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Efficiency of NPA Management in Indian SCBs – A Bank-Group Wise Exploratory Study

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Abstract

Quality of asset and efficiency of bank is highly correlated. The efficiency of banking in post-liberalization period is judged not only based of its profitability but also on quality of assets it holds. Non Performing Asset (NPA) is the foremost threat for banking stability and growth. Against this backdrop, this paper investigates the growth of selected NPA variables and compares it with banking performance indicators. We utilized the growth rate measured using exponential growth equation to estimate the relative efficiency of different bank groups in India. The estimation using EG value is more accurate since variables used in this study showed non-linear movements. Variables that impact NPA of banks is assessed and based on its growth rate, inference is generated. The analysis focused on identifying relative efficiency of different bank groups in managing their NPA. The findings revealed relative efficiency of public sector banks, which of course may be judged as the major reason for the resilience of Indian banking towards financial crisis.

JEL Classification: G21, G32, E42, E44,
Keywords: Non Performing Assets, Asset Quality Bank Efficiency

1 Introduction

The Indian Banking sector underwent significant and radical changes since liberalization movement in 1990's. From a regulated banking system with social and national objectives integrated into operations, banking sector moved to a deregulated regime with increased competitive pressure. As observed by Hanson (2005) [1], India began to reverse its long standing policies of financial repression and banking sector intervention in favor of

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policies supporting a greater role for the private sector in development, with more and better allocated credit. The radical shift was inevitable, to address the weaknesses of banking sector during pre-liberalization period and highlighted the requirement of implementation of prudential norms and international best practices to stimulate the banking sector. The regulatory authorities and various committees' revealed their concern over the deteriorating asset quality and alarming level of Non Performing Assets (NPAs) in bank's balance sheet. The health code system on assessment of loan during pre-liberalization period, to a greater extent, could not reveal the real quality of asset. This was also due to the accounting practices that allowed banks to book interest on accrual basis, thus hiding a proper differentiation between quality assets and bad assets of banks. To improve the efficiency of banking sector and to enable it to compete effectively in the world of globalization, liberalization and opening up of market, banking across the world incorporated prudential norms for income assessment, income classification and provisioning. In Indian Banking sector, the reform measures initiated in the post-liberalization period were part of broader structural adjustments policies in response to worsening asset quality, inefficiencies in banking sector and focused mainly to develop a vibrant and efficient banking sector.

Banking unlike other industries is considered as indispensable element for social and economic development. Research on banking stressed the role of banks in social and development. In India, the objective of banking in post-independence period mainly focused on supporting government to achieve the social and economic agenda. The nationalization of banks in 1969 and regulated banking environment was primarily focused to achieving social and economic development objectives of the government. This was achieved through spreading bank branches, providing employment opportunities, directed lending, regulated interest, etc. Even though banking contributed significantly to support government in achieving its performance objectives, bank's performance was not satisfactory in terms of profitability and quality of assets.

The primary aim of any business is to get profit. Survival depends on the ability of business to generate income and compete effectively in market. It also depends on how well the business maintains its assets and utilizes it for generating revenue. Banking is not an exception to this. The main focus of this study is to evaluate whether there has been improvements in asset quality of banks during post-millennium period. Specifically we discuss the trend in movement of various NPA indicators, and to the extent to which it is managed. Such an analysis reveals the effectiveness of various prudential measures incorporate since post-liberalization period. The asset quality of banks can be assessed through monitoring the trends in movement of NPA of banks. We compare the trend in movement of NPA indicators of all bank groups, classified into SBI & Associates, Nationalized Banks, Private Sector Banks and Foreign Banks. The study utilized the NPA statistics since 2000, ie, from 2001-2011.

The report is structured into four sections. Section II briefs literature on NPA and its management in Indian Banking. Section III explains the methodology used to undertake the study. Section IV evaluates the trend in movement of NPA of different bank groups. The indicators taken in this study include Gross NPA (GNPA), Net NPA (NNPA), Additions to NPA, Reductions to NPA and Provisions towards NPA. These indicators were also compared with selected micro-performance indicators of banks. The study is important as it can critically explain the success of NPA management in post-millennium period.

2 Brief Literature Review

Growth of banking is inevitable for social and economic development. They are the biggest purveyors of credit and they also attract most of the savings from the people (Mohanty and Mahapatra, 2010) [2]. The modern banking, in addition to intermediating function, also carry out many other financial services and ventured into other financial markets including insurance, etc. The stability and viability of commercial banking is synonym for sustainable economic development. Banking distress leads to economic crisis. The post-liberalization period witnessed an era of deregulated regime and competitive pressure in banking sector, leading to improved significance for asset quality for sustained competitive edge in the market. Even though banks in general are regulated by Reserve Bank of India, bank efficiency depends on the quality of credit risk management followed by banks. NPA management is considered vital for overall efficiency of banking sector. The best indicator for the health of the banking industry in a country is its level of Non-performing assets (NPAs). Reduced NPAs generally gives the impression that banks have strengthened their credit appraisal processes over the years and growth in NPAs involves the necessity of provisions, which bring down the overall profitability of banks (Prasad and Veena, 2011) [3] .

Koeva, P (2000) [4] recognized the importance of non performing loans as one of the major indicator in explaining the bank level variation in intermediation costs and profitability during the financial liberalization period. The economic crisis in fact emanate from banking crises due to higher levels of non performing assets. Khan and Bishnoi (2001) [5] observed that banking crises exists in countries if the level of NPA touches 10% of GDP. NPA is a virus affecting the economy. NPA impact banks differently including a reduction in interest spread (Brahmananda, 1999) [6], reduction of profitability and shareholder value (Kaur and Singh, 2011) [7] and jeopardize the viability of the bank (Micheal et al, 2006) [8]. On one hand, it reduces the income earning capacity of banks, at the same time, banks need to provision from their income towards probable credit losses. The effect of NPA is not limited to bank alone, it affect the economy, borrowers, creditors, industries, etc. At macro level, NPA blocks the flow of funds to prospective borrowers and hence results in reduced capital formation and economic activity. Also, higher levels of NPA force banks to invest in risk free government securities and other investments. This also results in reduced capital formation and economic activity.

Management of NPA is one major objective promulgated in various reform measures since post-liberalization period. Prudential measures on income recognition, asset classification, provisioning, etc were carried out in order to control the NPA in banking sector. Various committee’s (including Narasmiham Committee, Verma Committee) were appointed to chalk out strategies and reform measures to manage NPA. The reform process has shifted the focus of public sector dominated banking system from social banking to a more efficient and profit oriented industry (Ketkar and Ketkar, 2008) [9].

Literature on efficiency of NPA management is wide folded. Some literature explained the efficiency of several recovery management measures, such as SARFAESI, Debt Recovery Tribuals, Lok Adalats etc (Siraj and Pillai, 2012 [10]; Mahlawat and Kajal, 2012) [11], while different studies also observed the comparative efficiency of different bank groups in India and explaining their NPA levels (Rajeev and Mahesh, 2010 [12]; Siraj and Pillai, 2012 [13]; Vallabh et al, 2007 [14]; Malyadri and Sirisha, 2011 [15]; Chaudhary and Sharma, 2011 [16]). Since post-liberalization period, various studies have utilized NPA statistics while assessing the relative efficiency of banks in India (Prabhakar, et al, 2012) [17]. The reforms in post-liberalization period have led to the increase in resource productivity, increasing level of deposits, credits and profitability and decrease in non-performing assets (Badola and Verma, 2006) [18]. Indian banking system can claim that their level of NPAs have registered a declining trend over a period of time and is of international standards, with prudential provisioning, classification (Chaudhary and Singh, 2012) [19].

NPA results from many internal and external causes. The reasons for NPA are classified differently; into systematic and situational causes (Istrate et al, 2007) [20] into overhand component and incremental component (Poongavanam, 2011) [21], into internal and external factors (Misra and Dhal. 2010; [22] Muniappan, 2002) [23], based on its effects (Islam, et al, 2005) [24]. The reasons classified into internal factors and external factors are more common in literatures. NPA cannot be eliminated completely from the market; rather it can be controlled and brought in to acceptable limits. Rawlin and Saran (2012) [25] observed that there is strong correlation between Gross advances and NPA of banks and NPA can be predicated based on its relationship with Gross advances. Studies also indicated the relevance of directed lending mostly priority sector advances to generate NPA of banks (Uppal, 2009) [26]. The RBI, in its Annual Policy 2012- 13, has proposed that as bank branches are fully computerized, it will mandate banks to have the following:

- A robust mechanism for early detection of distress signs and taking measures, including prompt restructuring in the case of all viable accounts wherever required, with a view to preserving the economic value of such accounts
- A proper system-generated segment wise data on the NPA accounts, write offs, compromise settlements, recovery and restructured accounts

3 Study Design and Methodology

In general, studies on efficiency of banks were primarily focused on analyzing bank and bank group performance using various statistical tools such as data envelopment analysis (Subramanyam and Reddy, 2008; [27] Prabhakar et al, 2012 [28]; Ketkar and Ketkar, 2008; Sathye, 2003 [29]), ratio analysis (Ghosh and Ghosh, 2011) [30], Compound Annual Growth Rate (Malyadri and Sirisha, 2011) [31] and correlation and regression (Rawlin et al, 2012) [32].

Literature on banking efficiency also indicated that even though the regulatory measures are common among banks, the efficiency of banks also influenced by bank's credit risk management policies, ownership etc. To study whether the asset quality of banks significantly varies among different bank groups, this study analyze the variables selected based on bank groups. Further, the various NPA indicators were compared with selected banking performance indicators to highlight the significance of relationship performance indicators and NPA. To analyze the trend and growth/reduction of NPA, exponential growth rate (EG Value) is utilized. Exponential Growth (Decay) Rate is preferred since the various NPA indicators do not indicate a linear growth/decay during 2001-11.

Exponential Growth is calculated using following equation. Assume N_0 as the initial value and the growth rate is k, and then exponential growth of N at time t will be;

$$N = N_0 e^{kt} \text{ where } k > 0$$

Exponential Decay is calculated using following equation. Assume N_0 as the initial value and the growth rate is *k*, and then exponential growth of *N* at time *t* will be;

$$N = N_0 e^{kt} \text{ where } k < 0$$

An Exponential Growth Rate greater than 1 (EG Value >0) indicate Exponential Growth, while an EG Value <0, indicate Exponential Decay. The financial reports available in Reserve Bank of India website is utilized for the study. The information is collected bank group wise and detailed analysis is undertaken.

4 The Data and Variables

4.1 Data

The data used for this study is obtained from 'Statistical Tables Relating to Banks in India' published by Reserve Bank of India. Data is collected bank group wise. The SCBs in India is categorized based on ownership into SBI & Associates, Nationalized Banks, Private Sector Banks and Foreign Banks.

4.2 Variables

To investigate on efficiency of NPA management among different bank groups, this research reviewed the growth in movement of major performance indicators. Variables that highlight asset quality of banks include Gross NPA, Net NPA, Additions to NPA, Reductions to NPA and Provisions towards NPA. While Gross NPA and Net NPA show quality of assets in general, Additions to NPA can be used as a major indicator to asset the quality of bank's credit appraisal and supervision. On the other hand, reductions to NPA can be taken as a major indicator to assess the effectiveness of recovery management measures. Provisions towards NPA is the charge against profit, hence its trend indicate the financial impact of NPA on profitability of banks. It should be remembered that NPA leads to reduction in income generating assets and at the same time, force banks to charge a part of income towards NPA. The various NPA indicators were compared with performance indicators such as total advances, total assets, profit, etc. To sum up, efficiency of NPA management partly indicate the effect of regulatory measures while it partly reflect the quality of credit risk management initiatives of banks.

5 Results and Discussion

5.1 Relative Share of Bank Groups in Total Lending and Deposit Mobilization

As at 31st March 2011, the total advances given by all SCBs stood at Rs.4,298,705 crores. The share of Nationalized Banks in total advances was 53.77%, while SBI & Associates contributed 23.13% during the period. The public sector banks contributed 76.90% of total advances of all SCBs in India. It highlights the relative importance of public sector banks in Indian banking sector. The contribution of private sector banks and foreign banks in total advances of all SCBs was 18.55% and 4.55% respectively. The total deposit of all SCBs in India was Rs.5,616,432 Lakhs as at 31st March 2011. The total deposit collected by Nationalized Banks stood at 55.68% while the share of SBI & Associates was 22.18%. The share of public sector banks in total deposits of all SCBs stood at 77.86%. The deposit mobilized by private sector banks and foreign banks were 17.85% and 4.29% respectively during the period. To sum up, the Indian Banking sector is dominated by public sector banks.

Table 1: Relative Share of Bank Groups in Total Lending and Deposit Mobilization (2011)

	Deposits	Borrowings	Investments	Advances	Total Assets
SBI & Associates	22.18	21.07	20.13	23.13	22.24
Nationalized Banks	55.68	37.56	49.21	53.77	51.45
Public Sector Banks	77.86	58.63	69.34	76.90	73.69
Private Sector Banks	17.85	27.60	22.03	18.55	19.46
Foreign Banks	4.29	13.77	8.64	4.55	6.84
All SCBs	100.00	100.00	100.00	100.00	100.00

Source: Statistical Tables Relating to Banks in India

5.2 Non Performing Assets

In absolute terms, Nationalized Banks possess higher levels of NPA, both GNPA (Rs.4,422,295 Lakhs) and NNPA (Rs.2,128,138 Lakhs). Nationalized Banks possess 45.16% of total GNPA of all SCBs, while the share of NNPA is 31.04%. Private sector banks occupy 18.63% of total GNPA of SCBs. The share of foreign banks is 5.18% during the period.

The share of Nationalized Banks in Net NPA of all SCBs is 50.89%, followed by SBI & Associates, i.e., 35.37%. The share of private sector banks and foreign banks were 10.60% and 3.14% respectively during the period. Similar trend is followed with respect to additions to NPA and reductions to NPA. The total additions to NPA during the year ended 31st March 2011 was Rs.7,041,200 Lakhs, while the total reductions to NPA stood at Rs.4,809,351 Lakhs. Details of various NPA variables are given below.

Table 2: Non Performing Assets of Banks – As at 31st December 2011

Amount in Rs. Lakhs

Bank Group	No. of Banks	Gross NPA	Net NPA	Additions to NPA	Reductions to NPA	Provisions towards NPA
SBI and associates	6	3,039,279	1,479,059	2,271,221	1,118,638	1,049,602
Nationalized Banks	20	4,422,295	2,128,138	3,551,477	2,597,425	1,551,272
Public Sector Banks	26	7,461,574	3,607,197	5,822,698	3,716,063	2,600,874
Foreign Banks	34	506,868	131,245	352,736	551,434	53,851
Private Sector Banks	21	1,824,058	443,146	865,766	541,854	3,611,354
All SCBs	81	9,792,500	4,181,588	7,041,200	4,809,351	6,266,079

Source: Statistical Tables Relating to Banks in India

5.3 Growth of NPA Variables

EG Value is calculated for various NPA indicators based on their performance from the year ended 31st March 2001 to 31st March 2011. It is calculated for all bank groups and for all India SCBs.

Table 3: Exponential Growth of NPA indicators (2001-2011)

Bank Groups	GNPA	NNPA	Additions to NPA	Reductions to NPA	Provisions towards NPA
SBI and associates	2.32	3.63	12.9	4.64	8.05
Nationalized Banks	-0.67	-2.25	12.08	10.16	10.41
Public Sector Banks	0.42	0.07	12.4	8.16	9.59
Foreign Banks	8.25	10.08	18.98	18.71	20.41
Private Sector Banks	8.27	5.32	11.14	11.57	20.92
All SCBs	2.17	1.34	12.73	9.45	15.29

Management of NPA depends on (1) quality of risk management, and (2) the effectiveness of various recovery management measures initiated by bank and regulatory authorities. Even though it is difficult to quantify the impact of the above two on NPA management, two conclusions may be drawn from the above table.

1. Additions to NPA occur as a result of ineffective credit appraisal. Hence the trend in additions to NPA can be considered as an important determinant of NPA management from bank group perspective.
2. Reductions to NPA are influenced by quality of NPA management initiatives. Once the NPA is reported, there are ways available for banks to recover NPA accounts including recovery using SARFAESI Act, Lok Adalats, DRTs etc.

Inferences based on above table reveal that Nationalized Banks were effective compared to other bank groups in NPA management during the study period. Gross NPA and Net NPA showed exponential decay during the period (GNPA = -0.67, Net NPA= -2.25). Other bank groups showed EG rate, indicating an increase of these indicators during 2001-11.

Provisions towards NPA reduce the profitability of bank. A higher provision is not desirable since it adversely affect investor’s confidence on the bank group. Hence a higher provisions towards NPA signal bank’s inefficiency in NPA management. The observed results indicate that all bank groups reported growth in their provisions towards NPA during the period, a higher EG value is reported for private sector banks (EG Value = 20.92) followed by foreign banks (EG value = 20.41). The lowest growth rate is reported for SBI & Associates (EG Value = 8.05), followed by Nationalized Banks (EG Value = 10.41).

The performance indicators of Nationalized Banks were better in comparison to all India SCBs and other bank groups. While GNPA of all SCBs grew at EG rate of 2.17, the same showed negative EG value or exponential decay rate of -0.67 for Nationalized Banks. With regard to NNPA, the all SCBs showed EG value of 1.34, while it showed -2.25 for Nationalized Banks. The results lead to the conclusion that SBI & Associates and Nationalized Banks were efficient on NPA management compared to private sector and foreign banks during the study period.

A Comparison of EG value of Additions to NPA and Reductions to NPA can show effectiveness of NPA management. A higher addition to NPA compared to reductions forces banks to provision more amounts towards NPA in order to reduce NPA in their balance sheet. Foreign banks and Private sector banks showed similar growth in additions to NPA and reductions to NPA. The inference based on the analysis reveal that NPA still pose a significant threat to banking sector in India.

5.4 Performance Indicators

Exponential Growth Rate of various performance indicators of all bank group is computed here. The attempt is to evaluate and compare the performance indicators with various NPA indicators.

Table 4: Exponential Growth of Performance Indicators (2001-2011)

	Capital	Deposits	Borrowings	Investments	Advances	Total Assets
SBI & Associate	1.36	14.31	29.57	7.97	20.59	14.36
Nationalized Banks	1.5	17.88	36.54	13	22.62	18.22
Public Sector Banks	0.27	16.71	33.26	11.21	21.94	16.87
Private Sector Banks	8.18	20.45	22.65	17.93	23.83	20.68
Foreign Banks	27.68	16.2	13.96	17.67	16.69	18.06
All SCBs	10.39	17	23.72	12.75	21.7	17.31

A higher growth of advances is reported for private sector banks (EG value = 23.83) during 2001-11 and followed by Nationalized banks (EG value =22.62) and SBI & Associates (EG value = 20.59). Foreign bank reported lowest growth rate of advances during the period.

It may be observed from the above table that the growth of advances is significant for all bank groups and exceeds the growth of NPA indicators. A lower growth rate of NPA indicators in comparison to total advances indicates efficiency of bank groups in management of NPA. It is also evident from the above table that the growth of advances is generated from growth of borrowings, except for foreign banks. This observation put banks on a higher risk, since an increase in NPA definitely affect the repayment capacity of banks. Hence, NPA must be controlled and both proactive (a sound credit risk management system) and reactive (recovery measures) should be efficiently implemented in order to manage the instances of NPA of banks.

5.5 Comparison of Growth of Advances with NPA Indicators

The growth of GNPA and NNPA is less compared to growth of advances for all bank groups during the period. It clearly indicates a reduction in NPA of bank groups during the study period. Additions to NPA also showed a reduced trend compared to growth of advances. A notable observation from the analysis is the higher growth of provisions towards NPA of private sector banks (EG Value = 20.92) in comparison to their growth in advances (EG Value = 16.69). On an average, public sector banks (SBI & Associates and Nationalized Banks) performed well compared to private sector and foreign banks in managing NPA as observed from the growth rate of various indicators.

Table 5: Comparison of NPA indicators and Total Advances (2001-11)

Bank Groups	GNPA	NNPA	Additions to NPA	Reductions to NPA	Provisions towards NPA	Advances
SBI and associates	2.32	3.63	12.9	4.64	8.05	20.59
Nationalized Banks	-0.67	-2.25	12.08	10.16	10.41	22.62
Public Sector Banks	0.42	0.07	12.4	8.16	9.59	21.94
Foreign Banks	8.25	10.08	18.98	18.71	20.41	23.83
Private Sector Banks	8.27	5.32	11.14	11.57	20.92	16.69
All SCBs	2.17	1.34	12.73	9.45	15.29	21.7

6 Major Findings

The following inferences were observed from the study.

- Nationalized Banks managed their NPA portfolio efficiently compared to other bank groups. GNPA and NNPA showed exponential decay (-0.67 and -2.25 respectively) indicating efficient management of NPA. The addition to NPA grew by an EG rate of 12.08, while the reductions to NPA grew by an EG rate of 10.16. It indicates the need to further tighten the credit risk management. The growth rate of additions and provisions towards NPA is less compared to the growth rate of advances (EG value = 22.62).
- SBI & Associates followed nationalized banks and reported better performance compared to private sector and foreign banks. The bank groups NPA showed a modest increase, with GNPA showing an EG value of 2.32 while NNPA reported an EG value 3.63. The additions to NPA showed EG value of 12.9 and showed necessity to further tighten the credit risk management norms. The reductions to NPA grew by an EG rate of 4.64, the lowest among the bank groups. A comparison of growth of advances (EG value = 20.59) with NPA indicators showed better performance of SBI & Associates on management of NPA.
- Private sector banks showed an alarming and undesirable trend. Their provisions towards NPA grew (EG value = 20.92) at a faster rate than the growth of advances (EG value = 16.69). Higher provisions indicate higher levels of substandard, doubtful and loss assets. The bank groups GNPA and NNPA showed higher growth levels compared to public sector banks (EG value 8.27 and 5.32 respectively. The additions to NPA and reductions to NPA showed similar growth rate. Private Sector banks need to rethink and further tighten their level of their credit risk management in order to manage NPA more efficiently.
- Foreign banks showed higher growth rate of NNPA (EG value of 10.08) compared to other bank group. The bank group showed similar growth rate of additions and reductions to NPA. While the total lending grew by an EG rate of 23.82, the total provisions towards NPA showed a growth rate of 20.41.

To sum up, a ranking based on NPA indicators rate Nationalized Banks at the top in management of NPA, followed by Nationalized Banks, Foreign Banks and Private Sector Banks.

7 Conclusion

We utilized the growth rate measured using exponential growth equation to estimate relative efficiency of different banks groups in India in managing credit risk, i.e., occurrence of NPA. The banks are classified based on ownership to undertake the study. The estimation using EG value is more accurate since banking variable showed non-linear movements. Variables that impact NPA of banks is assessed and based on its growth rate, inference is generated. Furthermore, the NPA variables are compared with performance indictors to measure its growth in comparison with performance indicators. It is well said that the stability of banking sector in India depends mainly on the performance of public sector banks, which occupy around 75% of total deposits and advances of all SCBs in India.

The observed results showed improved efficiency of public sector banks in managing NPA. Compared to other bank groups, Nationalized Banks Gross NPA showed exponential decay during 2001-11, while the growth of Gross NPA of SBI & Associates was comparably less than private sector and foreign banks. Profitability of foreign banks and private sector banks is affected to a greater extent by the increased provision towards NPA, which grew at an EG rate of 20.41% and 20.92% respectively. An alarming signal for private sector banks is the increased growth of provisions (20.92%) over increase in lending (16.69%) during 2001-2011. Out empirical results support the earlier findings that the stability of Indian Banking Sector and its resilience to financial crisis is mainly because of the improved performance of public sector banks in India.

8 Scope for Further Research

Effect of financial crisis varies to different bank group based on their exposure to certain trade/industries. This study does not focus the effect of financial crisis on movement of NPA indicators. The observation of efficiency may not accurately highlight the behavior of bank groups towards financial crisis. It hence may be considered for further research.

Reference

[1] J.A.Hanson, Improving Performance of the Indian Banks, *In*, P. Basu, India's Financial Sector –Recent Reforms, Future Challenges, McMillan India Limited, 1st Edition, pp. 113-137, (2005).

[2] A.K. Mohanty and D. M. Mahapatra, Non-Performing Assets (NPAs) of Foreign Banks in India in the Post Reform Era: An Analytical Study, Mangalmay Journal of Management & Technology, **4(1)**, 13-28, (2010).

[3] G.V.B. Prasad and D. Veena, NPA in Indian Banking Sector – Trends and Issues, Journal of Banking, Financial Services and Insurance Research, **1(9)**, 67-84, (2011).

[4] P. Koeva, The Performance of Indian Banks During Financial Liberalization, IMF Working Paper, **W/03/150**. (2003)

[5] M.Y. Khan and T.R. Bishnoi, Banking crisis and financial reforms: Lessons for India. Chartered Secretary: 44 - 48. (2001).

[6] P.R. Brahmananda, RBI report on trend and progress in banking Interest income as a measure of viability. The Hindu Business Line, p. 4. (1999)

[7] K. Kaur and B. Singh, Non Performing Assets of Public and Private Sector Banks (A Comparative Study), South Asian Journal of Marketing and Management Research, **1(3)**, 54-72, (2011).

[8] J.N. Micheal, G. Vasanthi and R. Selvaraju, Effect of Non-Performing Assets on Operational Efficiency of Central Co-Operative Banks, Indian Economic Panorama, **16 (3)**, pp. 33-34 & 39, (2006).

[9] K.W.Ketkar and S.L.Ketkar, Performance and Profitability of Indian Banks in the Post Liberalization Period, The 28th World Congress on National Accounts and Economic Performance Measures for Nations, Washington DC (2008).

[10] K.K. Siraj and P. S. Pillai, Management of NPAs in Indian SCBs: Effectiveness of SARFAESI Act, DRT & Lok Adalat during 2004-2011, International Journal of Business and Management Tomorrow, **2(4)**, 1-10, (2012).

[11] S. Mahlawat and S. Kajal, Study of NPA Management and Impact of Securitization Act in Indian Public Sector Banks, Proceedings of World Business Research Conference, [online], http://www.wbiconpro.com/618-Seema.pdf, (2012).

[12] M. Rajeev and H.P.Mahesh, Banking Sector Reforms and NPA – A Study of Indian Commercial Banks, Institute for Social and Economic Change, **W. 253**, (2010)

[13] K.K. Siraj and P. S. Pillai,, A Study on the Performance of Non-Performing Assets (NPAs) of Indian Banking During Post Millennium Period, International Journal for Business and Management Tomorrow, **2 (3)**, (2012).

[14] G. Vallabh., A. Bhatia and S.Mishra, Non-Performing Assets of Indian Public, Private and Foreign Sector Banks: An Empirical Assessment, The IUP Journal of Bank Management, **6 (3)**, 7-28, (2007).

[15] P. Malyadri, and S. Sirisha, A Comparative Study of Non Performing Assets in Indian Banking Industry, International Journal of Economic Practices and Theories, **1 (2)**, 77-87, (2011).

[16] K. Chaudhary and M. Sharma, Performance of Indian Public Sector Banks and Private Sector Banks: A Comparative Study, International Journal of Innovation Management and Technology, **2(3)**, (2011).

[17] A.K. Prabhakar, F. Sherif, S. and V. Nagadevara, Relative efficiency of banks in India- Evaluation and Policies for Improvement, Ninth AIMS International Conference on Management, (2012).

[18] B.S.Badola and R.Verma, Determinants of Profitability of Banks in India – A Multivariate Analysis, Delhi Business Review, **7 (2)**, 79-88, (2006).

[19] S. Chaudhary and S. Singh, Impact of Reforms on the Asset Quality in Indian Banking, International Journal of Multidisciplinary Research, **2(1)**, 13-31, (2012).

[20] E. Istrate., D.D. Gupta and P. Weissburg,. Towards Developing a Structured Approach to the Diagnosis and Resolution of Nonperforming Loans: The Case of China and India, Review of Policy Research **24(4)**, pages 345–365, (2007)

[21] S.Poongavanam, Non performing assets: Issues, Causes and remedial Solution, Asian Journal of Management Research, **2(1)**, 123-132 (2011)

[22] B.M. Misra and S. Dhal, Pro-cyclical Management of Banks' Non-Performing Loans by the Indian Public Sector Banks, Available Online : http://www.bis.org/repofficepubl/arpresearch201003.08.pdf, (2011).

[23] G. Muniappan, The NPA Overhang, Magnitude, Solutions and Legal reforms‟, Reserve Bank of India, 2002.

[24] Islam., M. Shofiqul., S. Chandra and M. Abdul, Non performing loans - its causes, consequences and some learning, MPRA Paper **No. 7708**. (2005)

[25] R. Rawlin and S. M. Sharan, Modeling the NPA of a Midsized Indian Nationalized Bank as a Function of Advances, European Journal of Business and Management, **4 (5)**, 78-89, (2012).
[26] R.K. Uppal, Priority sector advances: Trends, issues and strategies, Journal of Accounting and Taxation **1 (5)**, pp. 079-089, (2009).
[27] T. Subramanyam and C.S. Reddy, Measuring the risk efficiency in Indian Commercial Banking – A DEA Approach, East-West Journal of Economics and Business, **11 (1)**, 76-104, (2008)
[28] A. K. Prabhakar., S. F. Sheriff and V. Nagadevara, Relative Efficiency of Banks in India - Evaluation and Policies for Improvement, Ninth AIMS International Conference on Management, 24-37 (2012)
[29] M. Sathye, Efficiency of Banks in a Developing Economy: The Case of India, European Journal of Operation Research, **148(3)**. 662-671 (2003).
[30] D. Ghosh and S.Ghosh, Management of Non Performing Assets in Public Sector Banks: Evidence from India, Proceedings of International Conference on Management, 750-760, (2011).
[31] P. Malyadri and S. Sirisha, A Comparative Study of Non Performing Assets in Indian Banking Industry, International Journal of Economic Practices and Theories, **1(2)**, 77-87, 2011.
[32] R. Rawlin, S.M. Sharan and P.B. Lakshmipathy, Modeling NPA of a midsized Nationalized Bank as a Function of Advances, European Journal of Business and Management, **4 (5)**, 78-89, (2012).

Appendix

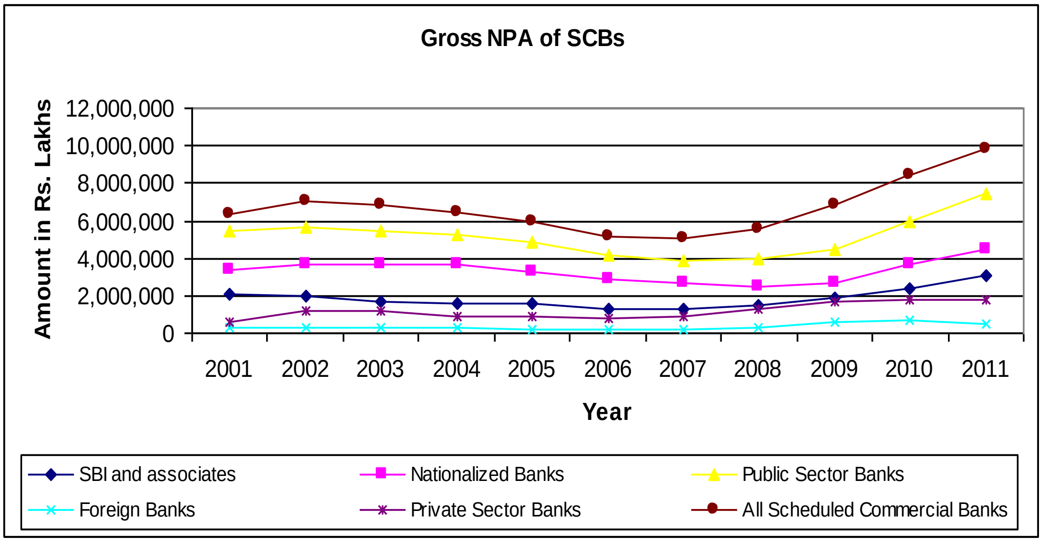

Figure 1: Gross NPA of SCBs – Bank Group wise (2001- 2011)

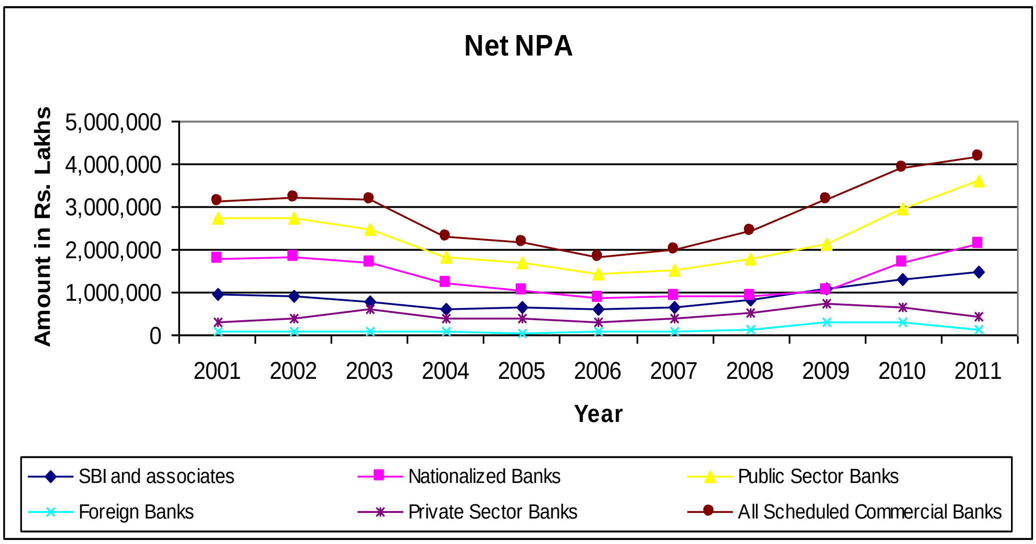

Figure 2: Net NPA of SCBs – Bank Group wise (2001- 2011)

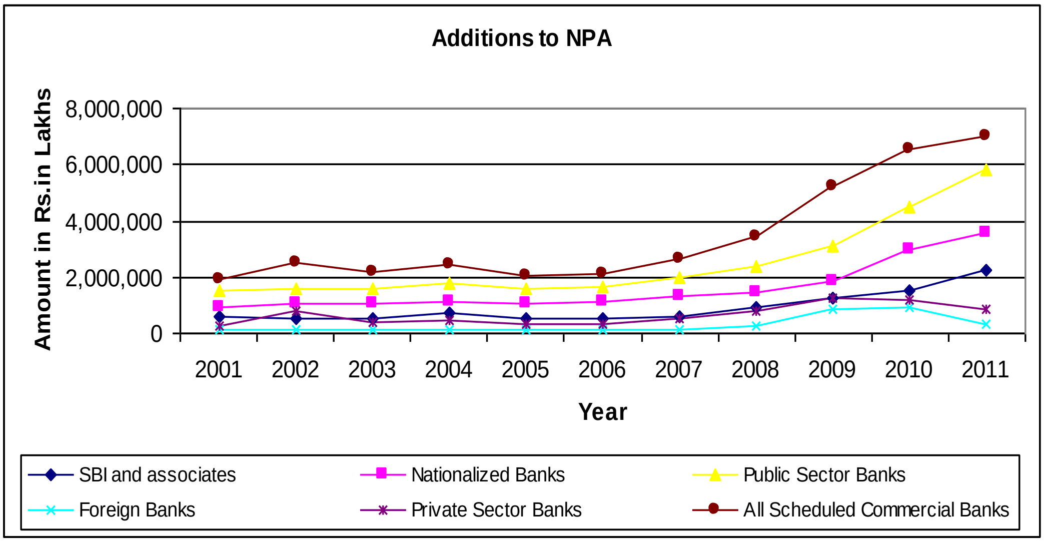

Figure 3: Additions to NPA of SCBs – Bank Group wise (2001- 2011)

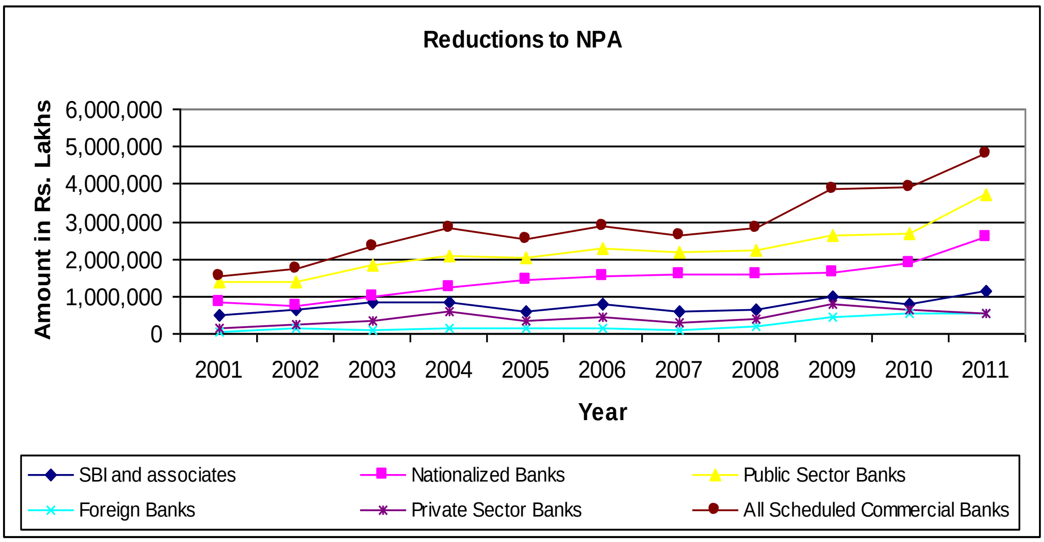

Figure 4: Reductions to NPA of SCBs – Bank Group wise (2001- 2011)

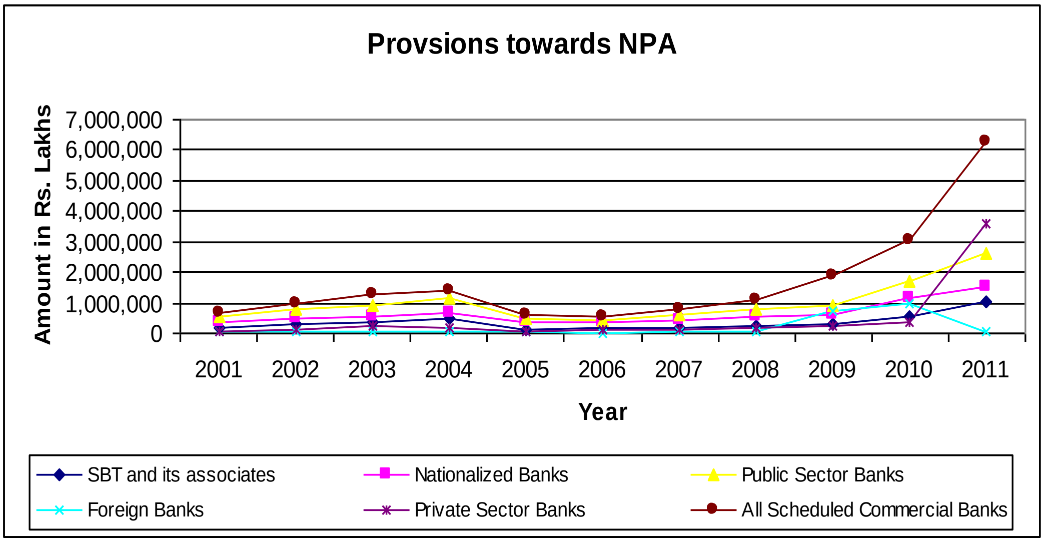

Figure 5: Provision towards NPA of SCBs – Bank Group wise (2001- 2011)