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Evaluating Non-Performing Assets of Indian Public and Private Sector Banks: A Comparative Study

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Abstract:
Background: Banking sector plays a significant role in the development of an economy. Amongst the various indicators of financial stability of a country, non-performing assets (NPAs) of banks assume critical importance, since they reflect on the asset quality, credit risk and efficiency in allocating resources to the productive sectors. The issue of NPAs raised a severe hue and cry in the early 1990s in the Indian banking sector. Now-a-days, the mounting NPA has become the single largest source of concern of banks as well as the government in India. In this backdrop, the present study attempts to make a comparative evaluation of NPAs of public and private sector banks in India during the period 2005 to 2021.

Keywords: Non-performing Assets, Gross NPA Ratio, Net NPA Ratio, Public Sector Banks, Private Sector Banks.

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I. INTRODUCTION

1.1 Background

Banking sector plays a pivotal role in the development of an economy by channelizing funds for productive purposes, intermediating flow of funds from surplus to deficit units and supporting financial and economic policies of government. It has been observed that banking sector forms the major part of financial system and in India also financial system has become almost synonymous with the banking sector. The stability of financial sector is considered as sine qua non of sustained and rapid economic progress. Amongst the various indicators of financial stability of a country, non-performing assets (NPAs) of banks assume critical importance, since they reflect on the asset quality, credit risk and efficiency in allocating resources to the productive sectors. The incidence of NPAs in Indian banking sector, particularly in PSBs, was noticed in early 1990s which raised a severe hue and cry in various quarters. However, this sector started enhancing their efficiency, productivity and profitability gradually following the implementation of recommendations of Narasimham Committee I, which provided the necessary impetus to the banking sector to operate more on the basis of operational flexibility and functional autonomy. The future of PSBs would be based on their capability to continuously build good quality assets in an increasingly competitive environment and maintaining capital adequacy and stringent prudential norms (Malyadri & Sirisha, 2011). In recent times, the mounting NPA has been the single largest source of concern of the banks and the government in India. In this backdrop, the present paper attempts to make a comparative analysis of NPAs of public sector bank (PSB) and private sector bank (PVB) groups in India during the period 2005 to 2021.

1.2 Existing literature

A good number of empirical studies on the problem of NPAs in Indian banking sector have been conducted in the last few decades. Rajaraman, et. al., (1999), in their study, made an attempt to explain the inter-bank variation in NPAs of 91 selected commercial banks in India for the year 1996-97. The study revealed that bank specific characteristics such as ownership and adherence to prudential norms did not suffice to explain the inter-bank variability in NPAs while the region of operation did matter for such variations during the period under study. Siddiqi, et. al., (1999) identified the diversion of funds like expansion, diversification, modernization or promoting sister concerns, etc., as the most prominent reason for the growth of NPAs. Rajaraman and Vasishtha (2002) examined the relationship between problem loans and operating efficiency of 27 public sector banks for the period 1995-96 to 1999-2000. The study observed that high levels of NPAs of some of the selected banks were explained by their poor operating efficiency, while it did not suffice to explain the same for other banks during the period under study. Sharma (2005), in his study, observed that NPAs had negative impact on the profitability, productivity, achievement of capital adequacy level, fund deployment and mobilization policy, credibility of banking system and overall economy. Aggarwal and Mittal (2012) identified improper selection of borrowers' activities, weak credit approval system, industrial problems, inefficient management, slackness in credit management and monitoring, lack of proper follow up, recessions and natural calamities etc. as the major reasons for NPAs in the Indian banking sector. Samir and Kamra (2013) made an attempt to analysis the position of NPAs in some selected Indian banks during the period 1996-97 to 2009-10. The study also focused on the policies/ measures adopted by the banks to mitigate NPAs and suggested a a multi-pronged strategy for speedy recovery of NPAs in banking sector. Murari (2014) observed that public sector banks had witnessed a continuous increasing trend in gross and net NPAs in comparison to private sector banks and a statistically significant difference in the mean of gross and net NPA of public and private category of Indian banks was also noticed. Kaur and Kumar (2018) focused on the sectoral NPAs of selected commercial banks during pre and post crisis period in 2008. The study observed that the level of NPAs in priority sector was comparatively higher among public and private sector banks in India but banks under both the groups recorded negative growth rate in priority sector NPAs during post crisis period. Dhananjaya (2019) investigated the twin balance sheet problems, viz., corporate distress and banking sector crisis in the post-global financial crisis in India. The study observed that corporate fragility has adversely impacted the balance sheets of PSBs in India in post-crisis period. By using a panel regression analysis, the researcher found that corporate profits was one of the significant determinants of NPAs in Indian PSBs coupled with other factors such as efficiency of the bank, corporate sales growth, bank size, lending rate and lending to sensitive sectors. Rahaman and Sur (2021) made effort to investigate the major factors responsible for NPAs of PSBs in India. They observed that level of corruption and rule of law in India had been significant factors amongst others to adversely impact the level of NPAs of Indian PSBs.

Most of the studies made so far have mainly focused either on the impact of NPAs on the profitability of banks or on the major factors responsible for NPAs. But no in-depth study has so far been conducted on the comparative analysis of trends in assets quality of Indian PSBs and PVBs in the recent times. We have made an attempt to address the issue in a comprehensive manner in the present study.

1.3 Specific objectives of the study

The present study has the following objectives:

- To analyse the trends in assets quality of PSB and PVB groups in India during the study period.
- To analyse the trends in NPAs of PSB and PVB groups during the study period.
- To identify whether there was any significant difference in NPA management efficiency between PSB and PVB groups during the study period.

II. RESEARCH METHODOLOGY

The study is based on PSB and PVB groups in India encompassing a period of 17 years starting from 2004-05 to 2020-21. The data used in this study have mainly been collected from secondary sources, i.e., Statistical Tables Relating to Banks in India and Report on Trend and Progress of Banking in India. For analyzing the data, the technique of ratio analysis, arithmetic mean, one-way analysis of variance (ANOVA) and *F*-test have been applied at appropriate places.

III. RESULTS AND DISCUSSION

3.1 Trends in assets quality

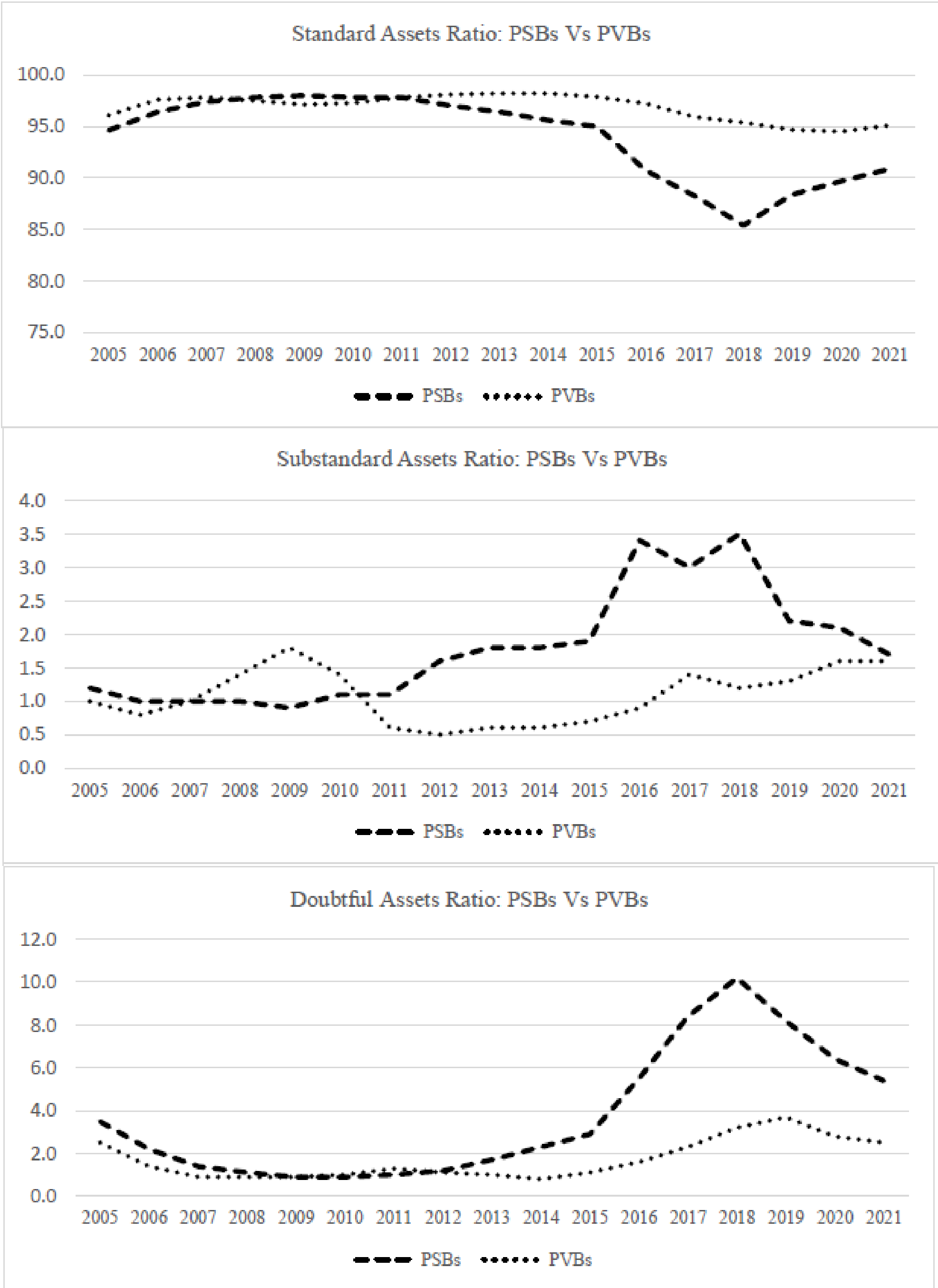
Table 1 shows the classification of assets as percentage of advances of PSB group during the study period. This table reveals that the ratio of standard assets of PSBs was higher than its average 94% during the period 2005 to 2015 but thereafter this ratio remained lower than its average value. The ratio of sub-standard assets of PSBs was hovering around 1% up to 2011 but from 2012 it made a sudden up-move to 1.6% and it reached the highest level of 3.5% in 2018. Doubtful assets as percentage of total advances was minimum in 2009 and 2010 at 0.9% but it reached the max. level of 10.2% in 2018, whatsoever, since then it showed a declining trend. The ratio of loss assets was minimum at 0.2% for 8 consecutive years starting from 2008 to 2015, but thereafter PSBs failed to maintain that level and it reached as high as 2% in 2021.

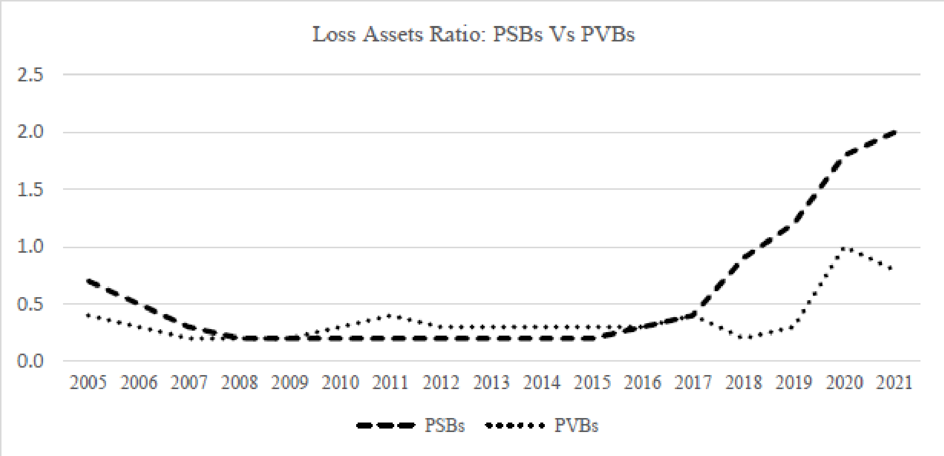
Table 2 depicts the quality of loan assets as percentage of advances of PVB group during the study period. This table discloses that standard assets of PVB were higher than its average 96.8% during the period 2005 to 2016 but thereafter the ratio of standard assets in PVBs remained lower than its average value. The ratio of sub-standard assets of PVBs was minimum in 2012 and it was maximum in 2009. Doubtful assets as percentage of total advances showed a declining trend during the first 5 years but thereafter an upward tendency in this ratio was noticed. The minimum loss assets ratio of PVBs was 0.2% and this bank group was able to maintain it below 1%, in 2020 this ratio reached 1%.

Table 1: Trends in Assets Quality of PSBs in India (as % of Total Advances)					
Year	**Standard Assets**	**Sub-standard Assets**	**Doubtful Assets**	**Loss Assets**	**Gross NPAs to Total Advances**
2005	94.6	1.2	3.5	0.7	5.4
2006	96.4	1.0	2.2	0.5	3.7
2007	97.4	1.0	1.4	0.3	2.7
2008	97.8	1.0	1.1	0.2	2.2
2009	98.0	0.9	0.9	0.2	2.0
2010	97.8	1.1	0.9	0.2	2.2
2011	97.8	1.1	1.0	0.2	2.2
2012	97.0	1.6	1.2	0.2	3.0
2013	96.4	1.8	1.7	0.2	3.6
2014	95.6	1.8	2.3	0.2	4.4
2015	95.0	1.9	2.9	0.2	5.0
2016	90.7	3.4	5.5	0.3	9.3
2017	88.3	3.0	8.4	0.4	11.7
2018	85.4	3.5	10.2	0.9	14.6
2019	88.4	2.2	8.2	1.2	11.6
2020	89.7	2.1	6.4	1.8	10.3
2021	90.9	1.7	5.4	2.0	9.1
Mean	**94.0**	**1.8**	**3.7**	**0.6**	**6.1**
Source: Statistical Tables Relating to Banks in India, RBI, Various Issues.					

Table 2: Trends in Assets Quality of PVBs in India (as % of Total Advances)					
Year	**Standard Assets**	**Substandard Assets**	**Doubtful Assets**	**Loss Assets**	**Gross NPAs to Total Advances**
2005	96.1	1.0	2.5	0.4	3.9
2006	97.6	0.8	1.4	0.3	2.5
2007	97.8	1.0	0.9	0.2	2.2
2008	97.5	1.4	0.9	0.2	2.5
2009	97.1	1.8	0.9	0.2	2.9
2010	97.3	1.4	1.0	0.3	2.7
2011	97.8	0.6	1.3	0.4	2.2
2012	98.1	0.5	1.1	0.3	1.9
2013	98.2	0.6	1.0	0.3	1.8
2014	98.2	0.6	0.8	0.3	1.8
2015	97.9	0.7	1.1	0.3	2.1
2016	97.2	0.9	1.6	0.3	2.8
2017	95.9	1.4	2.3	0.4	4.1
2018	95.4	1.2	3.2	0.2	4.6
2019	94.7	1.3	3.7	0.3	5.3
2020	94.5	1.6	2.8	1.0	5.5
2021	95.1	1.6	2.5	0.8	4.9
Mean	**96.8**	**1.1**	**1.7**	**0.4**	**3.2**
Source: Statistical Tables Relating to Banks in India, RBI, Various Issues.					

Figures 1(a) to 1(d)





3.2 Trends in NPAs

Table 3: Gross and Net NPAs of PSBs as Percentage of Advances and Total Assets

Year	Gross NPAs		Net NPAs	
	As % of Gross Advances	**As % of Total Assets**	**As % of Net Advances**	**As % of Total Assets**
2005	5.5	2.7	2.7	1.0
2006	3.6	2.1	1.7	0.5
2007	2.7	1.6	1.2	0.4
2008	2.2	1.3	1.0	0.4
2009	2.0	1.2	0.9	0.6
2010	2.2	1.3	1.1	0.7
2011	2.2	1.4	1.1	0.7
2012	3.0	2.0	1.5	1.0
2013	3.6	2.4	2.0	1.3
2014	4.4	2.9	2.6	1.6
2015	5.0	3.2	2.9	1.8
2016	9.3	5.9	5.7	3.5
2017	11.7	7.0	6.9	3.9
2018	14.6	8.9	8.0	4.5
2019	11.6	7.3	4.8	2.8
2020	10.3	6.3	3.7	2.1
2021	9.1	5.3	3.1	1.7
Mean	**6.1**	**3.7**	**3.0**	**1.7**

Source: Statistical Tables Relating to Banks in India, Report on Trend and Progress of Banking in India, RBI, Various Issues.

Table 4: Gross and Net NPAs of PVBs as Percentage of Advances and Total Assets

Year	Gross NPAs		Net NPAs	
	As % of Gross Advances	**As % of Total Assets**	**As % of Net Advances**	**As % of Total Assets**
2005	4.4	2.1	2.2	1.0
2006	2.5	1.4	1.0	0.6
2007	2.2	1.3	1.0	0.5
2008	2.5	1.4	1.1	0.6
2009	2.9	1.6	1.3	0.7
2010	2.7	1.5	1.0	0.6
2011	2.2	1.3	0.5	0.3
2012	1.9	1.1	0.4	0.3
2013	1.8	1.0	0.5	0.3
2014	1.8	1.1	0.7	0.4
2015	2.1	1.3	0.9	0.5
2016	2.8	1.8	1.4	0.8
2017	4.1	2.6	2.2	1.3
2018	4.7	3.0	2.4	1.5
2019	5.3	3.5	2.0	1.3
2020	5.5	3.6	1.5	1.0
2021	4.9	3.1	1.4	0.9
Mean	**3.2**	**1.9**	**1.3**	**0.7**

Source: Statistical Tables Relating to Banks in India, Report on Trend and Progress of Banking in India, RBI, Various Issues.

The gross NPA and net NPA expressed as a percentage of gross advances, net advances and total assets of PSBs and PVBs have been presented in Tables 3 and 4 respectively. Table 3 reveals that gross NPA expressed as a percentage of gross advances and total assets of PSBs showed a declining trend till 2009, but thereafter both the ratios reported upward movement till 2018. PSBs, however, had been able to reduce these two NPA ratios at the end of the study period. On a similar line, net NPA of PSBs as a percentage of net advances and total assets registered an upward tendency since 2009 and both reached the top in 2018. Whatsoever, PSB group had been able to maintain these two ratios closer to their mean value in 2021.

Table 4 reveals that gross NPA expressed as a percentage of gross advances and total assets of PVBs showed a declining trend till 2014 and 2013 respectively, but thereafter both the ratios reported an overall upward movement reaching the top in 2020. On a similar line, net NPA of PVBs as a percentage of net advances and total assets registered an upward tendency since 2013 and 2014 respectively, but during the last 3 years of the study period PVBs had been able to moderate these two NPA ratios.

3.3 Testing of hypothesis for NPA management

In order to identify whether there was any significant difference between PSBs and PVBs in terms of efficiency in managing their problem loans during the study period we have used the statistical technique of analysis of variance (ANOVA). We formulate our hypotheses as follows:

H0: There was no significant difference between the gross NPA ratio of PSBs and PVBs.

H1: There was a significant difference between the gross NPA ratio of PSBs and PVBs.

<table>
<tr><th colspan="7">Table 5: Summary Statistics and ANOVA for Gross NPA Ratio</th></tr>
<tr><th colspan="2">Groups</th><th>Count</th><th>Sum</th><th>Average</th><th colspan="2">Variance</th></tr>
<tr><td colspan="2">PSBs</td><td>17</td><td>103</td><td>6.06</td><td colspan="2">16.93</td></tr>
<tr><td colspan="2">PVBs</td><td>17</td><td>53.7</td><td>3.16</td><td colspan="2">1.63</td></tr>
<tr><th colspan="7">ANOVA</th></tr>
<tr><th>Source of Variation</th><th>Sum of Squares</th><th>df</th><th>Mean Square</th><th>F-Statistics</th><th>P-value</th><th>F critical</th></tr>
<tr><td>Between Groups</td><td>71.48</td><td>1</td><td>71.48</td><td>7.70</td><td>0.01</td><td>4.15</td></tr>
<tr><td>Within Groups</td><td>297.04</td><td>32</td><td>9.28</td><td></td><td></td><td></td></tr>
<tr><td>Total</td><td>368.53</td><td>33</td><td></td><td></td><td></td><td></td></tr>
</table>

In Table 5 we have made an effort to identify whether there was any statistically significant difference between the PSBs and PVBs in terms of efficiency in managing their NPAs. Table 5 reveals that the calculated F statistic (7.70) is higher than the critical value (4.15) at 5% level of significance and hence we statistically find sufficient evidence to reject our null hypothesis of equal NPA management efficiency between PSB and PVB groups in India, i.e., there is a significant difference in the mean of gross NPA ratio of PSBs and PVBs. The mean gross NPA ratio of PSBs was 6.06% whereas the mean of this ratio of PVBs was only 3.16% and they are statistically significantly different. Therefore, it can be inferred that the PVB group had shown more efficiency in maintaining its NPAs at a lower level than the PSB group in India during the study period.

IV. CONCLUSION

The study showed that the PSB group had been able to register a declining trend in NPA till 2009 from the beginning of the study period while PVB group travelled through the declining NPA trend till 2013. Indian PVBs reported the highest gross NPA ratio in 2020 (5.5%) while PSB group recorded the highest level in 2018 (14.6%) which was more than 2.5 times the highest level of PVB group. However, after reaching the top level both the bank groups had been able to moderate their NPA ratios till the end of the study period. The study also concludes that the gross NPA ratio of PSB group was statistically significantly higher than that of PVB group implying that PVB group had been able to manage its NPA more efficiently than its public sector counterpart.

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