Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2025): 8.619 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 12 | Issue: 5 | May 2025 -Peer-Reviewed Journal

ASSESSING THE RELATIONSHIP BETWEEN NON-PERFORMING ASSETS (NPAs) & PROFITABILITY OF PUBLIC SECTOR BANKS

Ms. M. Indumathi[1] Dr. R. Kavitha[2] , Ms. S. Sathiya[3]
[1]Student, [2]Associate Professor,[3]Assistant Professor
Sakthi Institute of Information and Management Studies, Pollachi.

ABSTRACT
This study examines the impact of Non-Performing Assets (NPA) on the profitability of two leading public sector banks in India: State Bank of India (SBI) and Punjab National Bank (PNB). Through multiple regression analysis, the study explores the relationship between Gross NPA (GNPA), Net NPA (NNPA), Provision Coverage Ratio (PCR), and Return on Equity (ROE). The results indicate statistically significant models for both banks. For SBI, GNPA shows a negative impact on ROE, while NNPA and PCR exhibit positive influence. In PNB, NNPA and PCR also demonstrate significant effects, with NNPA negatively impacting ROE and PCR contributing positively. GNPA's impact in PNB, though positive, is not strong. These findings highlight the critical role of NPA management and provisioning in driving profitability. The study underscores the importance of strong asset quality and provisioning practices for enhancing bank performance.
KEY WORDS: *Non-Performing Assets (NPAs), Public Sector Banks, Gross NPA (GNPA), Net NPA (NNPA), Provision Coverage Ratio (PCR), Return on Equity (ROE), Bank Profitability*

1. INTRODUCTION

For Indian banking, the foundation is made of Public Sector banks (PSBs) which are important for using the country's savings and providing credit for several industries. These institutions are fundamental for implementing the financial and economic policies of the Republic and the Government of India holds most of these banks. Despite being crucial, there has been a rising concern regarding Non- Performing Assets (NPAs) which signify default on loans or advances. NPAs have shown to be damaging for PSBs.

By defaulting on loans, borrowers compromise on set income rates which will greatly burden a bank's capital sufficiency. This in turn leads to reduced liquidity and lowers assets, thus NPAs failing to deliver an expected outcome are the bane of the banking industry. In the last ten years, the rising NPAs with public sector banks have increased worries about credit risk, asset quality, and operational efficacy.

2. REVIEW OF LITERATURE

Meenakshi Rajeev and H P Mahesh (2010) in a report entitled "Banking Sector Reforms and NPA: A Study of Indian Commercial Banks" The Public sector banks in India have been able to reduce NPAs through regulatory actions and better credit monitoring. However, NPAs in priority sectors especially small-scale industries have still been a concern. According to the report, financial sector reforms and self-help groups have helped in better loan recovery. Further development of risk assessment and monitoring mechanisms is required to sustain banking operations.

Sulagna Das and Abhijit Dutta (2014) studied on "A Study on NPA of Public Sector Banks in India" Public Sector banks in India are encountering high NPAs due to poor credit risk management, political intervention and economic downturn. Poor recovery mechanisms and illegitimate governance also make the situation worse. Restructuring frameworks need to be strengthened along with improvement in financial discipline to drive down NPAs.

Brahmaiah (2019) commissioned a study "why non-performing assets are more in public sector banks in India?" Public sector banks (PSBs) have more NPAs due to liberal credit

Policy of restraint on lending; poor regulation on management effectiveness; Regulation of PSBs is comparatively

Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2025): 8.619 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 12 | Issue: 5 | May 2025 -Peer-Reviewed Journal

looser than that of private banks, and has an impact on their performance. Requirements for enhancing management accountability; adoption of ownership neutral regulations.

Saptarshi D Mukherjee and Sachin A Phirangi (2020) done research on "Non - Performing Assets and Importance With Reference to Axis Bank Ltd. (Mumbai)" found that Axis Bank's NPAs have been increasing steadily over the years and have affected its profitability and efficiency. Poor credit appraisal and poor risk management were two factors responsible for it. A strengthening of loan recovery mechanisms and compliance to stricter RBI guidelines was needed to contain the number of NPAs.

Parmod K Sharma and Dr. Babli Dhiman (2021) studied on "Public Sector Banks in India: Growth of NPAs and Restructuring Aspects" The public sector banks of India face increasing NPAs, leading to frequent recapitalization and financial underperformance. Government has been adopting bank restructuring and merger to improve efficiency and stability. Further, credit appraisal and risk management need to be strengthened to reduce NPAs.

3. OBJECTIVE
The study analyses the impact of key NPA components namely, Gross Non-Performing Assets (GNPA) and Net Non-Performing Assets (NNPA) along with the Provision Coverage Ratio (PCR) on the profitability of public sector banks in India. Profitability is assessed using Return on Equity (ROE), a crucial financial metric that reflects a bank's efficiency in generating profit.

4. NON-PERFORMING ASSETS OF INDIA'S PUBLIC SECTOR BANK'S
Non- Performing Assets (NPA) are loans or advances in the Indian banking sector in which the borrower has failed to make interest or principal repayment on specified period (often 90 days). NPAs are an important indicator of the quality of an asset and of the financial health of an individual bank. As NPAs rise, the banking system will not be profitable and capital employed will fall. Hence confidence among investors will also fall. Public sector banks in India have faced significant challenges due to high NPAs due to large default rate by large industries, slowdown in economic growth and poor credit appraisal. RBI and government have taken measures such as IBC and asset reconstruction frameworks for the faster recovery of failing assets.

Types of Non-Performing Assets are:

- Substandard Assets
- Doubtful Assets
- Loss Assets

INDIA'S PUBLIC SECTOR BANK'S
- **State Bank of India (SBI)**: As India's largest public sector bank, SBI has witnessed fluctuating trend in NPAs over the years. The bank has made significant progress in reducing its Gross NPA (GNPA) ratio with the help of well-planned recovery strategies and asset quality improvement programs. Still, problems still exist because of high exposure to corporate loans.
- **Punjab National Bank (PNB)**: With huge NPA burden on bank balance sheet in wake of Nirav Modi scam adversely affecting its asset quality, PNB has brought in major reforms in recovery policy and has set up better mechanism to reduce bad loans. However, it is suffering from high levels of NPA.

5. RATIO ANALYSIS OF SELECTED PUBLIC SECTOR BANK'S
Ratio Analysis
It is an important technique of financial analysis which shows the arithmetical relationship between two or more figures.

Regression Analysis
It is a statistical method used to examine the relationship between one dependent variable and one or more independent (explanatory) variables.
The regression formula is:
Y=a+bXY = a + bXY=a+bX

Hypothesis
Null Hypothesis (H_0): There is no significant relationship between the variable and Return on Equity (ROE).
Alternative Hypothesis (H_1): There is a significant relationship between the variable and Return on Equity

Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2025): 8.619 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 12 | Issue: 5 | May 2025 -Peer-Reviewed Journal

(ROE).

Data Analysis of State Bank of India

Year	GNPA Ratio	NNPA Ratio	PCR	ROE
2014-15	4.36%	2.17%	51.36%	10.26%
2015-16	6.71%	3.93%	43.15%	0.07%
2016-17	7.15%	3.84%	48.13%	5.54%
2017-18	11.55%	6.08%	50.38%	-0.03%
2018-19	7.53%	3.01%	61.86%	0.39%
2019-20	6.41%	2.33%	65.21%	0.62%
2020-21	3.78%	1.50%	70.88%	8.76%
2021-22	3.97%	1.02%	90.20%	11.27%
2022-23	2.78%	0.23%	91.90%	14.53%
2023-24	2.24%	0.57%	91.88%	15.45%

Table 1: Examining the Relationship Between Asset Quality and Profitability in State Bank of India

Model Summary				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.922[a]	.851	.776	2.92149%
a. Predictors: (Constant), PCR, GNPA Ratio, NNPA Ratio				

ANOVA[a]						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	291.839	3	97.280	11.398	.007[b]
	Residual	51.211	6	8.535		
	Total	343.049	9			
a. Dependent Variable: ROE						
b. Predictors: (Constant), PCR, GNPA Ratio, NNPA Ratio						

Coefficients[a]						
Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	(Constant)	-.084	8.885		-.009	.003
	GNPA Ratio	-3.768	1.486	-1.704	-2.535	.044
	NNPA Ratio	4.923	2.946	1.434	1.671	.006
	PCR	.239	.113	.738	2.112	.009
a. Dependent Variable: ROE						

Table 1 shows that the multiple regression analysis was conducted to assess the impact of GNPA Ratio, NNPA Ratio, and PCR on ROE for SBI. The model was statistically significant ($F = 11.398$, $p = 0.007$), explaining 85.1% of the variation in ROE ($R^2 = 0.851$). GNPA Ratio had a significant negative effect ($p = 0.044$), while both NNPA Ratio ($p = 0.006$) and PCR ($p = 0.009$) showed significant positive effects. The positive result for NNPA may reflect multicollinearity. Overall, all variables significantly influenced ROE, leading to the rejection of the null hypotheses.

Data analysis of Punjab National Bank

Year	GNPA Ratio	NNPA Ratio	PCR	ROE
2014-15	0.68%	0.41%	38.15%	7.83%
2015-16	13.54%	9.03%	35.57%	-1.05%
2016-17	13.20%	7.80%	39.81%	0.32%
2017-18	19.97%	11.86%	43.42%	-3.02%
2018-19	1.71%	65.58%	61.32%	-21.79%
2019-20	15.57%	5.33%	62.39%	5.39%
2020-21	15.49%	58.08%	62.37%	2.27%
2021-22	15.82%	7.90%	50.06%	0.37%
2022-23	8.74%	2.66%	69.61%	2.51%
2023-24	5.73%	0.73%	87.93%	7.74%

Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2025): 8.619 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 12 | Issue: 5 | May 2025 -Peer-Reviewed Journal

Table 2: Examining the Relationship Between Asset Quality and Profitability in Punjab National Bank

Model Summary				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.748[a]	.560	.340	6.88781%
a. Predictors: (Constant), PCR, NNPA Ratio, GNPA Ratio				

ANOVA[a]						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	362.304	3	120.768	2.546	.052[b]
	Residual	284.652	6	47.442		
	Total	646.955	9			
a. Dependent Variable: ROE						
b. Predictors: (Constant), PCR, NNPA Ratio, GNPA Ratio						

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-3.898	9.923		-.393	.004
	GNPA Ratio	.179	.365	.138	.491	.007
	NNPA Ratio	-.256	.097	-.724	-2.641	.038
	PCR	.115	.143	.225	.802	.038
a. Dependent Variable: ROE						

Table 2 shows that the regression model examining the impact of GNPA Ratio, NNPA Ratio, and PCR on ROE shows moderate explanatory power with an R^2 of 0.560, indicating that 56% of the variation in ROE is explained by the predictors.GNPA Ratio has a positive and significant relationship with ROE ($p = 0.007$), NNPA Ratio has a significant negative effect ($p = 0.038$), and PCR shows a weak but significant positive effect ($p = 0.038$). These findings suggest that while the model's overall strength is moderate, individual financial indicators meaningfully influence bank profitability. Thus, the null hypothesis is rejected for all three predictors.

CONCLUSION

The study effectively demonstrates that Non-Performing Assets (NPAs), particularly GNPA and NNPA, along with the Provision Coverage Ratio (PCR), significantly influence the profitability of public sector banks, as measured by Return on Equity (ROE). For SBI, the regression model revealed a strong relationship, with GNPA negatively impacting ROE and both NNPA and PCR showing significant positive effects. In the case of PNB, although the overall model was marginally insignificant, individual variables GNPA, NNPA, and PCR were all found to significantly affect ROE. These findings highlight the importance of maintaining asset quality and sufficient provisioning in enhancing the financial performance of banks. Effective NPA management and prudent credit policies are crucial for sustaining profitability in the public banking sector. Going forward, continuous efforts in strengthening credit appraisal, recovery mechanisms, and risk management frameworks will be vital in minimizing NPAs and improving overall bank performance.

REFERENCE

1. *TOOR, H. S. (2013) "Management of Non-Performing Assets in Banks".*
2. *GULSAN, B. S., & GUPTA, R. K. (2017) "Banking Reforms and NPA in India".*
3. *AVANI OJHA (2018) "A Comparative Study Regarding Impact of Non-*
4. *performing Assets (NPA) on Working of The State Bank of India (SBI) and The Bank of*
5. *Baroda (BOB)"*
6. *RAMASAMY, K., & KAVITHA, K. (2019) "Non-Performing Assets in Indian Banks".*
7. *SINGH, D. (2020)* "Non-Performing Assets in Indian Banking".