

Critical analysis of Non-Performing Assets of State Bank of India and Punjab National Bank

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Abstract: Banks are very important to an economy because they pass on the money they receive from their customers. The non-performing assets play an important role in reducing the profits of banks, which ultimately affects the image of the bank and also affects the quality of work of a bank. In the present study, an attempt has been made to study the relationship between gross non-performing assets and advances of State Bank of India and Punjab National Bank and also to study the impact of net non-performing assets of the concerned banks. From the results, it is found that there is a correlation between gross non-performing assets and advances of both banks and it is also found that net non-performing assets affect the profitability of the concerned banks. The present study is limited to only two banks, namely State Bank of India and Punjab National Bank, and is based purely on secondary data collected from various websites, journals and reports of the banks concerned. Twelve years of data, i.e., from 2011 to 2022, were used for the study. The study also recommends that banks should exercise appropriate due diligence in disbursing loans.

Keywords: GNPA, NNPA.

1. Introduction

The quality of assets held by banks and financial institutions is an important indicator of the health of the financial system. High asset quality reflects the level of banks' credit risk and efficiency in allocating resources to productive sectors. Asset quality has deteriorated for both banks and financial institutions, which is a major concern. While credit growth is one of the drivers of economic growth, NPAs are a value destroyer for the economy. The Narasimham Committee report states, "No other indicator reflects asset quality and its impact on bank profitability as well as the NPA figure for loans." Non-performing assets (NPAs) are loans originated by a bank or financial institution, and any interest or loan repayment that is delayed more than 90 days must be identified as a non-performing asset. Non-performing assets are classified as substandard, doubtful and loss-making assets, for which provisions must be made in the lender's books. As per the prudential norms laid down by RBI, income from non-performing assets may not be recognized on accrual basis but only when it is received for these accounts. Any NPA would be a loss item if it is uncollectible or marginally recoverable. Effective March 31, 2016, an asset is classified as doubtful if it

remains in the substandard category for 12 months. Banks must establish the full provision for loss assets, 100 per-cent of the unsecured portion of doubtful assets and 20 to 100 percent of the secured portion, depending on how long the assets have remained doubtful. If the asset has been doubtful for one year, the provision requirement is 25 percent; if it has been doubtful for up to three years, the provision requirement is 40 percent; and if it has been doubtful for more than three years, the provision requirement is 100 per-cent, effective March 31, 2005.

2. Review of Literature

Chatterjee, C., et al. (2012) [4] focused on the causes and consequences of NPAs, policy directives of RBI initiatives of the scenario of NPAs sector-wise and bank group-wise. The study used graphical & tabular analysis to analyze the data. The study concluded that NPAs have negative influence on the capital adequacy level, funds mobilization, and deployment policy, banking system credibility, productivity, etc.

Gurumoorthi, T.R. & Sudha, B. (2012) [12] analyzed the classification of loan assets in PSBs, the composition of NPAs in different sectors, and the NPA position in PSB. The study observed that PSBs exercised stringent control measures to reduce the level of NPAs.

Selvarajan & Vadivalagan (2013) [21] aimed to know about the NPAs level in concerned banks. The study concluded that the performance of the Indian Bank is better than that of the public sector. The study suggests that the Indian Bank must pay special attention to the NPA, besides making recoveries in the existing NPAs

Zafar, et.al (2013) [30] this study tried to examine the emerging trends of NPAs and also tried to analyze the impact of the SARFAESI Act implemented with an amendment. The study revealed that nepotism in project appraisal due to political dearness and some other factors had resulted in the default of many loan accounts. The study finally suggested that if banks wanted to reduce the level of NPAs then a comprehensive preventive monitoring mechanism to explore and has to maintain a sound and healthy loan portfolio.

Uppal, K.R. & Khanna, P. (2014) [28] attempted to find out the factors that affect the loan repayment capacity of bank

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customers. The study used KMO and Bartlett's test measures to determine the appropriateness of applying the factor analysis. The study finally suggested that due diligence and prudence should be used by the loan officers and bank managers before sanctioning loans to their clients.

Das & Dutta (2014) [5] tried to analyze the 6 years net NPA data of 26 public sector banks. The study used ANOVA statistics to analyze the data. The study found out that there is no significant difference between the means of NPA of the banks at five percent level of significance.

Satpal (2014) [20] attempted to know about NPA & the factors contributing to NPAs. The study revealed that the extent of NPA is comparatively very high in public sectors banks as compared to private banks. The study suggested that the bank management should speed up the recovery process of their loans.

Arora, M. & Singh, S. (2015) [2] tried to examine the extent of NPAs in the public and private sector banks under the SHG bank linkage program or to study whether there is a significant difference in NPAs of Public Sector Banks across various regions of India. Statistical tools like ANOVA and t-test were used for the analysis. The study concluded that there has been a continuous increase in the NPA in both public and private commercial banks associated with the SHG linkage program. The study suggested that the banks should pay attention to reduce the NPAs under this scheme as the sustainability of the SHG bank linkage is important for the poor to get rid of the debt traps.

Deepti (2015) [8] tried to assess the NPAs of SBI and their impact on Profitability and to see the relationship between Total Advances. It has been found in the study that the major reason for increased NPA is banks' focal point on the quantitative aspect of achieving targets and less attention being paid towards the qualitative aspect of loan and credit disbursement of money and mismanagement of funds. The study has been analyzed by using tables and coefficient of correlation.

Singh, H. & Tandon, D. (2015) [25] tried to present a comparative view of NPA in the concerned banks and also pointed out the reasons for high levels of NPAs and factors jolting the banks. The study suggested that there is a need to upgrade credit information & creating appropriate provisioning to absorb financial stresses to push public sector banks, investing cycle, and improving infrastructure.

Dasgupta, T. & Dr. Dutta, S. (2015) [6] attempted to portray the picture of gross and net NPA in the Indian banking sector. This study revealed that the extent of NPAs was comparatively high in Public Sectors banks than in private banks. The study suggested that the bank management should speed up the recovery process.

Singh, R.V. (2016) [26] attempted to know the recovery process of NPAs in Commercial Banks in India. The study found out that the problem of recovery was not with small borrowers but the large borrowers and a strict policy must be followed for solving this problem.

Garg, A. (2016) [10] examined the causes of NPA and also tried to examine the impact of NPA on the profitability and

liquidity of Indian Banks. The study finally concluded that the problem of NPA occurred due to the wrong choice of the client.

Shiralashetti, & Poojari (2016) [24] tried to analyze the NPA of Syndicate Bank. The data was analyzed through Mean, Percentage, Regression, Student T-Test, and one-way ANOVA test. The study concluded that NPAs were draining the capital of the banks and weakening their financial strength.

Bardhan, & Mukherjee (2016) [3] examined the role of bank-specific variables in explaining the dynamics of NPAs of Indian Banks. The study applied several Variants of Generalized Method of Moments (GMM) techniques in dynamic models, and it was found that there is significant time persistence of NPAs in the Indian Banking System.

Patel, D.M. (2016) [17] tried to compare the NPA position & tried to measure the efficiency of the Co-operative Banks. The study used Trend analysis and Common size statements to compare the NPA among these banks. The findings of the study revealed that the NPA of Varachha Co-operative bank was lower as compared to other concerned Co-operative banks. The study suggested that adequate preventive measures have to be taken by the banks and banks should continuously monitor loans to identify accounts that have the potential to become NPA.

Laveena, & Guleria, S.K. (2016) [16] tried to discuss the reasons for NPA in the Public Sector and Private Sector Banks in India. The study concluded that the NPA level of the banking system is still at a high compare to the international standards. The study suggested that banks must pay proper attention to the borrower that had come for a loan and analyze his/her financial statements thoroughly to avoid any complications in the future that may lead to NPA.

Sengupta & Vardhan (2017) [22] attempted to do a comparative analysis of the two-banking crisis the one in the late 1990s and one that started in the aftermath of the 2008 Global Financial crisis. The study concluded that the regulatory forbearance doesn't facilitate resolution and can worsen the banking crisis by providing incentives to the banks to defer NPA recognition and delay action.

Pawaskar, R. J. & Mishra M.U. (2017) [18] tried to understand the NPAs sector-wise and also tried to understand the recovery process through various channels. The study used ratio analysis and statistical tools for data analysis and statistical tools for data analysis to analyze the data. The study concluded that the banks need to be proactive in the selection of clients and customers while sanctioning loans.

Yadav, N. (2017) [29] attempted to evaluate the operational performance of the selected PSBs & Private Banks in India. In this study, the descriptive, as well as analytical research methodology, was considered. The study found that Public Sector banks are more efficient than the private sector.

Sharma, P. (2017) [23] attempted to compare analyze and interpret the NPA management from the year 2010-2015. The tools used in the study were the Least square method and ANOVA. The findings of the study revealed that the percentage of Gross NPA to Gross Advances was increasing for Public Banks. It is concluded that the ratio of Gross NPA to Gross advances for Public Sector and Private Sector banks don't have

a significant difference “between” 2010 - 2015.

Pillai, K.R. (2018) [19] Stated in his study that the major reason for stressed loan is nothing other than not maintaining sound principles of credit. To prove this the researcher used ANOVA, Correlation, and Independent T-test in which he found that there is explicit institutional quirkiness among the banks concerned concerning the indicators of relevance. The study suggested that the stress must be identified at an early stage and remedial measures must be taken amicably to solve the issue.

Kadanda, D. & Raj, K. (2018) [15] investigated the extent and growth of NPAs and interbank disparity in NPA management among Public Sector Banks. The study found that the profitability of Public Sector Banks was declining in the post-crisis period and the amount of NPAs had been on the rise.

Dawar, P. & Sharma, P. (2018) [7] examined the difference in NPAs of ICICI Bank and HDFC Bank. The study had been analyzed by using tables and graphs, descriptive statistics, and an independent T-test. The study concluded that HDFC Bank had performed well due to very few amounts had been blocked in form of NPAs.

Devika & Numer (2019) [9] tried to know the NPA trend growth of each bank and the correlation analysis of Net Profit and NPAs of each bank. The study used trend analysis, current ratio, assets on Equity Ratio, and Pearson correlation coefficient analysis to examine the NPA. It was concluded by the study that IndusInd Bank was having positive growth in net profit as well as growth in NPA which was not affecting the banking performance when compared with the other two banks.

Agarwala, N. & Agarwala, V. (2019) [1] tried to discover the contribution of the different banks individually to the NPA in the Industry by looking into its growth pattern from 2010 to 2017. The Geometric Mean has been used as a statistical tool for arriving at the Mean Growth rate of Gross NPAs. The study concluded that nationalized banks and the associate banks of SBI failed to handle the issue of poor loans effectively due to which the growth in such loans has been phenomenally high.

Jha, P. (2019) [14] an effort has been made by the researchers to undertake an inter-bank comparison of NPA between PNB and ICICI Bank. The study concluded that the shareholder's risk ratio is significantly lowered in ICICI bank when compared to PNB Bank.

Syed, A. A. & Tripathi, R. (2020) [27] tried to focus on five macroeconomic variables. The main objective of the study is to investigate the impact of macro-economic variables on NPAs.

The study used the GMM model and the findings showed that macro-economic variables differed for all the categories of banks.

Hafsal *et al.* (2020) [13] attempted to address the concerns regarding the sustainability of the banking sector in India prompted by the recent unintended high level of NPAs. The general two-stage data envelopment analysis of Kao by incorporating NPA as an exogenous output from the first stage, and the empirical results identify an efficiency gap of 16.2 percent due to NPAs in the Indian banking sector for the year 2016. The study documented that the efficiency gap/loss was increased over the years and differed according to the shareholding patterns of the banks.

Gaur, D. & Mohapatra, R. D. (2020) [11] aimed to explore the NPA profitability relationship for the Indian banking sector. The conclusions of the study had been drawn employing a fixed effect and random effect panel regression models. After the required analysis, the study found that a highly negative correlation existed between NPA and the two Profitability measures return on assets, and return on equity. The study revealed that NPA was the major detractor of the banking industry's profits because NPA carried the most negative regression coefficient which was highly significant.

A. Research Gap

From the review of literature, it has been found that many studies have been carried out in relation to NPA of different banks, its consequences, composition, recovery process of NPA and factors affecting loan repayment capacity but no latest study has been conducted for the period of 12 years i.e., 2011-2022 and no relationship of GNPA and NNPA and advances of banks of SBI and PNB has been analyzed.

3. Research Methodology

The data collected for this study came primarily from secondary sources. The data sources for this study include literature published by various authors on the subject and Reserve Bank of India, various magazines, journals, books dealing with the current banking scenario and research papers. The present study is analytical in nature and uses the data from 2011 to 2022 and correlation and regression tools are used for the analysis.

A. Objectives of the Study

1. To determine the relationship between advances and

Table 1
Gross NPA of SBI and PNB as percentage of advances

Year	GNPA (SBI)	Advances (SBI)	GNPA to Advances (%)	GNPA (PNB)	Advances (PNB)	GNPA to Advances (%)
2011	25326.29	756719.45	3.34	4379.39	242106.07	1.80
2012	39676.46	867578.89	4.57	8719.62	293774.76	2.96
2013	51189.39	1045616.55	4.89	13465.79	308725.21	4.36
2014	61605.35	1209828.72	5.09	18880.06	349269.13	5.40
2015	56725.34	1300026.39	4.36	25694.86	380534.40	6.75
2016	98172.80	1463700.42	6.70	55818.33	412325.80	13.53
2017	112342.99	1571078.38	7.15	55370.45	419493.15	13.19
2018	223427.46	1934880.19	11.54	86620.05	433734.72	19.97
2019	172753.60	2185876.92	7.90	78472.70	458249.20	17.12
2020	149091.85	2325289.56	6.41	73478.76	471827.72	15.57
2021	126389.00	2449497.79	5.16	104423.42	674230.08	15.49
2022	112023.37	2733966.59	4.10	92448.42	728185.68	12.69

non-Performing assets of State Bank of India and Punjab National Bank.

- To determine the relationship and impact of Non-Performing Assets on the Profitability of the State Bank of India and Punjab National Bank.

4. Analysis and Results

Table 2
Relationship between GNPA and advances of SBI

Correlations		GNPA SBI	ADVANCES
GNPASBI	Pearson Correlation	1	.735**
	Sig. (2-tailed)		.006
	N	12	12
ADVANCES	Pearson Correlation	.735**	1
	Sig. (2-tailed)	.006	
	N	12	12

** . Correlation is significant at the 0.01 level (2-tailed).

From table 2, it can be observed that there exists a highly positive correlation between Gross Non-Performing Assets and Advances of the State Bank of India. It suggests that as advances increase GNPA also in-creases. So, there is a significant relationship be-tween the GNPA and the Advances of the bank. So, the Null Hypothesis is rejected.

Table 3
Relationship between GNPA and advances of PNB

Correlations		GNPAPNB	ADVANCES
GNPAPNB	Pearson Correlation	1	.878**
	Sig. (2-tailed)		.000
	N	12	12
ADVANCES	Pearson Correlation	.878**	1
	Sig. (2-tailed)	.000	
	N	12	12

** . Correlation is significant at the 0.01 level (2-tailed).

From table 3, it can be observed that there exists a highly positive correlation between Gross Non-Performing Assets and Advances of the Punjab National Bank. It suggests that as advances increase GNPA also increases. So, there is a significant relationship be-tween the GNPA and the Advances of the bank. So, the Null Hypothesis is rejected.

H0 (Null Hypothesis) = There is no significant relationship between the GNPA and the Advances of the PNB bank.

H1 (Alternate Hypothesis) = There is a significant relationship between the GNPA and the Advances of the PNB bank.

Table 5
Relationship between NNPA and advances of SBI

Correlations		NNPA SBI	ADVANCES
GNPASBI	Pearson Correlation	1	.424
	Sig. (2-tailed)		.169
	N	12	12
ADVANCES	Pearson Correlation	.424	1
	Sig. (2-tailed)	.169	
	N	12	12

** . Correlation is not significant at the 0.05 level (2-tailed).

From table 5, it can be observed that there exists a positive but low correlation between Net Non-Performing Assets and Advances of the State Bank of India. It suggests that as advances increase NNPA also increases but at a very slow pace. So, there is no significant relationship between the NNPA and the Advances of the bank. So, the Null Hypothesis is accepted.

H0 (Null Hypothesis) = There is no significant relationship between the NNPA and the Advances of the SBI bank.

H1 (Alternate Hypothesis) = There is a significant relationship between the NNPA and the Advances of the SBI bank.

Table 6
Relationship between NNPA and advances of PNB

Correlations		NNPA PNB	ADVANCES
GNPAPNB	Pearson Correlation	1	.707**
	Sig. (2-tailed)		.010
	N	12	12
ADVANCES	Pearson Correlation	.707**	1
	Sig. (2-tailed)	.010	
	N	12	12

** . Correlation is significant at the 0.05 level (2-tailed).

From table 6, it can be observed that there exists a highly positive correlation between Net Non-Performing Assets and Advances of the Punjab National Bank. It suggests that as advances increase NNPA also in-creases. So, there is a significant relationship be-tween the NNPA and the Advances of the bank. So, the Null Hypothesis is rejected.

H0 (Null Hypothesis) = There is no significant relationship between the NNPA and the Advances of the PNB bank.

H1 (Alternate Hypothesis) = There is a significant relationship between the NNPA and the Advances of the PNB bank.

Table 4
Net NPA of SBI and PNB as percentage of advances amounts in Crores

Year	NNPA (SBI)	Advances	NNPA to Advances (%)	NNPA (PNB)	Advances (PNB)	NNPA to Advances (%)
2011	12346.90	756719.45	1.63	2038.63	242106.07	0.84
2012	15818.85	867578.89	1.82	4454.23	293774.76	1.51
2013	21956.48	1045616.55	2.09	7236.50	308725.21	2.34
2014	31096.07	1209828.72	2.57	9916.99	349269.13	2.83
2015	27590.58	1300026.39	2.12	15396.50	380534.40	4.04
2016	55807.02	1463700.42	3.81	35422.56	412325.80	8.59
2017	58277.38	1571078.38	3.70	32702.10	419493.15	7.79
2018	110854.70	1934880.19	5.72	48684.29	433734.72	11.22
2019	65894.70	2185876.92	3.01	30037.66	458249.20	6.55
2020	51871.30	2325289.56	2.23	27218.90	471827.72	5.76
2021	36809.72	2449497.79	1.50	38575.70	674230.08	5.72
2022	27965.71	2733966.59	1.02	34908.73	728185.68	4.79

Table 7
Net Profit & Net NPA of SBI

YEAR	NET PROFIT (in crores)	NNPA (in crores)
2011	7370.69	12346.90
2012	11713.34	15818.85
2013	14105.32	21956.48
2014	10891.51	31096.07
2015	13101.90	27590.58
2016	9950.98	55807.02
2017	10484.42	58277.38
2018	-12954.83	110854.70
2019	-14216.34	65894.70
2020	-737.94	51871.30
2021	9912.17	36809.72
2022	28075.14	27965.71

The table 8 shows the result of the application of regression analysis for the variables NPA and the profitability of the State Bank of India.

Table 8

Regression result (Impact of net non-performing assets on profitability of the SBI bank)

Bank	R – Value	R-Square	T - Statistics	P-Value
SBI	0.727248	0.528889	-3.350587	.007

The table 8, shows the regression analysis where the dependent variable is the profitability of the State Bank of India and its non-performing assets are the independent variable. The R-value of the bank shows that there is a positive correlation between NPA and profitability. For State Bank of India, the analysis gives an R-squared of 0.528889, which means that about 53 percent of the variation in SBI's profit is explained by NPA. This clearly shows that NPAs affect the profitability of the bank. From the above table, the bank's P-value is less than 0.05, which shows that there is a significant relationship between non-performing assets and bank profitability. Consequently, the null hypothesis (H0) is reject-ed as non-performing assets significantly affect the profitability of State Bank of India at 5 percent level of significance.

From table 9, it can be observed that there exists a highly negative correlation between Net Non-Performing Assets and Net profit of the State Bank of India. It suggests that as NNPA

Table 9

Relationship between Net Profit of SBI and NNPA of SBI

Correlations		Net Profit of SBI	NNPA of SBI
NETPROFIT OF SBI	Pearson Correlation	1	-.727**
	Sig. (2-tailed)		.007
	N	12	12
NNPA OF SBI	Pearson Correlation	-.727**	1
	Sig. (2-tailed)	.007	
	N	12	12

** . Correlation is significant at the 0.05 level (2-tailed).

Table 12

Relationship between Net profit of PNB and NNPA of PNB

Correlations		Net Profit of PNB	NNPA of PNB
Net Profit of PNB	Pearson Correlation	1	-.686**
	Sig. (2-tailed)		.014
	N	12	12
NNPA of PNB	Pearson Correlation	-.686**	1
	Sig. (2-tailed)	.014	
	N	12	12

** . Correlation is significant at the 0.05 level (2-tailed).

increases the Net Profit decreases. So, it shows that NPA does affect the NET Profits of the bank. This suggests that asset quality management of the bank is not up to the mark. So, there is a significant relationship between the net profit and the net non-performing assets of the bank. So, the Null Hypothesis is rejected.

H0 (null hypothesis) = There is no significant relationship between the net profit and the net non-performing assets of the bank.

H1 (alternate hypothesis) = There is a significant relationship between the net profit and the net non-performing assets of the bank.

Table 10

Net Profit & Net NPA of PNB

YEAR	NET PROFIT (in crores)	NET NPA (in crores)
2011	4433.50	2038.63
2012	4884.20	4454.23
2013	4747.67	7236.50
2014	3342.58	9916.99
2015	3061.58	15396.50
2016	-3974.40	35422.56
2017	1324.80	32702.10
2018	-12282.82	48684.29
2019	-9975.49	30037.66
2020	336.19	27218.90
2021	2021.62	38575.70
2022	3456.96	34908.73

Table 11

Regression result (Impact of Net Non- Performing Assets on Profitability of the PNB bank)

Bank	R Value	R – Square	T - Statistics	P-Value
PNB	0.685925	0.470492	-2.981	.01

The table 11 shows the regression analysis where the dependent variable is the profitability of Punjab National Bank and its non-performing assets are the independent variable. The R-value of the bank shows that there is a positive correlation between NPA and profitability. For Punjab National Bank, the analysis yields an R-squared of .470492, which means that 47 percent of PNB's profit variation is explained by NPA. This clearly shows that NPAs have an impact on the profitability of

the bank. From the above table, the bank's P-value is less than 0.05, which shows that there is a significant relationship between non-performing assets and the bank's profitability. Consequently, the null hypothesis (H₀) is rejected as non-performing assets significantly affect the profitability of Punjab National Bank at 5 percent level of significance.

H₀ (null hypothesis) = There is no significant relationship between the net profit and the net non-performing assets of the PNB bank.

H₁ (alternate hypothesis) = There is a significant relationship between the net profit and the net non-performing assets of the PNB bank.

From table 12, it can be observed that there exists a negative correlation between Net Non-Performing Assets and Net profit of the Punjab National Bank. It suggests that as NNPA increases the Net Profit decreases. So, it shows that NPA does affect the NET Profits of the bank. This suggests that asset quality management of the bank is not up to the mark. So, there is a significant relationship between the net profit and the net non-performing assets of the bank. So, the Null Hypothesis is rejected.

H₀ (null hypothesis) = There is no significant relationship between the net profit and the net non-performing assets of the bank.

H₁ (alternate hypothesis) = There is a significant relationship between the net profit and the net non-performing assets of the bank.

5. Conclusion

It is evident from the present study that there exists correlation between Gross Non-Performing Assets and Advances of both the banks, which suggested that as advances increases the Gross Non-Performing Assets (GNPAs) are also increases. Similarly, it is also evident from the study that Non-Performing Assets clearly affects the profitability of the banks. So, banks should maintain proper care while disbursement of loans. Furthermore, the present study is limited to two banks i.e., State Bank of India and Punjab National Bank and only twelve years of data i.e., from 2011 to 2022 is taken into consideration for analysis purpose. So, the future studies can be conducted on other various banks which are working in Indian Economy.

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