

Assessing the Inter Bank Disparity in Non-Performing Assets (NPAs) Management in Indian Public Sector Banks

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Abstract:

In a bank-dominated financial system like India, the strength of the overall financial system or financial stability highly depends on the soundness of banks. Indian Banking system proved to be strong and resilient during the global financial crisis of 2008. But of late, there has been increased concerns about the continued deterioration in the stability of the banking sector. Financial stability report of RBI confesses to the fact that the risks to Indian banking sector have been increasing in the post-recession period particularly the risk of accumulating NPAs. This study attempts to analyse the trend in profitability, NPAs, and the effectiveness of recovery mechanisms and interbank disparity in NPA management with respect to public sector banks. We found that the profitability of public sector banks is declining in the post-crisis period and the amount of NPA has been on the rise. Further, the recovery mechanisms have proved to be ineffective in containing the problem of bad debts.

Keywords: Non-performing Assets, NPA management, Profit Coverage Ratio, and Profitability

JEL Classification: G21

Introduction

Global financial crisis of 2008 showed that a threat to financial stability anywhere in the world is potentially a

threat to financial stability everywhere. The crisis also showed that bank failures have much stronger adverse effects on economic activity than other business failures. Following these realisations, financial stability has become one of the explicit and important goals of central banks. In a bank-dominated financial system like India, the strength of the overall financial system or financial stability depends highly on the soundness of banks. Indian Banking system came out strong and resilient during the global financial crisis of 2008. But of late, there has been increased concern about the continued deterioration in the stability of the banking sector (RBI, 2012). Financial stability report of Reserve Bank of India (RBI) confesses to the fact that the risks to Indian banking sector have been increasing in the post-recession period. A glance at the RBI report on bank profile also shows that many banks are underperforming in terms of return on equity, return on assets, profit per employee etc. (RBI, 2012a).

One of the major threats to financial stability of banks is the accumulation of non-performing assets (NPAs). In simple words, an asset becomes non-performing when it stops generating income for the bank. According to RBI (2015), an asset becomes NPA if interest and/ or installment of principal remain overdue for a period of more than 90 days. In recent times, Indian banking sector has witnessed steep rise in NPAs. Growth of NPAs severely affects the profitability and efficiency of the banks. On the other hand, it would also make credit scarce and costly thereby adversely affecting the economic growth. Growth of NPAs would be caused broadly by three factors, namely, business environment, borrowers, and banks. Recession, lack of legal system for recovery are some of the elements in business environment that

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would raise NPAs. From the borrowers' point of view, factors like improper choice of projects or activities, resource crunch, inefficient management, willful default, cessation of projects due to management or labour disputes would contribute to the growth of NPAs. Finally, banks' internal factors like poor credit appraisal, lack of credit monitoring and lack of effective NPA management would also fuel the accumulation of NPAs in the banking sector (Sahoo, 2015). Whatever may be the reasons behind it, accumulation of NPAs in the banking sector poses serious threat to the stability financial system. In the light of this, the study attempts to examine the trends in profitability and the extent of NPAs and the interbank disparities in NPA management in Indian banking sector.

Objectives of the Study

- To examine the trend in profitability of Indian banking sector.
- To analyse the extent and growth of NPAs in public sector banks.
- To classify the banks based on the Gross NPA and profit coverage.

Source of Data and Methodology

The objectives of the present study are to analyse the trends in profitability and to understand the extent of NPAs and to study the interbank disparity in NPA management among public sector banks in India.

To understand the problem of NPA, we used two ratios, namely, ratio of gross NPA to advance (GNPA) and the ratio of profit to gross NPA, called as profit coverage ratio (PCR). GNPA shows the percentage of advance that has become NPA. Lower the value better is the bank in NPA management and vice versa. On the other hand, PCR shows the percentage of profit that is available to cover the NPAs if they eventually turn out to be loss assets (Datta, 2015). Suppose the PCR is 40 percent, it means that if 40 percent of the NPAs become lost assets then the entire profit would be eaten up. Hence, lesser the ratio, more is the probability of the banks becoming bankrupt. The study uses return on assets (ROA) as the measure of profitability to examine the trends in profitability.

Aggregate data on NPAs, profit and profitability (ROA) for eleven years (2004-05 to 2014-15) has been obtained from Handbook of Statistics on the Indian Economy, 2015

published by Reserve Bank of India (RBI) (available at <https://dbie.rbi.org.in/DBIE/dbie.rbi?site=publications>). Data on the NPA, profit, profitability of each public sector banks has been collected from the published financial results of the respective banks. The methodology of the study is predominantly descriptive in nature. However, to classify the banks based on NPA management, we used technique of cluster analysis.

Literature Review

Deteriorating asset quality of Indian banking sector, particularly public sector banks, has been widely discussed in the literature. Former RBI governor, Dr. Raghuram Rajan expressed concern over increasing NPAs in public sector banks and emphasized the need to clean up this mess in order to make available the credit for economic growth (The Hindu, 2016a). Sahoo (2015) argued that the growing NPAs would be caused broadly by three factors, namely, business environment, borrowers, and banks. Recession, lack of legal system for recovery are some of the elements in business environment that would raise NPAs. From the borrowers' point of view, factors like improper choice of projects or activities, resource crunch, inefficient management, willful default, cessation of projects due to management or labour disputes would contribute to the growth of NPAs. Finally, banks' internal factors like poor credit appraisal, lack of credit monitoring and lack of effective NPA management would also fuel the accumulation of NPAs in the banking sector. These factors were also identified by Dr. Raghuram Rajan as the reasons behind growing NPAs in public sector banks in India, in his submission to key parliamentary panel on growing NPAs in public sector banks (The Hindu, 2016b). Based on the qualitative information on causes of NPAs, he broadly categorised them as economy-wide factors, borrower-level reasons and bank level inadequacies. He argued that increasing NPA is largely due to overall economic slowdown of both domestic and global economy (The Hindu, 2016b). He also cited five other reasons for raising NPAs which include delays in statutory and other approvals especially for projects under implementation and aggressive lending practices during upturn, laxity in credit risk appraisal and loan monitoring in banks and lack of appraising skills for projects that need specialised skills resulting in acceptance of inflated cost and aggressive projections. He also cited willful default and loan frauds and corruption as key reasons in certain cases for the NPA mess. Ahmed (2009) argued that NPA

is caused largely due to banks' internal factors like poor credit appraisal, poor customer relationship management, poor monitoring mechanism, directed lending etc. PwC (2014) found that high credit growth rate is accompanied with the accumulation of stressed assets within the banking sector which supports Raghuram Rajan's argument that excessive lending during upturn results in stressed assets. On other hand, Digal and Kanungo (2015) and RBI (2014) pointed out that the exposure to sensitive sectors like infrastructure, aviation, textile, Iron and Steel and mining is contributing to growth of NPAs. For example, the combined share of these four sectors in total advances of scheduled commercial banks was 28 percent by June, 2014 which contributed 54 percent of the total stressed assets of scheduled commercial banks in India.

Empirically, most of the studies focused on studying the extent and the impact of NPA on key variables such as profitability and productivity. For instance, PwC (2014) estimated the total stressed assets which include GNPA and restructured assets to be 10.2 percent of total credit of the banking sector in 2013-14. Dhar and Bakshi (2015) found significant negative relationship between certain bank-specific factors, in particular, net interest margin and positive capital adequacy ratio and exposure to sensitive sector as the internal determinants of NPA. Singh (2010) examined the determinants of profitability in Indian banks and found negative relationship between NPAs and ROA in all categories of banks, which indicates that accumulation of NPAs erodes the profitability of the banks. Sharma (2005) argued that growing NPA harms not only the profitability of the banks but also adversely affects the entire economy through disturbing smooth flow credit to various sectors of the economy. He found that NPA affects key variables like profitability, business per employee, profit per employee interest spread, and capital adequacy. According to Sharma (2005), NPAs explain close to 68 percent variation in net profit. Kaur (2012), Bhatia, Mahajan and Chander (2012), and Verma

and Bodla (2006) also documented a negative relationship between NPA and profitability in Indian banks. Ramanadh and Rajesham (2013) showed that public sector banks account for 80 percent of the GNPA of scheduled commercial banks in India during 1996-2011. It is evident from the brief review of literature that the problem of NPAs is on the rise and it is affecting the soundness of Indian banking sector, particularly public sector banks. In the light of this concern, there is a need to assess the extent of NPAs and the interbank disparity in managing the same among public sector banks in India.

Commercial Banks at Glance

Indian commercial banks consists of broadly two categories, namely, scheduled commercial banks and non-scheduled commercial banks. Scheduled commercial banks are grouped into five categories: a) State Bank of India and its Associates, b) Nationalised Banks, c) Foreign Banks, d) Regional Rural Banks, and e) Other Scheduled Commercial Banks. Banks in the groups (a) & (b) are known as public sector banks whereas, other scheduled commercial banks mentioned at group (e) are known as private sector banks (RBI, 2016). Table 1 shows the percentage share of these banks in number of bank offices, deposit, and credit. As shown in the table, public sector banks account for 81.20 percent of the total offices and 75.14 percent of deposits and 73.59 percent of the total credit by the end of March 2015. This shows that public sector banks are the pillar of Indian banking system in terms of number of offices, deposit mobilisation and supply of credit. Table 1 also shows that public sector banks accounted for 86.12 percent of the total Gross NPAs as on March 2015 whereas private sector banks and foreign banks accounted for 10.55 percent and 3.33 percent during the same period. Considering this, we chose public sector banks for the analysis.

Table 1: Commercial Banks at Glance (End of March 2015)

| | No. Offices | Deposits (%) | Credits (%) | Assets (%) | Share in NPAs (%) |
|----------------------|---------------|--------------|-------------|------------|-------------------|
| Public Sector Banks | 89711 (81.20) | 75.14 | 73.59 | 72.12 | 86.12 |
| Private Sector Banks | 20434 (18.5) | 20.31 | 21.40 | 21.61 | 10.55 |
| Foreign Banks | 332 (0.30) | 4.56 | 5.01 | 6.27 | 3.33 |

Source: Author's Construction based on RBI Data

Sector-Wise Credit Exposure of Commercial Banks

Table 2 shows the sector wise credit outstanding of commercial banks as on end March 2015. As shown in the table, industry accounted for the largest share (41.23%) in the total outstanding credit of commercial.

Table 2: Sector wise Credit Exposure of Commercial Banks

| Occupation | Amount Outstanding | Percent |
|---|--------------------|---------|
| I. Agriculture | 9042717.0 | 13.15 |
| II. Industry | 28360497.2 | 41.23 |
| 1. Mining & Quarrying | 589782.9 | 2.08 |
| 2. Food Manufacturing & Processing | 1916834.1 | 6.76 |
| 3. Beverage & Tobacco | 233427.3 | 0.82 |
| 4. Textiles | 2264297.4 | 7.98 |
| 5. Paper, Paper Products & Printing | 466605.3 | 1.65 |
| 6. Woods and Wood Products | 84614.1 | 0.30 |
| 7. Leather & Leather Products | 114243.0 | 0.40 |
| 8. Gems and Jewellery | 713700.5 | 2.52 |
| 9. Rubber & Plastic Products | 428807.5 | 1.51 |
| 10. Chemicals & Chemical Products | 1567738.1 | 5.53 |
| 11. Petroleum, Coal Products & Nuclear Fuels | 879140.1 | 3.10 |
| 12. Manufacture of Cement & Cement Products | 504305.8 | 1.78 |
| 13. Basic Metals & Metal Products | 4048798.7 | 14.28 |
| 14. Engineering | 2061633.9 | 7.27 |
| 15. Vehicles, Vehicle Parts & Transport Equipment | 846965.8 | 2.99 |
| 16. Other Industries | 814573.1 | 2.87 |
| 17. Electricity, Gas & Water | 4193839.2 | 14.79 |
| 18. Construction | 6631190.6 | 23.38 |
| III. Transport Operators | 1341184.3 | 1.95 |
| IV. Professional and other services | 4965798.7 | 7.22 |
| V. Personal Loans | 11439860.8 | 16.63 |
| VI. Trade | 6627360.9 | 9.63 |
| VII. Finance | 5606557.4 | 8.15 |
| VIII. All others | 1400748.9 | 2.04 |
| Total Bank Credit | 68784725.2 | 100 |

Source: Author's construction based on RBI Data

banks and 13.5 percent of the credit has moved into agriculture. Among the industry, construction sector which is considered as one of the sensitive sectors accounts for 23 percent of the total industrial credit. Similarly, textile sector accounts for approximately 8 percent of the total credit extended to industry. Table 2 also shows that personal loan accounted for 16.63 percent of the total outstanding credit of commercial banks. This shows that

sectors which are considered as sensitive sectors such as construction, textile, and personal loans had relative larger credit exposure as on March 2015.

Bank Group-wise Trends in Profitability

This section presents the analysis of the trends in profitability and the asset quality of the banks. Return on assets has been used as the indicator of profitability. It is

evident from Table 3 that in the post-recession period, there has been declining trend in profitability of scheduled commercial banks. The table also shows that the public sector banks experienced steep decline in profitability in the post-recession period which came down from 1.03

percent in 2008-09 to as low as 0.46 percent in 2014-15. This shows the increasing trouble among public sector banks in the post-recession period. Among the public sector.

Table 3: Trends in Profitability (ROA) of Scheduled Commercial Banks (Percent)

| Year | All SCBs | State Bank Group | Nationalised Banks | Public Sector Banks | Private Sector Banks | Foreign Banks |
|---------|----------|------------------|--------------------|---------------------|----------------------|---------------|
| 2004-05 | 1.01 | 0.95 | 0.95 | 0.95 | 1.06 | 1.61 |
| 2005-06 | 1.01 | 0.87 | 0.89 | 0.88 | 1.07 | 2.08 |
| 2006-07 | 1.05 | 0.86 | 0.94 | 0.92 | 1.02 | 2.28 |
| 2007-08 | 1.12 | 0.97 | 1.01 | 1.00 | 1.13 | 2.09 |
| 2008-09 | 1.13 | 1.02 | 1.03 | 1.03 | 1.13 | 1.99 |
| 2009-10 | 1.05 | 0.91 | 1.00 | 0.97 | 1.28 | 1.26 |
| 2010-11 | 1.10 | 0.79 | 1.03 | 0.96 | 1.43 | 1.75 |
| 2011-12 | 1.08 | 0.89 | 0.88 | 0.88 | 1.53 | 1.76 |
| 2012-12 | 1.04 | 0.93 | 0.74 | 0.80 | 1.63 | 1.92 |
| 2013-14 | 0.81 | 0.63 | 0.45 | 0.50 | 1.65 | 1.54 |
| 2014-15 | 0.81 | 0.66 | 0.37 | 0.46 | 1.68 | 1.87 |

Source: Handbook of Statistics on the Indian Economy, 2015.

banks, state bank group has done relatively better compared to nationalised banks. However, the picture is different in the case of private sector banks and foreign banks. Private sector banks recorded increasing trend in profitability from 1.13 percent in 2008-09 to 1.68 percent

in 2014-15. Further, as evident from the table, foreign sector banks outperformed Indian banks in profitability. Hence, declining trend in profitability in SCBs in the post-recession period is mainly due to the poor performance of Indian public sector banks.

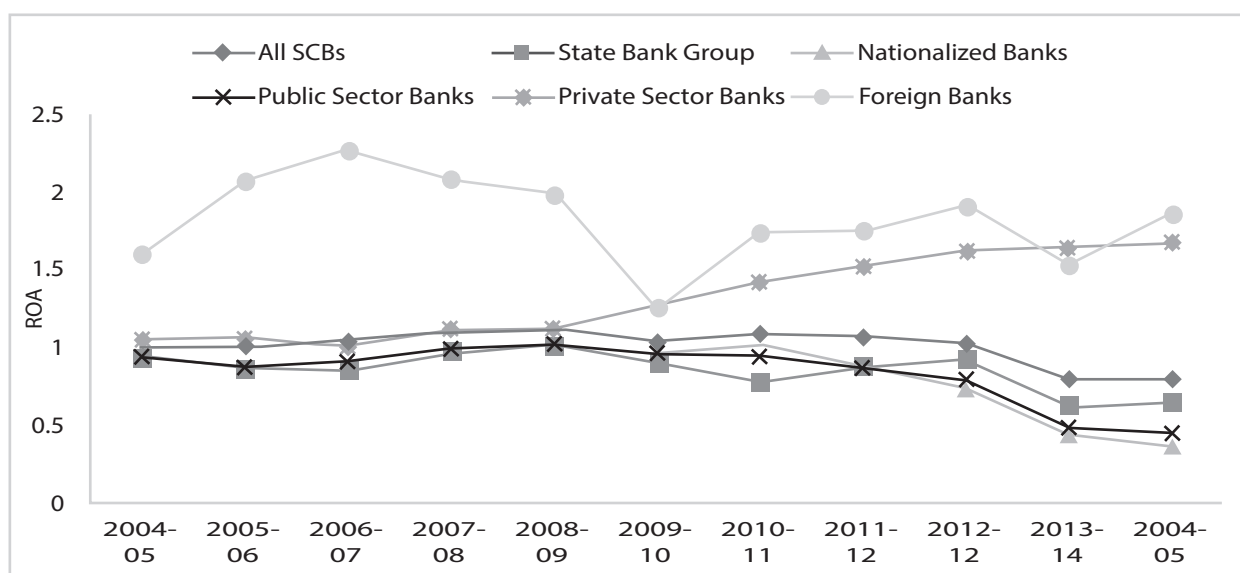


Fig. 1: Trend in Profitability by Category of Banks

Source: Author's Construction

Inter-category Disparity in NPA Management

Table 4 and Fig. 2 depict the accumulation of NPAs in the banking sector. As clear from the table, both state bank group and nationalised banks are witnessing increase in

GNPA in the post-recession period. GNPA of state bank group was Rs.156,165 million in 2004-05 which increased to Rs.798,169 million in 2013-14 growing at CAGR of 23 percent. GNPA has increased from 2.49 percent in 2008-09 to 5.10 percent in 2013-14. The situation is not different among nationalised banks which also experienced a steady

Table 4: Category-wise Accumulation of NPAs

| Year | STATE BANK GROUP | | | NATIONALISED BANKS | | | PRIVATE SECTOR BANKS | | | FOREIGN BANKS | | |
|---------|------------------|----------|---------|--------------------|----------|---------|----------------------|----------|---------|---------------|----------|---------|
| | GNPA (CR) | GNPA (%) | PCR (%) | GNPA (CR) | GNPA (%) | PCR (%) | GNPA (CR) | GNPA (%) | PCR (%) | GNPA (CR) | GNPA (%) | PCR (%) |
| 2004-05 | 156165 | 5.48 | 36.36 | 327829 | 5.76 | 29.79 | 87822 | 3.97 | 40.23 | 21919 | 2.91 | 90.44 |
| 2005-06 | 125410 | 3.37 | 47.5 | 288175 | 3.92 | 36.72 | 78108 | 2.5 | 63.69 | 19276 | 1.98 | 159.19 |
| 2006-07 | 126769 | 2.63 | 51.84 | 262914 | 2.74 | 51.65 | 92553 | 2.23 | 69.85 | 22629 | 1.79 | 202.63 |
| 2007-08 | 154780 | 2.61 | 58.18 | 249743 | 2.07 | 70.42 | 129974 | 2.51 | 73.26 | 28594 | 1.77 | 231.24 |
| 2008-09 | 184139 | 2.49 | 64.6 | 265431 | 1.75 | 84.68 | 169266 | 2.94 | 64.2 | 64445 | 3.9 | 116.53 |
| 2009-10 | 235325 | 2.74 | 52.83 | 363948 | 1.97 | 73.7 | 176400 | 2.79 | 74.33 | 71336 | 4.37 | 66.46 |
| 2010-11 | 303928 | 3.06 | 39.03 | 442711 | 1.92 | 74.63 | 182406 | 2.29 | 97.1 | 50687 | 2.59 | 152.29 |
| 2011-12 | 482144 | 4.19 | 31.8 | 696245 | 2.55 | 49.09 | 187678 | 1.94 | 121.05 | 62966 | 2.74 | 149.71 |
| 2012-13 | 627785 | 4.55 | 28.33 | 1022272 | 3.3 | 32.08 | 210705 | 1.84 | 137.61 | 79771 | 3.03 | 145.25 |
| 2013-14 | 798169 | 5.1 | 17.12 | 1474474 | 4.17 | 15.84 | 245424 | 1.83 | 137.53 | 115650 | 3.97 | 87.68 |
| 2014-15 | 735085 | 4.39 | 22.18 | 2049595 | 5.39 | 10.36 | 341062 | 2.15 | 113.57 | 107708 | 3.29 | 118.87 |

Source: RBI and Author's computation

growth in the accumulation of NPAs. GNPA went up from Rs. 327,829 million in 2004-05 to Rs. 2049,595 million in 2014-15 which grew at CAGR of 22.5 percent during the same period. Similarly, nationalised banks also witnessed a substantial rise in their GNPA in the post-recession period from 1.75 percent in 2008-09 to 5.39 in 2014-15. However, Indian private sector banks and foreign banks are relatively better in their asset quality management. GNPA in Private sector banks grew at CAGR of 14.23 percent between 2004-05 and 2014-15. On the other hand, NPA in foreign banks grew at CAGR of 20.20 percent. Private Banks also experienced decline in GNPA in the

post-recession period from 2.94 percent in 2008-09 to 1.83 percent in 2013-14. In terms of PCR, both state bank group and nationalised banks are vulnerable. For example in 2014-15, PCR for state bank group was just 22.18 percent which indicates that if 22.18 percent of the NPA becomes loss assets, entire profit will be wiped out. The situation is more alarming among nationalised banks. PCR in nationalised banks was just 10.36 percent in 2014-15. On the other hand, the table also shows that the private sector banks and foreign sector banks are better positioned in terms of PCR with PCR of 113.57 percent and 118.87 percent respectively

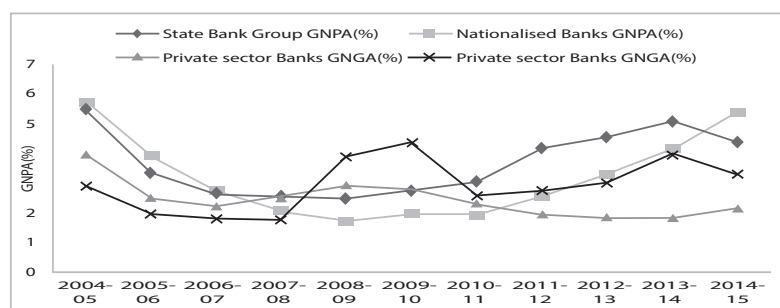


Fig. 2: Category wise GNPA

Source: Author's construction

which shows that they can fully cover the NPAs, should the NPAs become loss assets. Therefore, it is clear from the discussion that the asset quality of public sector banks is deteriorating in the post crisis period.

GNPA in Priority and Non-Priority Sector

Table 5 presents the extent of gross NPAs in priority and non-priority sector. Public sector banks have higher percentage of Gross NPAs in priority sector as compared

to the private sector banks. For instance, in 2015, public sector banks had GNPA of Rs. 959 billion in priority sector advance compared to just Rs. 72 billion priority sector GNPA in private sector banks. Similarly, priority sector GNPA constituted 36 percent of the total GNPA in public sector banks, whereas it constituted 22.8 percent of the total GNPA in private sector banks in 2015. This indicates that increased NPAs in public sector banks is partly caused by the mandatory priority sector lending.

Table 5: NPAs of Domestic Banks by Priority and Non-Priority Sectors (Rs. Billion)

| Year | Priority Sector | | Non-Priority Sector | |
|---|-----------------|--------------------------------|---------------------|--------------------------------|
| | Gross NPAs | Gross NPAs as Percent of Total | Gross NPAs | Gross NPAs as Percent of Total |
| Public Sector Banks | | | | |
| 2013 | 669 | 42.9 | 1559 | 57.1 |
| 2014 | 792 | 36.5 | 2167 | 63.5 |
| 2015 | 959 | 35.9 | 2671 | 64.1 |
| Private Sector Banks | | | | |
| 2013 | 52 | 26.0 | 200 | 74.0 |
| 2014 | 61 | 26.6 | 227 | 73.4 |
| 2015 | 72 | 22.8 | 316 | 77.2 |
| All SCBs (Excluding Foreign Banks) | | | | |
| 2013 | 721 | 41.0 | 1759 | 59.0 |
| 2014 | 852 | 35.6 | 2395 | 64.4 |
| 2015 | 1,031 | 34.5 | 2987 | 65.5 |

Source: Compiled from RBI data

Progress in the Recovery of NPAs

NPAs are recovered through various channels such as Lok Adalats, Debt Restructuring Tribunals (DRTs), and SARFAESI Act. However, as evident from Table 6, the role of these channels is limited. For instance, in 2014-15, only 4.8 percent of the total amount referred (Rs. 887 billion) to Lok Adalats was recovered. DRTs also did not prove to be an effective mechanism to deal with NPAs as

only 14 percent of the total amount referred to DRTs was recovered in 2014-15. However, SARFAESI Act produced relatively better results which recovered 24.5 percent (Rs.1,152 billion) of the total amount (Rs.4,705 billion) referred to it. Therefore, from Table 6, one can infer that the debt recovery mechanism in India is very ineffective which may have also contributed to the accumulation of NPAs in the Banking sector.

Table 6: NPAs of SCBs Recovered through Various Channels (Amount in Rs. Billion)

| Year | S. No | Recovery Channel | Lok Adalats | DRTs | SARFAESI Act | Total |
|---------|-------|-----------------------|-------------|-------|--------------|-----------|
| 2012-13 | 1 | No. of cases referred | 840691 | 13408 | 190537 | 1,044,636 |
| | 2 | Amount involved | 66 | 310 | 681 | 1,057 |
| | 3 | Amount recovered | 4 | 44 | 185 | 233 |
| | 4 | 3 as percent of 2 | 6.1 | 14.1 | 27.1 | 21.9 |

| | | | | | | |
|---------|---|-----------------------|---------|--------|---------|-----------|
| 2013-14 | 1 | No. of cases referred | 1636957 | 28258 | 194707 | 1859922 |
| | 2 | Amount involved | 232 | 553 | 953 | 1,738 |
| | 3 | Amount recovered | 14 | 53 | 253 | 320 |
| | 4 | 3 as percent of 2 | 6.2 | 9.5 | 26.6 | 18.4 |
| 2014-15 | 1 | No. of cases referred | 9131199 | 171113 | 1241086 | 10543,398 |
| | 2 | Amount involved | 887 | 3,789 | 4,705 | 9,381 |
| | 3 | Amount recovered | 43 | 531 | 1,152 | 1726 |
| | 4 | 3 as percent of 2 | 4.8 | 14 | 24.5 | 18.4 |

Source: Compiled from RBI data

Inter Bank Disparity in NPA Management in Public Sector Banks

We examined the interbank disparity in asset quality in terms of GNPA and PCR for public sector banks. Table 7 shows the extent of GNA and PCR among public sector

during the financial year period 2014-15 and 2015-16. As depicted in Table 7, all the public sector bank have experienced a rise in GNPA in 2015-16. The table shows that the average GNPA was 5.20 percent in FY2014-15 which increased to an alarming rate of 9.10 percent in

Table 7: Interbank Disparity in Asset Quality- Public Sector Banks

| Banks | FY 2014-15 | | FY 2015-16 | | FY 2014-15 | | FY 2015-16 | |
|--------------------------------|------------|------|------------|------|------------|-------|------------|------|
| | GNPA | Rank | GNPA | Rank | PCR | Rank | PCR | Rank |
| State Bank of Bikaner & Jaipur | 4.12 | 6 | 4.82 | 2 | 71.44 | 1.00 | 63.98 | 1 |
| State Bank of Hyderabad | 4.59 | 8 | 5.75 | 3 | 58.45 | 6.00 | 49.96 | 2 |
| State Bank of India | 4.25 | 7 | 6.5 | 5 | 0.76 | 19.00 | 40.30 | 20 |
| State Bank of Mysore | 4.00 | 5 | 6.56 | 6 | 62.31 | 4.00 | 34.44 | 3 |
| State Bank of Travancore | 3.37 | 3 | 4.78 | 1 | 0.58 | 20.00 | 56.20 | 19 |
| Allahabad Bank | 5.46 | 15 | 9.76 | 14 | 53.36 | .00 | 26.87 | 8 |
| Bank of Baroda | 3.72 | 4 | 9.99 | 17 | 68.96 | 2.00 | 23.99 | 11 |
| Bank of India | 5.36 | 13 | 13.09 | 21 | 0.34 | 23.00 | 12.01 | 23 |
| Bank of Maharashtra | 6.33 | 19 | 9.34 | 11 | 37.01 | 15.00 | 22.75 | 14 |
| Canara Bank | 5.84 | 16 | 9.4 | 12 | 0.53 | 21.00 | 22.59 | 21 |
| Central Bank of India | 6.09 | 18 | 11.95 | 19 | 22.42 | 18.00 | 11.63 | 17 |
| Corporation Bank | 4.81 | 11 | 9.98 | 15 | 0.42 | 22.00 | 21.33 | 22 |
| Dena Bank | 5.45 | 14 | 9.98 | 16 | 30.28 | 16.00 | 10.81 | 18 |
| IDBI Bank | 5.88 | 17 | 10.98 | 18 | 45.15 | 13.00 | 21.59 | 15 |
| Oriental Bank of Commerce | 7.75 | 22 | 9.57 | 13 | 55.14 | 7.00 | 25.05 | 10 |
| Punjab and Sind Bank | 4.76 | 10 | 6.48 | 4 | 25.16 | 17.00 | 30.03 | 6 |
| Punjab National Bank | 6.55 | 20 | 12.90 | 20 | 49.55 | 11.00 | 23.47 | 13 |
| Syndicate Bank | 3.13 | 2 | 6.70 | 9 | 64.40 | 3.00 | 31.35 | 5 |
| UCO Bank | 6.76 | 21 | 15.43 | 23 | 47.83 | 12.00 | 17.23 | 16 |
| Union Bank of India | 4.96 | 12 | 8.70 | 10 | 44.69 | 14.00 | 23.67 | 12 |
| United Bank of India | 9.49 | 23 | 13.26 | 22 | 59.49 | 5.00 | 29.65 | 7 |
| Vijaya Bank | 2.78 | 1 | 6.64 | 7 | 51.54 | 10.00 | 25.70 | 9 |
| Average | 5.21 | | 9.10 | | 39.25 | | 28.65 | |

Source: Computed based on the published financial results of the Banks

FY2015-16. GNPA has increased by 84.29 percent during the FY 2015-16. Among the public sector banks, only two banks have had GNPA below five percent in 2015-16. State Bank of Travancore had the lowest GNPA (4.78%) in 2015-16 followed by State Bank of Jaipur and Bikaner (4.82) and State Bank of Hyderabad (5.75). On other hand, the problem of bad debt is severe in UCO Bank (15.43), United Bank of India (13.26), Bank of India (13.09), Punjab National Bank (12.90), Central Bank of India (11.95), IDBI Bank Ltd (10.98), Dena Bank (9.99), Bank of Baroda(9.99), Corporation Bank (9.98), Allahabad Bank (9.76), Oriental Bank of Commerce (9.57), Canara Bank (9.4), and Bank of Maharashtra(9.34) which shows

that most of the public sector banks have experienced deterioration in their asset quality in the last financial year. In terms of the growth of NPA, eight banks have recorded over 100 percent increase in GNPA in FY2015-16. Bank of Baroda has experienced 149.8 percent growth in NPA followed by Vijaya Bank (147.70), Canara Bank (142.62), Bank of India (126.33), Punjab National Bank (117.24), Syndicate Bank (114.71), UCO Bank (103.68), and Corporation Bank (104.66) as depicted in Table 8. Further, in terms of PCR all the public sector banks cut a very poor figure. The average PCR in 2015-16 was just 28.65 percent which shows that the profit in public sector banks can cover only 28.65 percent of their GNPA.

Table 8: Growth of NPA and Return on Assets (ROA)

| Bank | NPA Growth (Y-o-Y) | ROA (2015) | ROA (2016) |
|--------------------------------|--------------------|------------|------------|
| State Bank of Bikaner & Jaipur | 22.33 | 0.84 | 0.83 |
| State Bank of Hyderabad | 32.22 | 0.89 | 0.65 |
| State Bank of India | 72.88 | 0.68 | 0.46 |
| State Bank of Mysore | 70.18 | 0.54 | 0.44 |
| State Bank of Travancore | 35.76 | 0.32 | 0.31 |
| Allahabad Bank | 84.08 | 0.29 | -0.33 |
| Bank of Baroda | 149.18 | 0.49 | -0.78 |
| Bank of India | 126.33 | 0.33 | -1 |
| Bank of Maharashtra | 62.23 | 0.33 | 0.07 |
| Canara Bank | 142.62 | 0.50 | -52.00 |
| Central Bank of India | 43.14 | 0.21 | -0.48 |
| Corporation Bank | 104.66 | 0.28 | -0.23 |
| Dena Bank | 94.86 | 0.22 | -1.02 |
| IDBI Bank | 96.05 | 0.27 | -1.07 |
| Indian Bank | 55.56 | 0.55 | 0.38 |
| Oriental Bank of Commerce | 91.77 | 0.23 | 0.07 |
| Punjab and Sind Bank | 37.21 | 0.13 | 0.34 |
| Punjab National Bank | 117.24 | 0.53 | -0.61 |
| Syndicate Bank | 114.71 | 0.58 | -0.49 |
| UCO Bank | 103.68 | 0.48 | -1.25 |
| Union Bank of India | 85.49 | 0.49 | 0.35 |
| United Bank of India | 49.75 | 0.21 | -0.22 |
| Vijaya Bank | 146.70 | 0.33 | 0.28 |
| Average | 84.29 | 0.42 | -2.42 |

Source: Compiled from published financial results of banks

Only State Bank of India and its associates had relatively better PCR which shows that the majority of the public sector banks are vulnerable in terms of PCR as evident from Table 7. Table 8 also shows the profitability of the

banks which is measured in terms of return on assets (ROA). All the banks experienced decline in ROA in FY2015-16 over FY2014-15. As shown in the table, nine banks have recorded negative ROA in FY2015-16. Vijaya

Bank was the worst performer with ROA of -2.42 percent followed by UCO Bank (-1.25), IDBI Bank (-1.07), Dena Bank (-1.02), and Bank of India (-1). Deterioration in ROA across all public sector banks roughly indicate that the growth of NPA is adversely affecting the profitability of the banks which is confirmed by the presence of strong negative correlation (-0.8) between GNPA and ROA.

Cluster Analysis

To understand the relative position of banks in terms of GNPA and PCR, we performed K-means non-hierarchical clustering techniques using the data on the FY2015-16. All the banks have been classified into three clusters based on GNPA and PCR. The result of the cluster analysis is presented in the table 9. As evident from the table, State Bank of India and its associates, Indian Bank, Punjab And Sind Bank, Syndicate Bank, and Vijaya Bank figure in cluster 1. The average GNPA in cluster 1 is 6.10 which

indicates these banks have managed their assets relatively better than other banks. On other hand, Allahabad Bank, Bank of Baroda, Bank of Maharashtra, Canara Bank, Corporation Bank, Dena Bank, Oriental Bank of Commerce, and Union Bank of India figure in cluster 2 with average GNPA of 9.59 percent which is slightly above the average GNPA of public sector banks in 2015-16. Hence, these banks can be categorised as potentially unstable banks. Cluster 3 includes IDBI Bank Limited, Bank of India, Central Bank of India, Punjab National Bank, UCO Bank, and United Bank of India whose average GNPA is 13 percent which shows that these banks are in deep trouble as far as their asset quality is concerned.

In terms of PCR, all the public sector banks are unstable which shows that they have very little profit coverage, if NPAs become lost assets. This shows the vulnerability of the public sector banks in India. The average PCR of the public sector banks is as low as 28.65 percent which indicates that if just 28.65 percent of the NPAs become

Table 9: Summary Results of Cluster Analysis with Respect to GNPA and PCR

| | Cluster 1 | Cluster 2 | Cluster 3 |
|------|--|--|--|
| GNPA | State Bank of Bikaner, State Bank of Hyderabad, State Bank of India, State Bank of Mysore, State Bank of Travancore, Indian Bank, Punjab and Sind Bank, Syndicate Bank, and Vijaya Bank. | Allahabad Bank, Bank of Baroda, Bank of Maharashtra, Canara Bank, Corporation Bank, Dena Bank, Oriental Bank of Commerce, and Union Bank of India. | IDBI Bank Limited, Bank of India, Central Bank of India, Punjab National Bank, UCO Bank, and United Bank of India. |
| PCR | State Bank of Bikaner, State Bank of Travancore and State Bank of Hyderabad, State Bank of India. | State Bank of Mysore, Allahabad Bank, Bank of Baroda, IDBI Bank Limited, Indian Bank, Oriental Bank of Commerce, Punjab and Sind Bank, Punjab National Bank, Syndicate Bank, Bank of Maharashtra, Union Bank of India, Corporation Bank United Bank of India, Canara Bank and Vijaya Bank. | Bank of India, Central Bank of India, UCO Bank, and Dena Bank. |

Source: Author's Construction

loss assets, entire profit of the public sector banks would be wiped out. None of the public sector banks has 100 percent PCR. Only State Bank group figures in cluster 1 with average PCR of 52.86 percent showing that banks in this cluster are relatively better positioned in terms PCR. Cluster 2 consists of banks which have very low PCR. The average PCR in the cluster is just 26.64 percent which shows that the banks in this cluster are very vulnerable. On the other hand, four banks figure in cluster 3 which have serious problems in their NPA management. The average

PCR of these four banks is alarming 13 percent which shows the severe vulnerability of these banks, if the NPA eventually becomes lost asset. It is also evident from the above analysis that, on an average, banks with high GNPA also have low PCR and vice versa which roughly indicates that the accumulation of NPAs is adversely affecting the profitability of banks.

Conclusion

Stability of the banking sector is an important pre requisite for stable economic growth. This is more so in a fast developing countries like India where banks play major role in financing corporate sector. In this study, we attempted to examine the extent and inter-bank disparity in asset quality among public sector banks. The study found that the problem of NPAs has been increasing in Indian banking sector which would pose serious threat to the stability of the Indian financial system. Particularly the problem is more pronounced in public sector banks. Gross NPAs in public sector banks has almost doubled from 5.20 percent in 2014-15 to 9.10 percent in 2015-16 which is alarming from the point of view of the stability of the banking sector. It is also found that rising NPAs is eroding the profitability of the banks as evident from the fact that banks with high NPAs also accompany with low profit coverage. It is evident that public sector banks which are the pillars of Indian banking system are in deep trouble in terms of rising NPAs and the consequent impact on profitability. Further, the study also shows that various NPA recovery measures are not effective in resolving the problem of bad debts. The current problem of bad debts would seriously undermine the growth prospects of India, if it is not addressed effectively.

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