'Asset Classification - Sub-Standard'	Ratio = CY/BY* 100%	rank	Expected value	residual = observed - Expected	(observed - Expected)^2	Component = (observed - Expected)^2 / Expected
a	b	c	d	e = avg(c)	e - c	(e-c)^2	(e-c)^2/e
2005-06	35,329	100	10	363	-263.18	692.65	190.72
2006-07	41,405	117	9	363	-245.98	605.08	166.60
2007-08	83,554	237	6	363	-126.68	160.48	44.19
2008-09	54,216	153	8	363	-209.72	439.83	121.10
2009-10	92,855	263	4	363	-100.35	100.71	27.73
2010-11	69,880	198	7	363	-165.38	273.52	75.31
2011-12	91,343	259	5	363	-104.63	109.48	30.14
2012-13	279,588	791	2	363	428.20	1833.57	504.86
2013-14	235,580	667	3	363	303.64	921.95	253.85
2014-15	299,334	847	1	363	484.09	2343.47	645.26
Mean	128,308					Chi-square statistic	20.60
Variance	10,374,415,723					df	9

For the Dena Gujarat Gramin Bank, 'Sub-Standard assets' was Rs. 35,329 in 2005-06, Rs. 41,405 in 2006-07, Rs. 83,554 in 2007-08, Rs. 54,216 in 2008-09, Rs. 92,855 in 2009-10, Rs. 69,880 in 2010-11, Rs. 91,343 in 2011-12, Rs. 279,588 in 2012-13, Rs. 235,580 in 2013-14, Rs. 299,334 in 2014-15. Sub-Standard assets indicate the partially secured lending by bank.

Hypothesis Testing:

Null Hypothesis (H₀): There is no significant difference in 'Sub-Standard Assets' of Dena Gujarat Gramin Bank during the period of study.

Alternative Hypothesis (H₁): There is significant difference between 'Sub-Standard Assets' of Dena Gujarat Gramin Bank during the period of study.

Level of Significance: 0.05

Chi-square Test:

The calculated value of chi-square test is 20.6, whereas the table value of chi-square is 16.916 at 0.05 level of significance which is lower than calculated value. Hence, we will fail to reject H₁ mean the standard assets follow the different trend for the Dena Gujarat Gramin Bank.

Table No. 1.6
'Asset Classification - Sub-Standard' of Baroda Gujarat Gramin Bank

Year	'Asset Classification - Sub-Standard'	Ratio = CY/BY* 100%	rank	Expected value	residual = observed - Expected	(observed - Expected)^2	Component = (observed - Expected)^2 / Expected
a	b	c	d	e = avg(c)	e - c	(e-c)^2	(e-c)^2/e
2005-06	66,162	100	9	196	-96.14	92.42	47.12
2006-07	10,188	15	10	196	-180.74	326.67	166.55
2007-08	84,182	127	7	196	-68.90	47.47	24.20
2008-09	73,101	110	8	196	-85.65	73.36	37.40
2009-10	239,614	362	1	196	166.02	275.64	140.53
2010-11	179,544	271	3	196	75.23	56.60	28.86
2011-12	182,075	275	2	196	79.06	62.50	31.87
2012-13	134,498	203	6	196	7.15	0.51	0.26
2013-14	168,553	255	4	196	58.62	34.36	17.52
2014-15	159,770	241	5	196	45.35	20.56	10.48
Mean	129,769					Chi-square statistic	5.05
Variance	4,815,657,465					df	9

For the Baroda Gujarat Gramin Bank, 'Sub-Standard assets' was Rs. 66,162 in 2005-06, Rs. 10,188 in 2006-07, Rs. 84,182 in 2007-08, Rs. 73,101 in 2008-09, Rs. 239,614 in 2009-10, Rs. 179,544 in 2010-11, Rs. 182,075 in 2011-12, Rs. 134,498 in 2012-13, Rs. 168,553 in 2013-14, Rs. 159,770 in 2014-15.

Sub-Standard assets indicate the partially secured lending by bank.

Hypothesis Testing:

Null Hypothesis (H₀): There is no significant difference in 'Sub-Standard Assets' of Baroda Gujarat Gramin Bank during the period of study.

Alternative Hypothesis (H₁): There is significant difference between 'Sub-Standard Assets' of Baroda Gujarat Gramin Bank during the period of study.

Level of Significance: 0.05

Chi-square Test:

The calculated value of chi-square test is 5.05, whereas the table value of chi-square is 16.916 at 0.05 level of significance which is higher than calculated value. Hence, we will fail to reject H₀ mean the standard assets follow the same trend for the Baroda Gujarat Gramin Bank.

Table No. 1.7
'Asset Classification - Sub-Standard' of SaurashtraGramin Bank

Year	'Asset Classification - Sub-Standard'	Ratio = CY/BY* 100%	rank	Expected value	residual = observed - Expected	(observed - Expected)^2	Component = (observed - Expected)^2 / Expected
A	B	c	d	e = avg(c)	e - c	(e-c)^2	(e-c)^2/e
2005-06	14,756	100	10	391	-290.92	846.32	216.50
2006-07	27,839	189	8	391	-202.25	409.07	104.64
2007-08	38,743	263	6	391	-128.36	164.76	42.15
2008-09	17,852	121	9	391	-269.93	728.65	186.40
2009-10	33,509	227	7	391	-163.83	268.40	68.66
2010-11	72,558	492	5	391	100.80	101.61	25.99
2011-12	89,318	605	4	391	214.38	459.60	117.57
2012-13	94,732	642	2	391	251.07	630.38	161.26
2013-14	96,566	654	1	391	263.50	694.33	177.62
2014-15	90,963	616	3	391	225.53	508.64	130.12
Mean	57,684					Chi-square statistic	12.31
Variance	1,164,124,382					df	9

For the SaurashtraGramin Bank, 'Sub-Standard assets' was Rs. 14,756 in 2005-06, Rs. 27,839 in 2006-07, Rs. 38,743 in 2007-08, Rs. 17,852 in 2008-09, Rs. 33,509 in 2009-10, Rs. 72,558 in 2010-11, Rs. 89,318 in 2011-12, Rs. 94,732 in 2012-13, Rs. 96,566 in 2013-14, Rs. 90,963 in 2014-15. Sub-Standard assets indicate the partially secured lending by bank.

Hypothesis Testing:

Null Hypothesis (H₀): There is no significant difference in 'Sub-Standard Assets' of SaurashtraGramin Bank during the period of study.

Alternative Hypothesis (H₁): There is significant difference between 'Sub-Standard Assets' of SaurashtraGramin Bank during the period of study.

Level of Significance: 0.05

Chi-square Test:

The calculated value of chi-square test is 12.31, whereas the table value of chi-square is 16.916 at 0.05 level of significance which is higher than calculated value. Hence, we will fail to reject H₀ mean the standard assets follow the same trend for the SaurashtraGramin Bank.

Table No. 1.8
'Asset Classification - Sub-Standard'

Year	Dena Gujarat Gramin Bank	Baroda Gujarat Gramin Bank	SaurashtraGramin Bank
2005-06	100	100	100
2006-07	117	15	189
2007-08	237	127	263
2008-09	153	110	121
2009-10	263	362	227
2010-11	198	271	492
2011-12	259	275	605
2012-13	791	203	642
2013-14	667	255	654
2014-15	847	241	616
Mean	363	196%	391
Variance	8.3119	1.1001	5.3464

Above table indicate the data regarding 'Asset Classification - Sub-Standard' ratio of all three sample banks for the period of 2005-06 to 2014-15 (10 years).

Hypothesis Testing:

Null Hypothesis (H₀): There is no significant difference between mean values of 'Sub-Standard Assets' of selected sample banks during the period of study.

Alternative Hypothesis (H₁): There is significant difference between mean values of 'Sub-Standard Assets' of selected sample banks during the period of study.

Analysis Method: One-way ANOVA

Descriptive Summary:

	Count	Sum	Average	Variance
Dena Gujarat Gramin Bank	10	36.3182	3.6318	8.3119
Baroda Gujarat Gramin Bank	10	19.6138	1.9614	1.1001
SaurashtraGramin Bank	10	39.0916	3.9092	5.3464

Source of Variation	Sum of Square	Degree of Freedom	Mean sum of square	F-calculated	P-value	F crit
Between Groups	22.204	2	11.1019	2.2567	0.1241	3.3541
Within Groups	132.826	27	4.9195			
Total	155.030	29				

Interpretation:

The calculated F value is 2.2567 whereas F critical value is 3.3541 at 0.05 level of significance which is higher than calculated value. Hence, we will fail to reject H₀ mean there is no significant difference between mean values of 'Sub-Standard Assets' of selected sample banks during the period of study.

CONCLUSION, FINDINGS AND SUGGESTIONS

This white paper deals with analysis of quality of assets. In Indian banking sector, quality of assets is major criteria for effective operation of lending, increasing trend in NPA creates problem for the financial

health of a bank. So, in order to review the quality of assets, researcher has reviewed the standard assets and sub-standard assets of all RRB's.

Findings for the quality of assets, standard assets, trends in all sample banks follow the same pattern. However, sub-standard assets in DGGB, H_0 is rejected shows that significant difference in sub-standard assets during the period of the study. But BGGB & SGB follow the same trend by accepting H_0 . For loss of assets DGGB follow the significant difference during the period of the study, while BGGB & SGB accepting H_0 . So, there is no significant difference.

Analysis of quality of assets, standard assets, and sub-standard assets follows the same patterns during the period of the study between the banks.

Analysis of Quality of Assets				
Sr. no	Variable	Chi – square value	H_0/H_1	Results
1	Standard Assets			
	DGGB	0.43	H_0	Accepted
	BGGB	4.50	H_0	Accepted
	SGB	5.64	H_0	Accepted
2	Sub Standard Assets			
	DGGB	20.60	H_0	Rejected
	BGGB	5.05	H_0	Accepted
	SGB	12.31	H_0	Accepted

Summary on the basis of ANOVA (F test)				
Sr no.	Variable	F - Test Value	H_0/H_1	Results
Analysis of Quality of Assets				
1	Standard Assets	0.4553	H_0	Accepted
2	Sub Standard Assets	0.2567	H_0	Accepted

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