

## **Determinants of Non Performing Assets: An Empirical study of Public Sector Banks in India**

**Dr C K Goyal**

Professor & Head, IBMR IPS Academy, Indore

**Gagan Bhati**

Assistant Professor IBMR, IPS Academy, Indore

### **ABSTRACT**

Non Performing Assets (NPA) is a serious cause of concern for the entire banking system of India. It is a virus badly affecting banking system of the nation particularly Public Sector Banks in India. Several reasons and factors are there behind the problem of mounting NPA in Public Sector Banks. An effort has been made in this paper to understand the impact of Macroeconomic and bank specific variables on NPA of Indian PSU banks. Macroeconomic variables selected for the purpose of analysis were GDP at factor cost and Exchange rate on the other hand bank specific variables selected for the study were Net Advance, Total deposits and Reserves and surplus. With the help of statistical tools viz. bivariate correlation and linear regression it was found that GDP at factor cost has a positive and significant impact on the level of Net NPA, exchange rate has also positive significant impact on the Net NPA of Indian PSU banks. Selected bank specific variables do have positive and significant impact on the NPA of Public Sector Banks in India. The level and extent of Gross and Net NPA has shown through the bar diagram and trend lines. Problem of NPA has become biggest challenge for the banking system and it is requiring serious attention.

### **INTRODUCTION**

Banking system plays very important role in the economic development of a nation. A sound and vibrant banking system is essential for mobilization of savings into productive assets and for the better utilization of financial resources with allocation of financial assets. Banks primarily deals in lending activities through which credit is to be extended by the banks and financial institutions to the different sectors of the economy popularly known as priority sector and non-priority sectors. Lending always carries risk, when borrower of the loan is unable to fulfill repayment obligation the loan account turns as NPA.

Non Performing Assets (NPA) is one of the serious concerns for banking system of India. NPA adversely affects the profitability of banks and it also renders negative impact on the operational efficiency of banking system. According to the guidelines of Reserve Bank of India loan/advance asset account classified as NPA if the interest/installment remains irregular for more than 90 days. Non Performing Assets do not contribute in the generation of income for the bank. Further due to provisioning requirements it reduces the level of profits in banks and leads to enhance the legal, administrative and recovery cost to the banks.

The problem of NPA badly affects the loan portfolio of banks, In India the problem of bad loans is associated with all Schedule commercial banks but the level and extent of NPA is more significant with Public sector banks. Gross NPA of Public sector banks stood at 9.6% on end of March 2016 which amounts to 5608 billion Rupees on the other hand Net NPA remained 6.1% which amounts to 3474 billion Rupees in the same period which is highest in last 8 years. It is alarming for PSU banks in India. Several macroeconomic and bank specific variables are accountable for the problem. In this study the impact of selected variables on NPA of PSU banks has been analyzed.

## REVIEW OF LITERATURE

**Gunjan M. Sanjeev (2007)** examined in his research titled “Bankers Perception on Causes for Bad Loans in Banks”, that NPA is influenced by external and internal factors and movement of NPA is more significant with external factors than the internal factors. External factors viz. economic slowdown, willful default lead to higher NPA on the other hand internal factors like improper credit appraisal, lack of adequate and skilled staff and aggressive lending to fulfill the loan target results in accumulation of NPA.

**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.

**Bhavani Prasad G.V. and Veena D. (2011)** observed that the best indicator of the health of the banking industry in a country is its level of Nonperforming assets. Indian banks have been facing a problem of NPA. It is a serious disease associated with banking sector of the country. The magnitude of such problem is comparatively higher in PSU banks. For better efficiency of asset quality and profitability of banks the NPAs needs to be reduced and controlled.

**Debarsh and Sukanya (2012)** emphasized that NPA is most important parameter to evaluate the financial performance of banking sector. Problem of bad loan is affecting badly the profitability of PSU banks. Authors suggested that for effective management of NPA accounts Public Sector Banks must strictly follow asset classification norms, recovery procedures and use to technological platform at its optimum level.

**Swamy (2012)** observed in his study titled “Impact of Macroeconomic and Endogenous Factors on Non-Performing Banks Assets” that NPA of banks is influenced by several macroeconomic factors. Author found that there is a significant relationship between macroeconomic indicators and NPA of banks.

**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.

## OBJECTIVES

1. To Study the Impact of selected Macroeconomic and Bank specific variables on NPA of Public Sector Banks in India.
2. To Study the trends of NPAs in Public sector Banks in India during the study period.

## METHODOLOGY & HYPOTHESIS

Research is exploratory and analytical in nature and secondary data has been used for the purpose of analysis. Secondary data related to NPA of Public Sector Banks and data related to selected Macro and micro variables has been obtained from the RBI website and annual publications of Reserve Bank of India for the study period 2009 to 2016. Macro economic variables used for the study were GDP at factor cost and Exchange rate. Bank specific variables for the purpose of analysis were Net Advance, bank deposits and Reserves and surplus of Indian PSU Banks. The impact of the above macroeconomic and banks specific variables on Net Non Performing Assets of Public Sector Banks has been analyzed with the help of Bivariate Correlation and linear regression. Further, the trends in Gross and Net NPA has been analyzed through Trend lines.

**HYPOTHESES**

H01: There is no significant impact of GDP Factor cost on Net NPA of PSU Banks.

H02: There is no significant impact of Exchange Rate on Net NPA of PSU Banks.

H03: There is no significant impact of Net Advance on Net NPA of PSU Banks.

H04: There is no significant impact of Bank Deposits on Net NPA of PSU Banks.

H05: There is no significant impact of Reserves and Surplus on Net NPA of PSU Banks.

**DATA ANALYSIS AND INTERPRETATION**

Table: 1 (Level of Gross and Net NPA of Public Sector Banks)

Gross and Net NPA of Public Sector banks (End of March) (Amount in Billion)								
Year	Advances		Non-Performing Assets					
	Gross	Net	Gross NPA			Net NPA		
			Amount	As % of Gross Advances	As % of Total Assets	Amount	As % of Net Advances	As % of Total Assets
2008-09	22835	22592	450	2	1.2	212	0.9	0.6
2009-10	27335	27013	599	2.2	1.3	294	1.1	0.7
2010-11	30798	33056	746	2.4	1.4	360	1.2	0.7
2011-12	35504	38773	1178	3.3	2	594	1.5	1
2012-13	45602	44728	1656	3.6	2.4	900	2	1.3
2013-14	52159	51011	2273	4.4	2.9	1306	2.6	1.6
2014-15	56167	54763	2785	5.0	3.2	1602	2.9	1.8
2015-16	58414	56954	5608	9.6	6.1	3474	6.1	3.8

Source: Handbook of statistics on Indian economy

The level of Gross and Net NPA has been significantly increased during 2009 to 2016. Level of Gross NPA stood at 6.6 % March 2016 which is highest during the study period. Further level of Net NPA is 6.1 % as on March 2016. There is sharp increase in the level of Net Advance during the study period. There is continuous increase in the level of Gross and Net NPA from 2009 to 2016 as shown in the above table. This is hazardous for the overall financial health of Public Sector Banks in India.

In order to check the impact of selected Macro economic variables and bank specific variables on Net NPA of PSU Banks, Bivariate correlation and Linear regression has been applied on the available database and the obtained results has been tabulated as following:

Table: 2 (Selected variables and Net NPA - Coefficient Values, Test of Significance and comparison)

Variables	Regression Coefficients	Test of Significance		Value of R-Square	Correlation Coefficient (r)
		P-Value	Significance		
GDP at Factor Cost	0.038	0.005	Yes	0.761	0.872
Exchange Rate	119.069	0.004	Yes	0.768	0.877
Net Advance	0.07	0.011	Yes	0.684	0.827
Bank's Total Deposits	0.063	0.008	Yes	0.716	0.846
Reserves & Surplus	0.763	0.008	Yes	0.718	0.847

Source: Data analysis-Authors compilation through SPSS 20.0 version

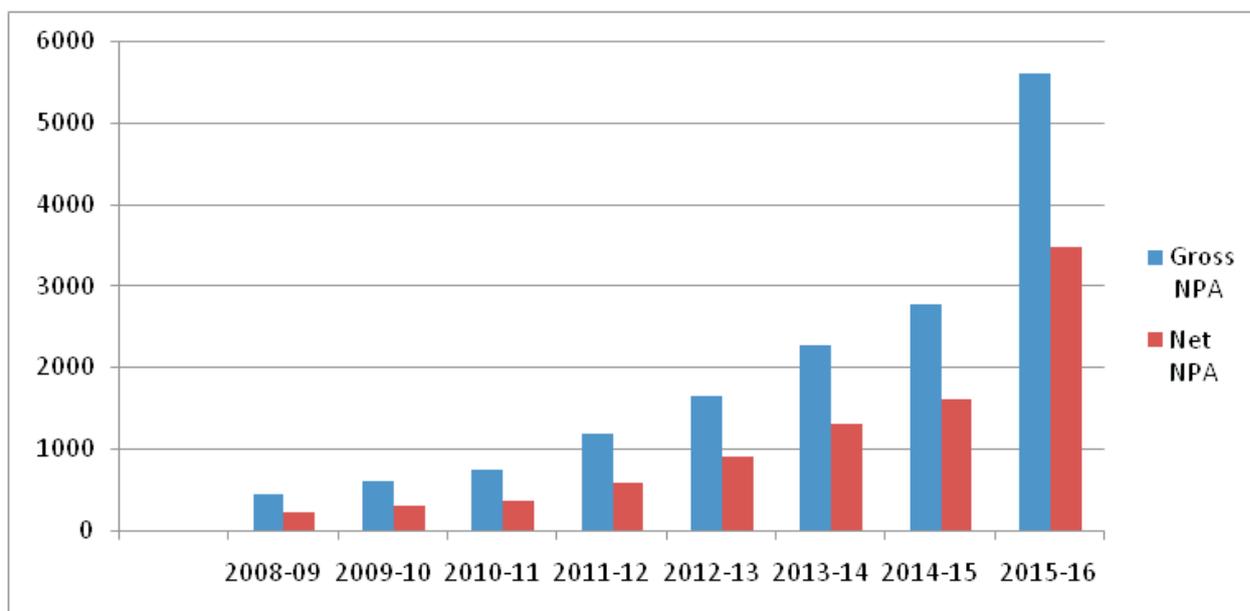
GDP at factor cost has a significant positive correlation with Net NPA of PSU banks ( $r=0.872$ ) it means when GDP increases there is a significant increase in the level of Net NPA during the study period. The value of R-square found 0.761 which indicates that GDP at factor cost is able to determine the variations in the Net NPA up to 76.10 % during the study period which is very significant. Further the regression coefficient is found to be 0.038 with a p-value 0.005 which is less than 0.05, means the null hypothesis rejects over here and we can say that there is a significant impact of GDP at factor cost on Net NPA of PSU banks in India.

Exchange rate is found to be very significantly correlated with Net NPA of PSU banks in India ( $r=0.877$ ), which indicates that when exchange rate increased, Net NPA of Public Sector Banks has also been increased significantly during the study period. The value of R-square was found 0.768, which indicates that exchange rate is able to determine the variations in Net NPA up to 76.80 %. Further, the Regression coefficient was found 119.069 with p-value of 0.004 which is less than 0.05. It means null hypothesis has been rejected and we found a significant impact of exchange rate on Net NPA during the study period.

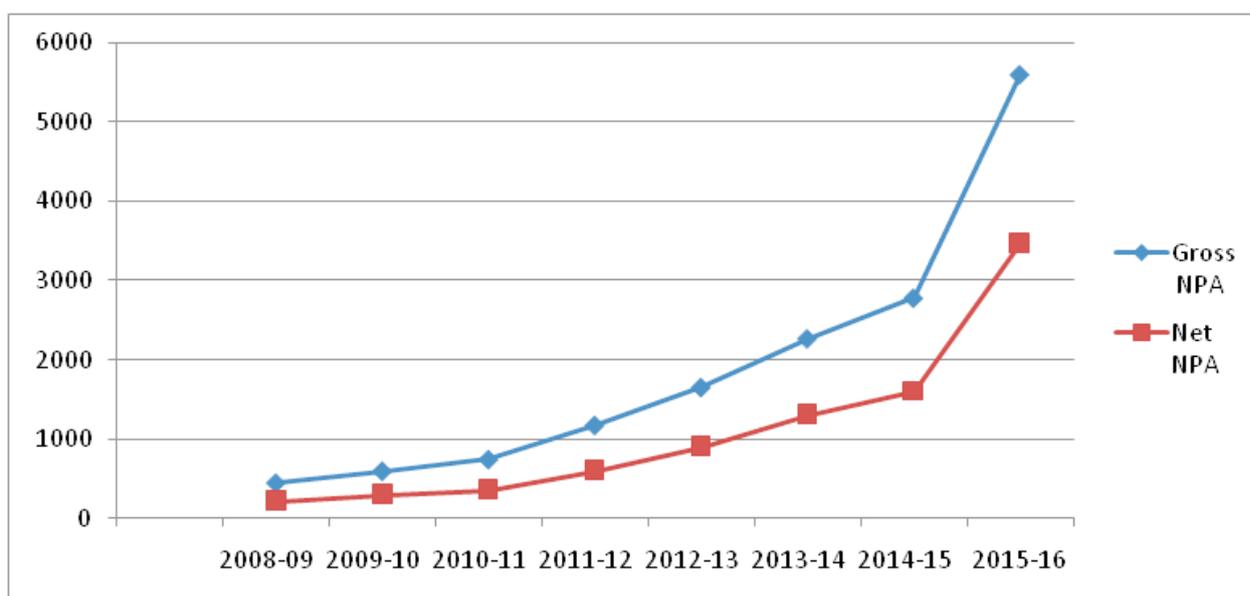
Net Advance has been found significantly correlated with Net NPA during the study period ( $r=0.827$ ). This is an important determinant of NPA. When advance increased, Net NPA also increased with a significant rate. Further value of R-square was 0.684 which indicates Net advance is able to determine the variations in Net NPA up to 68.40 % during the study period. Regression coefficient was 0.07 and p-value was found 0.011 which is very less than 0.05. it indicates that null hypothesis has been rejected over here and we can say that there is a significant impact of Net Advance on Net NPA of PSU Banks India during the study period.

Bank's Total deposits have a significant positive correlation with Net NPA( $r=0.846$ ). Deposits influences advance which is extended by banks to the borrower. Value of R-square was 0.716 which means Bank's Total deposits are able to measure the changes in Net NPA up to 71.6 % which is very high. Regression coefficient was found 0.063 with 0.008 p-value which indicates that null hypothesis is rejected.

Reserves and Surplus do have a significant positive correlation with Net NPA( $r=0.847$ ). Reserves and Surplus influences advance which is granted by banks to the borrower. Value of R-square was 0.718 which means Reserves and Surplus are able to measure the changes in Net NPA up to 71.8 %. Regression coefficient was found 0.763 with 0.008 P-value which indicates that null hypothesis is rejected and we can say that there is a significant impact of reserves and surplus on Net NPA of PSU Banks in India during the study period



Source: Handbook of statistics on Indian economy



Source: Handbook of statistics on Indian economy

The level of Non Performing Assets has shown a steep rise in the study period. Gross NPA was 450 billion as on 31 March 2009 which was significantly increased with average annual growth rate of near about 41 % and become 5608 billion in March 2016. On the other hand Net NPA has shown 47.87 % average annual growth rate during the same period. It is alarming signal to the Public Sector Banks in India. NPA renders negative impact on the profitability of the banks and also badly affects the operational efficiency of the bank.

**FINDINGS**

Macroeconomic and bank specific variables both affects level of NPA in banks. Selected macro economic variables have shown their significant impact on the Non Performing Assets of Public Sector Banks in India. GDP at factor cost has shown a significant positive correlation with Net NPA of Public Sector Banks in India. When GDP increases, demand of loans/advances also increases and bank extended loans to the borrowers. Increasing demand of loans influences the advances granted by banks and at the same time if banks are not

following systematic risk management practices and proper and close pre sanction appraisal and post sanction follow-ups than loan account turns to NPA accounts, thus increasing GDP leads to higher NPA in banks. Increasing exchange rate on the other hand increases exporter's payment obligations in overseas market and reduces borrower's capacity to fulfill his/her domestic repayment potential and consequently leads to higher NPAs.

Bank specific variables also affect the level of NPA in PSU Banks in India. Net Advance has shown a positive significant correlation with Net NPA. Aggressive lending increases the level of advances and consequently the level of NPA also increase. Aggressive lending is to be done by banks either for the fulfillment of socioeconomic objectives or due to political or government intervention for fulfillment of annual credit plans. On the other hand Total bank deposits and reserves and surplus influences banks lending capacity and bank become stronger in lending perspective, consequently banks advances/loan size increases and leads to additions in level of NPA. Public Sector Banks in India must develop and follow cohesive lending policy framework to cope up with the problem of NPA.

## CONCLUSION

Since the commencement of the banking sector reforms in the year 1991, the surroundings for the Banking system of India has been changed considerably. Directives have improved and new regulations has been introduced related to Classification of Assets, Income recognition, norms for provisioning, maintenance of capital adequacy etc to meet the changing environment of banking system of India and with an effort to match the international best practices and standards. The operating environment has changed significantly with better liberty and discretion in deregulation of interest rates and allocation of assets of banks. With the obtainable laws of the banking business in India the private banks both newly established and old private banks and the foreign banks have sharpened their competitive circumference and The Public Sector Banks lessened behind in the competitive edge.

NPA is a virus badly affecting banking system of India. The bad loan problem is associated with the entire banking system of India but its extent is more noteworthy with PSU banks in India. There are several reasons behind mounting NPA, broadly classified as Macroeconomic and Microeconomic or Bank specific variables. Macro economic factors depends on several macroeconomic incidents viz. demand and supply, Inflation, Fiscal deficits etc. Macroeconomic factors are responsible for the economic environment which affects the banking operations and banking activities in an economy. Bank specific variables or Micro economic variables which do reflects the performance and financial soundness of banking system in the country. Non Performing Assets are the major concern for the Public Sector Banks in India. Macroeconomic variables like GDP, Exchange rate etc and bank specific variables such as Net NPA, Reserves and surplus and bank deposits etc are determinants of NPA in PSU Banks in India.

## REFERENCES

1. Gunjan M. Sanjeev (2007) "Bankers „Perception on Causes for Bad Loans in Banks Journal of Management Research Vol 7(1) PP40-46
2. Debarsh and Sukanya (2012) Management of NPA in PSB: Evidence from India, International conference in Management PP750-761
3. Swamy, Vigneswara., 'Impact of Macroeconomic and Endogenous Factors on Non-Performing Banks Assets' (2012): International Journal of Banking and Finance, Volume 9 | Issue 1, Article 2

4. Dr Mahesh U Daru, NPA In Banking Sector: As An Indicator Of Financial inefficiency, International Journal of Research in Finance and Marketing(IJRFM) Vol. 6 Issue 12, December 2016, pp. 132~139 ISSN(o): 2231 - 5985 | Impact Factor: 5.861
5. Usha Arora, Bhavana Vashist and Monica Bansal, “An Analytical Study of Growth of Credit Schemes of Selected Banks”, The Icfai University Journal of Services Marketing, Vol.VII, No.1, 2009, pp.51-65.
6. Bhavani Prasad G.V., “Indian Banking Sector – Trends and Issues”, Journal of Banking Financial Services and Insurance Research, Vol. 1, Issue No. 9, 2011.
7. Shalu Rani, “A study on NPAs with Special reference to SCBs of India”, RMS journal of management & IT, vol. 5th June, 2011, pp. 60-68
8. Siraj. K.K and Prof. (Dr). P. Sudarsanan Pillai, “A Study on the Performance of Non-Performing Assets (NPAs) of Indian Banking During Post Millennium Period” International Journal of Business and Management Tomorrow, Vol. 2 No. 3, March, 2012
9. Rajendran P. and Karthikeyan K., “Impact of NPAs on Micro Banking Variables”, Published in Southern Economist, May 15, 2008, pp.5-8.
10. [www.rbi.org.in](http://www.rbi.org.in)