

Emerging Trends of NPAs in Priority and Non-Priority Sector in India: A Study of Public and Private Sector Banks

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ABSTRACT

This paper analyses the growth and structure of NPAs in priority and non-priority sector lending of public vis-a-vis private sector banks from the year 2004 to 2017. The exponential growth rate, co-efficient of correlation and co-efficient of variation has been calculated. The null and alternative hypothesis with respect to NPAs has been tested with t-test at 5% level of significance. It was found that, both the priority and non-priority sector NPAs have contributed significantly to total NPAs of the banks. However, non-priority sector NPAs contribution to total NPAs was found to be more than priority sector NPAs, both in case of public as well as private sector banks from the year 2013 onwards. The reduction in entire NPAs is difficult for the banks in the short as well as long run, keeping in view the risks attached with the priority sector lending on the one hand and the social responsibility of the banking sector on the other hand. It is recommended that, government, policy makers, private and public sector banks should make efforts for reducing sector-wise NPA.

Keywords: *Non-performing Assets (NPAs); Banks; Priority sector lending; Non-priority sector lending; Exponential growth rate.*

1.0 Introduction

A healthy financial system can help achieve efficient allocation of resources across time and space by reducing inefficiencies arising out of market frictions and other socio-economic factors. Amongst the various desirable characteristics of a well-functioning financial system, the maintenance of a few non-performing assets (NPA) is an important one. NPAs beyond a certain level are indeed cause of concern for everyone involved because, credit is essential for economic growth and NPAs affect the smooth flow of credit.

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The Narasimham Committee (Financial Sector Reforms, 1991) felt that the classification of NPAs as followed by RBI was not in accordance with the international standards. The committee believed that a system of income recognition and provisioning is fundamental to preserve the strength and stability of the banking system. Though, the recommendations of Financial Sector Reforms Committee to reduce the target of priority sector lending was not accepted, yet, in view of widening the coverage of priority sector lending on the one hand, and dilution of norms on the other hand, the banks in default can easily meet the priority sector target by contributing to Rural Infrastructure Development Fund (RIDF) and Khadi and Village Industries Commission (KVIC). This way the banks easily avoid taking any risk and this may also ensure them minimum returns.

In the process of New Economic Reforms and efforts for integration of Indian financial system to the international level, the Reserve Bank of India adopted the Basle Norms in 1991-92 and brought in the first phase of banking sector reforms. RBI framed prudential income recognition norms and banks were asked to identify and provide for bad loans or non-performing assets and were given one year to achieve the same. As per the RBI income recognition norms, an asset becomes an NPA, if principal or interest thereon is unpaid for two quarters. However, international rating agencies like Standard and Poor are of the view that the asset quality in the Indian banking system is far below. International Standard Institutions think that Indian banking practices are not up to international mark as laid down by Basle Norms, which consider an account as NPA if principal or interest is not paid for a quarter. With a view to moving towards international best practices and to ensure greater transparency, it had been decided to adopt the 90 days overdue norm for identification of NPAs from the year ending March 31, 2004.

2.0 Review of Literature

Sooden and Sanjeev (2007) observed that there appears to be some serious doubt about the sustainability of the system of priority sector lending as evident from growing value of NPAs. It was suggested that the public sector banks need to go for a balanced approach regarding their role as development agent and at the same time must ensure their financial sustainability too. Sanjeev and Gupta (2008) found that priority sector NPAs of public sector banks are nearly double vis-à-vis private sector banks. Whereas, in the public sector banks 50 per cent of the NPAs are contributed by priority sector lending alone, in case of private sector banks it is not so. Uppal (2009) highlighted problems/issues of priority sector lending by public and private sector banks and found

that NPAs of public sector banks have increased because of high priority sector advances as compared to private sector banks. Parimalarani (2011) observed that during the years 2005–06 and 2006–07, the level of non-performing assets was very high for priority sector and stood more than that of non-priority sector advances in public sector banks. Veerakumar (2012) studied priority and non-priority sector NPAs during the period 2001 to 2010. It was observed that one of the major reasons for NPAs in the banking sector is the ‘Direct Lending System’ (DLS) by the RBI. It was recommended that the bank management should speed up recovery of good and bad loans through various modes to decelerate growth of NPAs. Raman (2013) analysed the performance of the commercial bank in priority sector lending during the period 2000–2001 to 2009–2010. It was found that, the level of non-performing assets was more in case of priority sector advances vis-a-vis non-priority sector. Mishra (2016) studied NPAs in priority and non-priority sector by public sector banks from the period 2006 to 2015. It was observed that, the percentage contribution of priority sector NPAs to total NPAs have been decreasing and that of non priority sector NPAs are increasing both in percentage as well as absolute terms. Ramesh (2017) in his study of priority sector and non-priority sector NPAs of Indian public sector banks from 2005 to 2016, observed that the contribution of priority sector NPAs is more than 50 per cent in total NPAs till 2011. After that it gradually declined. Non-priority sector NPAs hovered well above 50 per cent after 2011. Non-priority Sector NPAs steadily increased during the period of study. It was also observed that both priority sector and non-priority sector NPAs were showing significant effects on total NPAs of public sector banks.

3.0 Research Methodology

3.1 Scope of the study

The main objective of the paper is to analyse the growth and structure of priority and non-priority sector NPAs of public and private sector banks from the year 2004 to 2017. The main rationale behind selecting the year 2004 was that, RBI with a view to moving towards international best practices and to ensure greater transparency, adopted the 90 days overdue norm for identification of NPAs from the year ending March 31, 2004. So, in the present paper, an attempt has been made to analyse the trends of priority and non-priority sector NPAs of public and private sector banks in the changed environment. Further, the period is sub-divided in two parts to have a better comparative analysis of NPAs. The period I, includes the years from 2004 to 2010 and period II stretching over the years 2011 to 2017. The entire study is based upon secondary data

and all the required information is collected from the various relevant issues published by the Reserve Bank of India (www.rbi.com).

3.2 Objectives of the study

- a) To study the structure of total NPAs of public and private sector banks during two periods of the study.
- b) To study the growth and disparities in priority sector NPAs and non-priority sector NPAs of public and private sector banks during period I and II.
- c) To find out the significant relationship and degree of association between the priority sector NPAs and non-priority sector NPAs to total NPAs of public and private sector banks in two different periods of the study.

3.3 Null and alternative hypothesis

- 1) H_{01} : There is no significant difference in the mean value of priority sector NPAs and non-priority sector NPAs of public sector banks in period I and II of the study ($H_0: \mu_1 = \mu_2$).
 H_{a1} : There is a significant difference in the mean value of priority sector NPAs and non-priority sector NPAs of public sector banks in period I and II under study ($H_1: \mu_1 \neq \mu_2$).
- 2) H_{02} : There is no significant difference in the mean value of priority sector NPAs and non-priority sector NPAs of private sector banks in period I and II of the study ($H_0: \mu_1 = \mu_2$).
 H_{a2} : There is significant difference in the mean value of priority sector NPAs and non-priority sector NPAs of private sector banks in period I and II under study ($H_2: \mu_1 \neq \mu_2$).

3.4 Statistical tools used in the study

With a view to analyse the growth of NPAs in priority and non-priority sector of public and private sector banks, the exponential growth rate has been calculated as follows:

$$Y_i = a_0 * b_i^t$$

$$\ln(Y_i) = \ln(a_0) + t * \ln(b_i)$$

$$g = (b-1),$$

Where: - Y_i is the value of i th indicator, a = constant, b_i = regression co-efficient of i th indicator, t = time period, \ln = common log value, g = growth rate.

The structure of sector-wise NPAs is examined by mean value of an indicator which, is calculated separately for first and second period of the study.

$$\text{The combined mean } (\bar{X}) = \frac{n_1 x_1 + n_2 x_2 + n_3 x_3 + \dots + n_n x_n}{n_1 + n_2 + n_3 + \dots + n}$$

$$\bar{X}_i = \frac{\sum_{i=1}^n n_i x_i}{\sum_{i=1}^n n_i}$$

where, n_i stands for number of observations and \bar{X}_i stands for mean value.

The behavior of inter-year disparities of NPAs in priority sector and non-priority sector is explained with the help of co-efficient of variation (C.V.). The value of C.V. is ascertained as follows:

$$CV = \frac{\sigma}{\bar{X}_i} \times 100,$$

where, C.V. stands for co-efficient of variation,

σ_i = Standard deviation of i th indicator, \bar{X}_i = Mean value of i th indicator.

The performance of public and private sector banks with respect to priority sector NPAs and non-priority sector NPAs during the period I and II of the study will be compared with t-test. The null and alternative hypothesis of public and private sector banks with respect to priority sector NPAs and non-priority sector NPAs has been tested at 5% level of significance. The value of t-test will be computed as follow:

$$t = \frac{X_1 - X_2}{S} \sqrt{\frac{n_1 n_2}{n_1 + n_2}}$$

where, n_1 and n_2 = size of two independent samples i.e. no. of years

x_1 and x_2 is the mean value i.e. mean value of priority sector and non-priority sector NPAs by public and private sector banks in period I and II. S =combined standard deviation of two samples i.e. priority/non-priority sector NPAs.

The degree of relationship/association between priority sector and non-priority sector NPAs to total NPAs is ascertained with the help of Co-efficient of Correlation calculated by the following formula:

$$r = \frac{\sum (x - \bar{x})(y - \bar{y})}{\sqrt{\sum (x - \bar{x})^2 \sum (y - \bar{y})^2}}$$

where, x and y are the means values of priority/non-priority sector NPAs and total NPAs respectively.

4.0 Analysis and Interpretation of Data

4.1 NPAs of public sector banks

The growth and structure of NPAs of public sector banks during the two periods is exhibited in Table 1. The idea behind this exercise is to know that whether these are priority or non-priority sector advances which are the main source of NPAs of the banks.

The analysis revealed that total NPAs of the public sector banks rose from ₹ 50, 149 crores in the year 2004 to ₹ 57, 301 crores in the year 2010, recording a rate of growth of 0.70 per cent per annum during period I. On an average, the total NPAs of public sector banks stood at ₹ 45, 560 crores during the first period. On the contrary, total NPAs of the public sector banks rose from ₹ 71, 037 crores in the year 2011 to ₹ 6, 41, 210 crores in the year 2017, registering a very high rate of growth of 43.48 per cent per annum during period II. On an average, the total NPAs of public sector banks stood at ₹ 2, 80, 339 crores during the second period. The NPAs of public sector banks recorded a very high rate of growth in the second vis-à-vis first period.

Table 1: NPAs of the Public Sector Banks

| Period-I | Priority Sector | | Non-Priority Sector | | Public Sector | | Total NPAs (₹ Crore) |
|--------------|------------------|--------------------|---------------------|--------------------|------------------|--------------------|----------------------|
| | Amount (₹ Crore) | %age to Total NPAs | Amount (₹ Crore) | %age to Total NPAs | Amount (₹ Crore) | %age to Total NPAs | |
| 2004 | 23841 | 47.54 | 25698 | 51.24 | 610 | 1.22 | 50149 |
| 2005 | 23398 | 49.05 | 23849 | 50.00 | 451 | 0.95 | 47698 |
| 2006 | 22374 | 54.07 | 18664 | 45.11 | 341 | 0.82 | 41379 |
| 2007 | 22954 | 59.46 | 15158 | 39.27 | 490 | 1.27 | 38602 |
| 2008 | 25287 | 63.62 | 14163 | 35.63 | 299 | 0.75 | 39749 |
| 2009 | 24318 | 55.21 | 19251 | 43.71 | 474 | 1.08 | 44043 |
| 2010 | 30848 | 53.84 | 25929 | 45.25 | 524 | 0.91 | 57301 |
| Mean | 24717 | 54.68 | 20387 | 44.32 | 455.57 | 1.00 | 45560 |
| G. R. (in %) | 3.56 | | -2.37 | | -1.69 | | 0.70 |
| C.V. (in %) | | 10.20 | | 12.46 | | 19.71 | |
| Period-II | | | | | | | |
| 2011 | 41244 | 58.06 | 29515 | 41.55 | 278 | 0.39 | 71037 |
| 2012 | 56200 | 49.96 | 56071 | 49.85 | 217 | 0.19 | 112488 |
| 2013 | 66900 | 42.88 | 89000 | 57.05 | 115 | 0.07 | 156015 |
| 2014 | 79192 | 36.54 | 137547 | 63.46 | 13 | 0.01 | 216752 |
| 2015 | 93685 | 35.65 | 169060 | 64.34 | 25 | 0.01 | 262770 |
| 2016 | 128116 | 25.52 | 373952 | 74.48 | 34 | 0.01 | 502102 |
| 2017 | 154276 | 24.06 | 486780 | 75.92 | 154 | 0.02 | 641210 |
| Mean | 88516 | 38.95 | 191703 | 60.95 | 119 | 0.10 | 280339 |
| G. R. (In %) | 23.61 | | 58.25 | | -22.12 | | 43.48 |
| C.V. (In %) | | 31.80 | | 20.53 | | 143.64 | |

Source: - www.rbi.com.

Note: - GR and CV denotes Growth Rate and Co-efficient of Variation respectively.

There are primarily three sources of NPAs, one is priority sector, the other is non-priority sector and third one is lending to public sector. The priority sector NPAs of the public sector banks rose from ₹ 23, 841 crores in the year 2004 to ₹ 30, 848 crores in the year 2010, recording a rate of growth of 3.56 per cent per annum during the period I. On an average, the priority sector NPAs stood at ₹ 24, 717 crores during the first period. On the other hand, priority sector NPAs rose from ₹ 41, 244 crores in the year 2011 to ₹ 1, 54, 276 crores in the year 2017, registering a very high rate of growth of 23.61 per cent per annum during the period II. On an average, the priority sector NPAs stood at ₹ 88, 516 crores during the second period. The priority sector NPAs of public sector banks recorded a very high rate of growth in the second vis-à-vis first period. Further, the rate of growth revealed that, during the first phase, NPAs in non-priority sector declined (-2.37 per cent per annum). However, during the period II, these are non-priority sector NPAs, which have increased at a higher rate (58.25 per cent) vis-à-vis the priority sector NPAs (23.61 per cent).

It is observed from 2004 to 2017 that, during the first phase, on an average, the percentage share of priority sector NPAs to total NPAs stood more vis-à-vis that of non-priority sector, on the other hand, during the second phase, it is vice-versa. For example, the percentage share of priority sector NPAs, on an average, stood at 54.68 per cent as against 43.32 per cent in non-priority sector during the first period. But, during the second period, it was only 38.95 per cent NPAs in priority sector as against 60.95 per cent NPAs in the non-priority sector. The share of public sector NPAs, on an average, stood at 1.00 and 0.10 per cent during the period I and II respectively. The public sector NPAs throughout continued to decline from the year 2004 to 2017 (Table 1).

The year-wise analysis revealed that the year 2013 was a turning point because prior to this, the percentage share of priority sector NPAs to total NPAs stood more than that of non-priority sector NPAs. But, from the year 2013 to year 2017, the percentage share of non-priority sector NPAs to total NPAs of public sector banks exhibited a continuous increase. In the recent years of 2015, 2016 and 2017, the percentage share of non-priority sector NPAs to total NPAs stood as high as 64.34 per cent, 74.48 per cent and 75.92 per cent as compared to 35.65 per cent, 25.52 per cent and 24.06 per cent NPA to total NPAs in priority sector.

The inter-year disparities as shown by the value of co-efficient of variation stood high in the period II vis-à-vis period I in case of both priority sector NPA (10.20 per cent in I period and 31.80 per cent in the II period) as well as non-priority sector NPAs (12.46 per cent in I period and 20.53 per cent in the II period). However, in case of public sector NPAs a drastic change was observed as the value of co-efficient of variation increased

from as low as 19.71 per cent in the first period to as high as 143.64 per cent during the second period.

4.2 NPAs of private sector banks

The growth and structure of NPAs of private sector banks during the two different periods of the study (Table 2), revealed that total NPAs of the private sector banks rose from ₹ 10, 352 crores in the year 2004 to ₹ 17, 384 crores in the year 2010, registering a rate of growth of 12.75 per cent per annum during period I.

Table 2: NPAs of the Private Sector Banks

| Period –I | Priority Sector | | Non Priority Sector | | Public Sector | | Total NPAs (₹ Crore) |
|--------------|----------------------|--------------------------|----------------------|--------------------------|----------------------|--------------------------|--------------------------|
| | Amount (₹ Crore) | %age to Total NPAs | Amount (₹ Crore) | %age to Total NPAs | Amount (₹ Crore) | %age to Total NPAs | |
| 2004 | 2482 | 23.98 | 7796 | 75.31 | 74 | 0.72 | 10352 |
| 2005 | 2188 | 24.87 | 6569 | 74.66 | 42 | 0.48 | 8799 |
| 2006 | 2284 | 29.17 | 5541 | 70.78 | 4 | 0.05 | 7829 |
| 2007 | 2884 | 31.22 | 6352 | 68.75 | 3 | 0.03 | 9239 |
| 2008 | 3418 | 26.34 | 9557 | 73.66 | 0 | 0.00 | 12975 |
| 2009 | 3640 | 21.56 | 13172 | 78 | 75 | 0.44 | 16887 |
| 2010 | 4792 | 27.57 | 12592 | 72.43 | 0 | 0.00 | 17384 |
| Mean | 3098 | 26.39 | 8797 | 73.37 | 29 | 0.25 | 11924 |
| G. R. (in %) | 12.86 | | 12.86 | | -8.15 | | 12.75 |
| C.V. (in %) | | 12.37 | | 4.16 | | 120.18 | |
| Period –II | | | | | | | |
| 2011 | 4823 | 26.61 | 13147 | 72.55 | 152 | 0.84 | 18122 |
| 2012 | 3990 | 22.97 | 13200 | 75.98 | 182 | 1.05 | 17372 |
| 2013 | 3157 | 17.39 | 14800 | 81.51 | 200 | 1.10 | 18157 |
| 2014 | 3530 | 17.26 | 16700 | 81.63 | 227 | 1.11 | 20457 |
| 2015 | 4428 | 15.21 | 24365 | 83.71 | 315 | 1.08 | 29108 |
| 2016 | 5620 | 12.67 | 38241 | 86.24 | 483 | 1.09 | 44344 |
| 2017 | 6520 | 9.62 | 60549 | 89.30 | 738 | 1.09 | 67807 |
| Mean | 4581 | 17.39 | 25857 | 81.56 | 328 | 1.05 | 30767 |
| G. R. (in %) | 7.14 | | 29.30 | | 29.05 | | 25.23 |
| C.V. (in %) | | 33.50 | | 7.06 | | 9.05 | |

Source: www.rbi.com

On an average, the total NPAs of private sector banks stood at ₹ 11, 924 crores during the first period. In contrast, total NPAs of the private sector banks rose from ₹ 18,

122 crores in the year 2011 to ₹ 67, 807 crores in the year 2017, recording a rate of growth of 25.23 per cent per during period II. On an average, the total NPAs of these banks stood at ₹ 30, 767 Crores during the second period. The NPAs of private sector banks recorded a higher rate of increase in the second vis-à-vis first period.

In case of private sector banks also, there are primarily three sources of NPAs viz. priority sector, non-priority sector and public sector. The priority sector NPAs of the private sector banks rose from ₹ 2, 482 crores in the year 2004 to ₹ 4, 792 crores in the year 2010, recording a rate of growth of 12.86 per cent per annum during period I. On an average, the priority sector NPAs stood at ₹ 3, 098 crores during the first period. On the contrary, priority sector NPAs rose from ₹ 4, 823 crores in the year 2011 to ₹ 6, 520 crores in the year 2017, recording a rate of growth of 7.14 per cent per during the period II. On an average, the priority sector NPAs of private sector banks stood at ₹ 4, 581 crores during the second period. The priority sector NPAs of private sector banks recorded a lower rate of growth in the second period vis-à-vis first period. Further, during the period I, NPAs in non-priority sector increased at a higher rate of growth of 73.37 per cent. However, during period II, non-priority sector NPAs, increased still at a higher rate of 81.56 per cent per annum. The non-priority sector NPAs of private sector banks recorded a higher rate of growth vis-à-vis the priority sector NPAs in both the periods under study.

During both the periods, the percentage share of non-priority sector NPAs to total NPAs stood more vis-à-vis that of priority sector NPAs. For example, the percentage share of non-priority sector NPAs, on an average, stood at 73.37 per cent as against 26.39 per cent of that of priority sector NPAs during period I. However, during the second period, it was only 17.39 per cent NPAs in priority sector as against of 81.56 per cent NPAs in the non-priority sector. The share of public sector NPAs, on an average, stood at 0.25 and 1.05 per cent during period I and II respectively. The public sector NPAs, however, showed an increasing trend during the second period of the study.

The year 2013 was a turning point because, after this year, the percentage share of non-priority sector NPAs to total NPAs reflected a sudden and huge jump over priority sector NPAs, and the later declined countinously. For example, in the years of 2013, 2014, 2015, 2016 and 2017, the percentage share of non-priority sector NPAs to total NPAs stood as high as 81.51 per cent, 81.63 per cent, 83.71 percent, 86.24 per cent and 89.30 per cent as compared to 17.39 per cent, 17.26 per cent, 15.21 per cent, 12.67 per cent and 9.62 per cent NPAs in priority sector respectively (Table 2).

The inter-year disparities as shown by the value of co-efficient of variation stood high in the period II vis-à-vis period I in case of both priority sector NPA (12.37 per cent

in I period and 33.50 per cent in the II period) as well as non-priority sector NPAs (4.16 per cent in I period and 20.53 per cent in the II period). However, in case of public sector NPAs a sudden change was observed as the value of co-efficient of variation decreased from as high as 120.18 per cent in the first to as low as 9.05 per cent in the second period.

5.0 Hypothesis Testing

5.1 Hypothesis testing and degree of association with respect to public sector banks

H_{01} : There is no significant difference in the mean value of priority sector NPAs and non-priority sector NPAs of public sector banks in period I and II ($H_0: \mu_1 = \mu_2$).

H_{a1} : There is significant difference in the mean value of priority sector NPAs and non-priority sector NPAs of public sector banks in period I and II under study ($H_1: \mu_1 \neq \mu_2$).

From the statistical tests, correlation between priority sector NPAs and non-priority sector NPAs to total NPAs was found to be 0.980 and 0.999 respectively; this indicates a higher degree of positive relationship between priority sector/non-priority sector NPAs and total NPAs. The t test calculated values was -4.176 for priority sector NPAs and -2.623 for non-priority sector NPAs, and the p value was 0.006 ($p < 0.05$) and 0.039 ($p < 0.05$) respectively (Table 3), hence null hypothesis is rejected and the alternative hypothesis is accepted. So, we conclude that there is significant difference in the mean value of priority sector NPAs and non-priority sector NPAs of public sector banks in Period I and II under study ($H_1: \mu_1 \neq \mu_2$).

Table 3: Tests of Hypothesis of Public Sector Banks

| Period | Priority Sector | | Non-Priority Sector | | Public Sector | | Total | |
|--|-----------------|-----------|---------------------|-----------|---------------|-----------|-----------|-----------|
| | Mean | Std. Dev. | Mean | Std. Dev | Mean | Std. Dev. | Mean | Std. Dev. |
| Period I | 24717.14 | 2862.93 | 20387.43 | 4851.90 | 455.57 | 106.24 | 45560.14 | 6651.37 |
| Period II | 88516.14 | 40316.27 | 191703.57 | 172713.45 | 119.13 | 102.81 | 280339.14 | 212601.52 |
| t-Values | -4.176 | | -2.623 | | 6.016 | | -2.920 | |
| P-Value* | .006 | | .039 | | .000 | | .027 | |
| Co-efficient of Correlation (r) Between Priority Sector NPAs and Non-priority Sector NPAs to Total NPAs = 0.980 and 0.999 respectively | | | | | | | | |

Source: Authors' own Calculations.

Note: $n_1 = 7$ and $n_2 = 7$ (Number of Years).

Degree of freedom, d.f. (v) = $n_1 + n_2 - 2 = 7 + 7 - 2 = 12$.

*p-value indicates significance of t-test at 5 per cent level for two tailed test.

The result also implies that with an increase of priority sector and non-priority sector NPAs, there has been a corresponding increase in the total NPAs of public sector banks.

5.2 Hypothesis testing and degree of association with respect to private sector banks

H_{02} : There is no significant difference in the mean value of priority sector NPAs and non-priority sector NPAs of private sector banks in period I and II ($H_0: \mu_1 = \mu_2$).

H_{a2} : There is significant difference in the mean value of priority sector NPAs and non-priority sector NPAs of private sector banks in period I and II under study ($H_2: \mu_1 \neq \mu_2$).

From the statistical tests, correlation between priority sector NPAs and non-priority sector NPAs to total NPAs was found to be 0.871 and 0.999 respectively; this indicates a higher degree of positive relationship between priority sector/non-priority sector NPAs to total NPAs. The degree of association between non-priority sector NPAs to total NPAs was found to be higher vis-à-vis priority sector NPAs in case of private sector banks. The t test calculated values was -2.607 for priority sector NPAs and -2.508 for non-priority sector NPAs, and the p value was 0.024 ($p < 0.05$) and 0.044 ($p < 0.05$) respectively (Table 4), hence null hypothesis is rejected and the alternative hypothesis is accepted.

Table 4: Tests of Hypothesis of Private Sector Banks

| Period | Priority Sector | | Non-Priority Sector | | Public Sector | | Total | |
|--|-----------------|-----------|---------------------|-----------|---------------|-----------|----------|-----------|
| | Mean | Std. Dev. | Mean | Std. Dev. | Mean | Std. Dev. | Mean | Std. Dev. |
| Period I | 3098.29 | 929.314 | 8797.00 | 3073.158 | 28.29 | 34.855 | 11923.57 | 3910.725 |
| Period II | 4581.14 | 1183.418 | 25857.43 | 17734.035 | 328.14 | 212.591 | 30766.71 | 18989.818 |
| t-Values | -2.607 | | -2.508 | | -3.683 | | -2.571 | |
| P-Value* | .024 | | .044 | | .009 | | .039 | |
| Co-efficient of Correlation (r) Between Priority Sector NPAs and Non-priority Sector NPAs to Total NPAs = 0.871 and 0.999 respectively | | | | | | | | |

Source: Authors' own calculations.

Note: $n_1=7$ and $n_2=7$ (Number of Years).

Degree of freedom, d. f. (v) = $n_1+n_2-2=7+7-2=12$.

*p-value indicates significance of t-test at 5 per cent level for two tailed test.

So, we conclude that there is significant difference in the mean value of priority sector NPAs and non-priority sector NPAs of private sector banks in periods I and II under study ($H_2: \mu_1 \neq \mu_2$). The results also imply that with an increase of non-priority sector NPAs, there has been a corresponding increase in the total NPAs of private sector banks.

6.0 Conclusion

The main idea behind this paper was to know that whether these are priority or non-priority sector advances which are the main source of NPAs of public and private sector banks. From the study it follows that, the priority sector NPAs of the public sector banks recorded a higher rate of growth in the second vis-à-vis the first period. However, during the first phase, NPAs in non-priority sector declined. But, during the second period, these are non-priority sector NPAs, which have increased at a higher rate vis-à-vis the priority sector NPAs. It was found that, in the first phase, on an average, the percentage share of priority sector NPAs to total NPAs stood more vis-à-vis that of non-priority sector; on the other hand, during the second phase, vice-versa was observed. The year 2013 was a turning point because prior to this year, the percentage share of priority sector NPAs to total NPAs stood more as compared to non-priority sector NPAs. But, after 2013 onwards, the percentage share of non-priority sector NPAs to total NPAs of public sector banks exhibited a continuous increase.

In case of public sector banks, from hypothesis testing we concluded that there is significant difference in the mean value of priority sector NPAs and non-priority sector NPAs during first and second period of the study. In case of private sector banks, the priority sector NPAs registered a higher rate of growth in the first vis-a-vis the second period. Further, during the first and second period, NPAs in non-priority sector increased at a higher rate of growth of 73.37 and 81.56 per cent respectively. The non-priority sector NPAs of private sector banks recorded a higher rate of growth vis-à-vis the priority sector NPAs in both the periods under study. During both the periods, the percentage share of non-priority sector NPAs to total NPAs stood more in comparison to that of priority sector NPAs. For private sector banks also, the year 2013 was a turning point because, after this year, the percentage share of non-priority sector NPAs to total NPAs reflected a sudden and huge jump over priority sector NPAs, and the later declined continuously. The testing of hypothesis revealed that null hypothesis is rejected and the alternative hypothesis is accepted and we concluded that there is significant difference in the mean value of priority sector NPAs and non-priority sector NPAs of private sector banks in the first and second period of the study. It was also found that with an increase of non-priority sector NPAs, there has been a corresponding increase in the total NPAs of private sector banks.

6.1 Emerging trends and policy implications

The study of priority and non-priority sector NPAs of public and private sector banks brings to light the following important emerging trends which needs immediate attention of the policy makers, government and banks itself:

- (a) The increasing growth of total NPAs and priority sector NPAs of public sector banks during the period from 2011 to 2017 is an issue of concern for these banks/agents of social banking;
- (b) A very high percentage of non-priority sector NPAs to total NPAs from 2013 onwards is a big challenge for the public sector banks;
- (c) The priority sector NPAs of private sector banks in terms of growth and percentage to total NPAs has almost stagnated during both the periods of the study, which may be good from banks point of view. It may be due to risk aversion approach followed by private sector banks in lending to priority sector after financial sector reforms or better recovery mechanism followed by banks, which is a debatable issue for government, banks and policy makers keeping in view the role of priority sector in Indian economy;
- (d) A very high growth rate and percentage of non-priority sector NPAs to total NPAs of private sector banks during both the periods of study is also an issue of concern. The non-priority sector NPAs of private sector banks is a big driving force behind the overall NPAs of private sector banks.

To sum up, both the priority sector NPAs and non-priority sector NPAs have contributed significantly to total NPAs of public and private sector banks during both the period of study. However, the contribution of non-priority sector NPAs to total NPAs was found to be more in comparison to priority sector NPAs in case of both public and private sector banks from 2013 onwards. The reduction in entire NPAs is difficult for public and private sector banks in the short as well as long run keeping in view the risks attached with the priority sector lending on the one hand, and social responsibility of the banking sector on the other hand. However, public and private sector banks should identify which category contributes NPAs under priority and non-priority sector more/significantly towards total NPAs of the public and private sector banks. Hence, policy makers, government, public sector banks and private sector banks should make necessary efforts for the reduction of sector-wise NPAs.

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