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Bank Specific Determinants of Stressed Assets: A Study of Indian Public Sector Banks

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Abstract – Stressed assets is a severe problem associated with entire banking system of the nation, public sector banks are in very dangerous situation where level of this stresses assets is increasing year by year with an alarming rate. Banks are very crucial and significant part of entire financial system, if there is a defect in the system, definitely it will sooner or later badly affect the overall growth of the country. There are various factors which affect loan/advance assets of the banks, some of them are external or macroeconomic and some are bank specific. This study is an effort to derive impact of some bank specific variables on stressed assets of public sector banks. Study also examine the movement of Gross and Net NPA of public sector banks during 2003-2016.

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INTRODUCTION

Extension of credit is the most important function of the banks. Popularly known as loan/advance which is considered as assets for the banks and also source of regular income in the form of interest on loans. There are different kinds of loans/advances which are to be disbursed by the banks, each of them is weighted with some risk. When borrower of the loan is not able to fulfil its financial obligation within stipulated time of 90 days, credit risk arises and the loan account is considered as Non Performing Assets. Banks need to make provisions for this loan/advance which has become NPA, which renders adverse impact on the financial health of the banks and also reduces operative competence of the bank.

When demand of loan increases due to better economic growth, banks shows aggression in lending particular in corporate loans. When these loans become stressed assets for the banks due to any reason, banks undergo through severe financial distress which results as poor performance of the bank to manage their credit portfolio. Problem of stressed assets is associated with whole banking business, where major portion of business is to be held by public sector banks in India. Public sector banks suffering severely with bad loan problem and the level of this problem is increasing with an alarming rate.

According to Reserve Bank of India an asset (loans or advances) turns into Non-performing asset when it ceases to create earnings for the bank. In other words we can say that an asset should be considered as NPA if interest or instalments of principal leftovers overdue and not paid for a time period of more than 90 days. The NPAs may be further divided into two types; (i) Gross NPAs and (ii) Net NPAs.

Gross NPA:

Gross Non Performing assets are the total outstanding of all the borrowers classified as substandard, doubtful and loss asset. Gross NPA is an advance/loan which is considered Non recoverable and bank has made provisions for the same which is at rest held in banks' books of account. Gross NPAs are the summation of all loan assets that are recorded as Non-Performing Assets as per RBI Guidelines. Gross NPA determines quality of loan/advances given by banks.

Net NPA:

Net Non-Performing assets are calculated by subtracting the provisions from Gross Non Performing Assets. Net NPAs are computed as; Gross NPA-(Balance in interest suspense account+ claims received from DICGC/ECGC and pending for adjustment + Part payment received and kept in suspense account + Total provisions held).

LITERATURE REVIEW

Dr Mahesh U Daru (2016) observed that Indian banking system is struggling with challenges related to NPA. He examined that behind mounting NPAs there are Internal, External and other factors. Internal factors are diversion of funds, poor credit appraisal and lack of modern technology platform.

External factors according to author are recession, exchange rate fluctuations and frequent changes in government policies. He also observed other factors like tuff competition and reduction of tariffs, sudden crashing of capital market and inability to raise adequate capital etc. author concluded that Banks should be equipped with latest credit risk management techniques to shelter the bank funds and reduce insolvency risks. Further, to have much better control on the assets created out of borrowings, banks needs to have close monitoring of functioning of the units by frequent visits and this is to be done to all the units irrespective whether the account is performing or non -performing .

Vivek Singh (2016) analyzed that the economic value additions (EVA) by banks get upset because of higher level of NPA. Higher provisioning requirement on mounting NPAs adversely affect capital adequacy ratio and profitability. Study was conducted on Schedule commercial banks for the period of 2000-2014. Author concluded level of NPA is comparatively high in PSU Banks, government should make more provisions for faster settlement of pending cases and also it should reduce the mandatory lending to priority sector and RBI should take rigid actions against willful defaulters.

Banambar sahoo (2015) observed that Lack of cohesive regulatory framework, Political pronouncements like debt relief and Socio-political pressures on commercial credit decisions are the key reasons for augmented level of NPA in banking industry particularly in PSU banks. Author also examined the root cause of NPA from the borrower side like improper choice of project/activity, Adoption of obsolete technology and inefficient management etc. author suggested that bankers should adopt the corrective measures proactively in credit management. Further he suggested 3 'R' measures Rectification, Restructuring and Recovery to cope up with the problem of bad loan.

Dr. P. Krishna prasanna (2014) examined in his research that there is a significant impact of macroeconomic indicators on the Gross and Net Non-performing assets. Study was conducted on Indian banks for the period 2000-2012. He found that higher growth rate in GDP and domestic savings reduces the level of NPA of Indian banks. Further, he concluded that higher interest rates and inflation contribute positively to increasing the NPA.

A. V. Jose (2013) reported in his research that banking system is the platform for economic development in a country like India .The key drivers for the growth of the banking system are Globalization, Competition, financial inclusion, Consolidation on the external front. The regulatory drivers like KYC and AML issues, fair treatment to customers, proper risk management also assume significant attention of Bank Management. He states that asset quality is suffering because of the enthusiasm and pressure, to somehow perform and meet the magical target figures. The problem requiring serious attention for a sound asset quality management of banks.

Dr. Rohit R. Manjule(2013) Non Performing Assets (NPA) is one of the major concerns for banking system around the globe and Indian Banking system is not an exception to this universal phenomenon. Nowadays NPA Management has become synonymous to the functional efficiency of Banking System. He concluded in his research that It is right time to take suitable and stringent measures to get rid of this problem. An efficient management information system should be developed. The bank staff involved in sanctioning the advances should be trained about the proper documentation and charge of securities and motivated to take measures in preventing advances turning into NPA and constant following up and monitoring of loans after disbursement.

Shalu Rani (2011) examined the existing position of banks in Scheduled Commercial Banks (SCBs) of India in respect of NPAs, the causes and remedial measures thereof and concluded that the level of NPA has increased, eroding whatever reduction was made with the ever increasing level of fresh NPAs and tightening of norms by RBI time to time. Total elimination is not possible in banking business so it is wise to follow the proper policy for appraisal, supervision and follow up of advances to avoid NPAs.

Rajini Saluja and Roshan Lal (2010) observed that the burgeoning NPAs in baking industry is a matter of deep concern. It is just not a problem for banks but also proves fatal to the economic growth of the country. The study concludes that there is huge difference in NPAs of public and foreign banks. Public sector banks are highly pressurized by the NPAs. Moreover, great quantum of NPAs was observed in non-priority sector than in priority sector. Gross and Net NPAs of PSBs have improved over the years because of rigorous policy initiatives and enforcement of various legal and non-legal measures.

Usha Arora, Bhavana Vashist and Monica Bansal (2009) analyzed and compared the performance in terms of loan disbursement and non-performing assets of credit schemes of selected banks for the last five years. A positive relationship is found between total loan disbursement and total non-performing Assets Outstanding (NPA O/S) of selected banks. They suggested that proper steps like negotiated compromise, legal remedies, acquisition and take over should be taken to solve the NPA problem.

OBJECTIVES OF STUDY

1. To study impact of selected bank specific determinants of Non Performing Assets of public sector banks during study period.

2. To analyse trends of NPA in public sector banks during study period.

RESEARCH METHOD

Study is exploratory, descriptive and analytical based on secondary data. Impact of selected variables have been analysed on NPA of Public sector banks in order to achieve the first objective of the study. Six variables have been considered for the purpose of analysis namely; Advance, Bank's borrowing, Total deposits, Reserve and surplus, Total assets (Bank size) and Total no of employees. In order to examine the impact of the selected bank specific variables on NPA of Public Sector Banks, statistical techniques like bivariate correlation analysis and multiple regression has been used.

Data of aforesaid variables have been collected through different publications of Reserve Bank of India like report trend and progress of banking in India, financial stability reports, handbook of statistics on Indian economy and RBI bulletin etc. Second objective has been achieved through trend lines/movements of NPA of public sector banks during the study period. Appropriate trend lines have been used to determine the movements of NPA of public sector banks during study period. Time period 2003 to 2016 (total 14 years) have been considered as study period.

ANALYSIS PLAN

Analysis of collected data has been performed in two parts, part-I and part-II. In part-I Impact of selected variables have been analysed on Gross NPA and Net NPA. Two different regression models have been developed in order to examine impact of selected variables on GNPA and Net NPA separately. In analysis part-II movement of Gross and Net NPA of PSBs has been analysed through trend lines for the study period. Analysis has been done on the basis of average annual growth rate and trend lines of Gross and Net NPA.

Analysis Part-I

(A) Gross NPA has been considered as dependent variable while selected six variables Advance, Total borrowing, Total deposits, Reserve and surplus, Total assets (Bank size) and Total number of employees have considered as independent variables. Relevant data has been analysed by 'Enter' method in SPSS and the following regression model has been developed.

Gross NPA = α + β1X1 +β2X2+β3X3+β4X4+ β5X5+ β6X6+e

Where; α is constant value and β1, β2, β3, β4, β5, β6 are regression coefficients for independent variables respectively and X1, X2, X3, X4, X5, X6 are independent variables namely Advance, Bank's borrowings, Total deposits, Reserve and surplus, Total assets (Bank size) and Total no of employees respectively and e is error term.

Table-I Model Summary Multiple Regression

Model Summary				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.916a	.839	.739	744.834
a. Predictors: (Constant), Reserve and surplus, Total no of employees Total Bank's Borrowings Total Deposit, Advance				

Source: SPSS Output

Table-II ANOVA Output multiple regression

ANOVA						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	23205984.714	5	4641196.943	8.366	.005b
	Residual	4438221.996	8	554777.749		
	Total	27644206.710	13			
a. Dependent Variable: Gross NPA						
b. Predictors: (Constant), Reserve and surplus, Total no of employees, Bank's Borrowings , Total Deposit, Advance						

Source: SPSS Output

Table-III Coefficient Output multiple regression

Coefficients						
Model		**Un standardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	(Constant)	5042.766	3789.822		1.331	.220
	Total no of employees	-.006	.005	-.318	-1.132	.291
	Advance	-.265	.248	-3.341	-1.071	.315
	Bank's Borrowing	.038	.018	2.548	2.161	.063
	Total Deposits	-.083	.197	-1.186	-.419	.686
	Reserve and surplus	2.764	3.386	3.074	.816	.438

Source: SPSS Output

Interpretation: Value of adjusted R square in the model summary table is 0.739. It means selected variables are able to explain the variations in the Gross NPA up to 73.9 %. P-value (0.005) in ANOVA table indicates that model is significant. Jointly, Total asset has rendered very low impact

on gross NPA, so it has excluded automatically from the multiple regression model and after eliminating such variable (Total assets) the final form of the regression model is as following-

Gross NPA = 5042.766-0. 265 (Advance)+0. 038 (Bank's Borrowing) - 0. 083 (Total Deposits) + 2.764 (Reserves and surplus) -0.006 (Total no of employees)

From the above regression model we can estimate the Gross NPA with the help of selected bank specific variables for respective year.

(B) Net NPA has been considered as dependent variable while selected six variables Advance, Bank's borrowing, Total deposits, Reserve and surplus, Total assets (Bank size) and Total number of employees have considered as independent variables. Relevant data has been analysed by 'Enter' method in SPSS and the following regression model has been developed.

Net NPA = $\alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + e$

Where; α is constant value and β1, β2, β3, β4, β5, β6 are regression coefficients for independent variables respectively and X1, X2, X3, X4, X5, X6 are independent variables namely Advance, Bank's borrowings, Total deposits, Reserve and surplus, Total assets (Bank size) and Total no of employees respectively and e is error term.

Table IV Model summary multiple regression

Model Summary				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.909[a]	.826	.717	490.489
a. Predictors: (Constant), Reserve and surplus, Total no of employees, Bank's borrowings, Total Deposit, Advance				

Source: SPSS Output

Table V ANOVA Output multiple regression

ANOVA						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	9145831.059	5	1829166.212	7.603	.007[b]
	Residual	1924637.224	8	240579.653		
	Total	11070468.283	13			
a. Dependent Variable: Net NPA						
b. Predictors: (Constant), Reserve and surplus, Total no of employees, Bank's borrowings, Total Deposit, Advance						

Source: SPSS Output

Table VI Coefficient Output multiple regression

Coefficients						
Model		**Un standardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	(Constant)	3412.105	2495.679		1.367	.209
	Total no of employees	-.004	.003	-.358	-1.223	.256
	Advance	-.168	.163	-3.348	-1.031	.333
	Bank's borrowings	.025	.012	2.586	2.108	.068
	Total Deposits	-.050	.130	-1.128	-.383	.712
	Reserve and surplus	1.712	2.230	3.008	.768	.465

Source: SPSS Output

Interpretation: Value of adjusted R square in the model summary table is 0.717. It means selected variables are able to explain the variations in the net NPA up to 71.7 %. P-value (0.007) in ANOVA table indicates that model is significant. Jointly, Total assets has rendered very low impact on net NPA, so it has excluded automatically from the multiple regression model and after eliminating such variable (Total assets) the final form of the regression model is as following-

Net NPA = 3412.105 -0.168 (Advance) +0.025 (Bank's borrowings) -0.050 (Total Deposit) + 1.712 (Reserves and surplus-0.004(Total no of employees)

From the above regression model we can estimate the Net NPA with the help of selected bank specific variables for respective year.

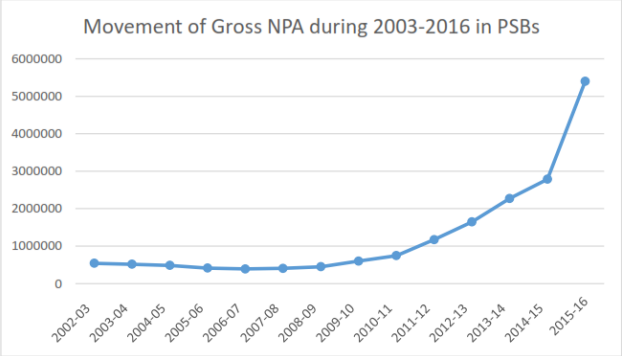
Analysis part-II

(A) Movement of GNPA of Public Sector Banks: *Movement of GNPA of Public Sector Banks during the study period has shown in the below table:*

Table VII Movement of GNPA of Public Sector Banks during 2003-2016

Movement of GNPA of Public Sector Banks As on 31 March (Millions)					
Year	**Gross NPA**	**AGR**	**Year**	**Gross NPA**	**AGR**
2002-03	540860	-4	2009-10	599273	34
2003-04	515380	-5	2010-11	746157	25
2004-05	483994	-6	2011-12	1172620	57
2005-06	413585	-15	2012-13	1644614	40
2006-07	389684	-6	2013-14	2272643	38
2007-08	404523	4	2014-15	2784679	23
2008-09	449570	11	2015-16	5399564	94
Average Annual Growth Rate(2003-09)		-2.89	Average Annual Growth Rate(2010-16)		44.36
AAGR (2003-2016) = 20.68 % per annum					

Source: Statistical tables relating to banks in India



Source: Trend lines through MS-excel

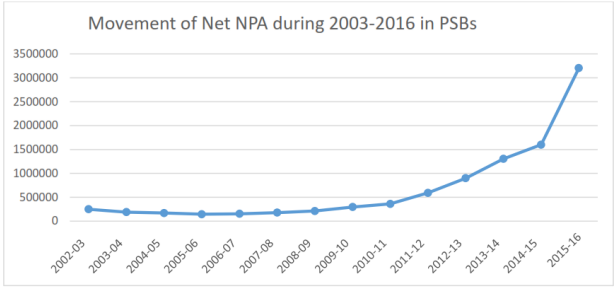
Interpretation: Public Sector banks have shown negative growth in the Gross NPA during the first half of the study. The average annual growth rate remained -2.89% during 2003-2009. The GNPA amount as on March 2003 was 5, 40,860 million Rupees has become 4, 49,570 million Rupees in end of March 2009. On the other hand during the second half of the study period (2010-2016), the growth rate in GNPA has shown a noteworthy rise. Average annual growth rate of Gross NPA remained 44.36 % during 2010-2016. During entire study period (2003-2016) the average annual growth rate of GNPA has remained 20.68 % in the Public Sector banks of India.

(B) Movement of Net NPA of Public Sector Banks: *Movement of Net NPA of Public Sector Banks during the study period has shown in the below table:*

Table-VIII Movement of Net NPA of Public Sector Banks during 2003-2016

Movement of Net NPA of PSBs As on 31 March (amount Millions)					
Year	**Net NPA**	**AGR**	**Year**	**Net NPA**	**AGR**
2002-03	249630	-11	2009-10	296434	40
2003-04	188600	-24	2010-11	360546	22
2004-05	169035	-10	2011-12	592052	64
2005-06	145655	-14	2012-13	899516	52
2006-07	153250	5	2013-14	1303615	45
2007-08	178365	16	2014-15	1599511	23
2008-09	211554	19	2015-16	3203758	112
Average Annual Growth Rate(2003-09)		-2.78	Average Annual Growth Rate(2010-16)		51.06
AAGR (2003-2016) = 24.13 % per annum					

Source: Statistical tables relating to banks in India



Source: Trend lines through MS-excel

Interpretation: Public Sector banks have shown negative growth in the Net NPA during the first half of the study. The average annual growth rate has remained -2.78% during 2003-2009. The Net NPA amount as on March 2003 was 2, 49,630 million rupees has become 2, 11,554 million rupees as end of March 2009. On the other hand during the second half of the study period (2010-2016), the growth rate in Net NPA has shown a significant increase. Average annual growth rate of Net NPA remained 51.06 % during 2010-2016. During entire study period (2003-2016) the average annual growth rate of Net NPA has remained 24.13 % in the Public Sector banks in India.

FINDINGS

Selected variables jointly have shown significant impact over Gross NPA (73.9 %) and Net NPA (71.7 %) of Public sector banks during the study period. It means these determinants can explain major variation in Gross and Net NPA. In particular, when advance increases Gross and Net NPA also increased. Banks extends credit facility in priority and non priority sectors for fulfilment of their financial requirements. Sometimes these loans are to be extended in order to meet the socio economic objectives of the bank. When banks show aggression in lending, more advances are to be disbursed. All the loans/advances are differently risk weighted and due to slower economic growth, wilful defaults, poor credit risk management practices and ineffective government machinery etc. these loan/advances become stressed assets for the bank. Similarly, bank's borrowings, total deposits, reserves & surplus and total assets (bank size) influences bank's lending capacity. Total no of employees also affect the NPA. There is less staff to manage the problem of NPA, due to lack of staff problem of stressed assets is not managed effectively. In the influence of the above banks can lend more consequently advances increases and resulted and stressed assets or Non-Performing assets.

During 2003-09 average annual growth rate of NPA has remained negative (GNPA -2.89 % Net NPA -2.78 %) while in the second half (2010-2016) AAGR has shown great increase (GNPA 44.36 % and Net NPA 51.06 %). It shows that till 2008-09 public sector banks were able to manage with bad loan problem, but after 2009-10 it has become out of control and has increased significantly. There are various reasons behind the same viz. subprime crisis in 2008, slower economic growth afterwards, banks aggression in lending activities (particular in non-priority sectors), lack of staff, poor credit management system, and ineffectiveness of market intelligence etc. Public sector banks need to work upon existing credit risk management system, it has to be strengthen and empowered as per the need of time. Further, public sector banks to use effective market intelligence before extend credit facility to the borrower. There should be effective co-operation of government machinery to cope up

with the problem and wilful default should be considered as severe economic crime and defaulters must be punished as per the law.

CONCLUSION

Public sector banks must hardly try to keep their loans as 'performing assets' as they yield regular interest and other income. Non-performing assets (NPAs) are such loans/advances which are irregular or out of order for a period of at least 3 months and on which the bank has to make provisions as per the RBI guidelines. Such loans can be classified as Sub-standard, Doubtful and Loss assets as per the RBI guidelines, necessitating different provisioning requirement (also as per RBI guidelines). Since NPAs yield negative returns and require provisioning, these erode the bank's profitability.

The sharp rise in GNPAs and Net NPAs showed Credit appraisal system of Indian public sector banks is very poor especially in corporate loan the situation is worse. It does not only affects the profit negatively but also badly affects operational efficiency and image of the bank. In India, private banks are comparatively in better condition as far as management of stressed assets is concerned. Standard practices for credit risk management, selective approach for deciding borrower, effective modus operandi to cut down level of NPA and prudent preventive measures are some of the practices which are to be followed by private banks to manage their loan portfolio. Indian banking system is dominated by PSU banks as they are major stake holder in overall banking business in India. There is strong need of effective reforms in Indian banking system.

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