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RESEARCH ARTICLE

"IMPACT OF NPA (NON-PERFORMING ASSETS) ON THE PROFITABILITY PERFORMANCE OF THE SELECTED PUBLIC AND PRIVATE SECTOR BANK"

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Abstract

The banking sector's performance is crucial for any economy as it reflects the country's financial health. Banks play a crucial role in mobilising funds from various sectors of the economy, including both priority and non-priority sectors, to finance diverse economic activities.For many years, the banking industry has faced significant challenges due to unrecovered loans.The presence of Non-Performing Assets (NPAs) has significantly hindered the development and growth of the economy.This study delves into the impact of NPAs on the profitability performance of selected public and private sector banks in India from 2018-19 to 2022-23. Analysing key ratios like Gross NPA, Net NPA, and Return on Assets (ROA), sheds light on the relationship between NPAs and bank performance. The findings highlight higher NPA levels in public sector banks, adversely affecting their profitability. Moreover, a significant correlation between NPAs and profitability underscores the imperative of effective NPA management for enhancing bank profitability. These insights are crucial for bank management, policymakers, and regulators to devise strategies for mitigating NPAs and fortifying the banking sector.

Introduction:-

The banking sector is widely regarded as the backbone of any economy, playing a crucial role in mobilizing savings and channelling them into productive investments. Banks act as intermediaries between savers and borrowers, facilitating the flow of funds to various sectors such as agriculture, manufacturing, infrastructure, and services. However, despite their pivotal role in economic development, banks are not immune to risks and challenges, chief among them being the issue of Non-Performing Assets (NPAs).

NPAs are loans or advances that have ceased to generate income for the bank, typically due to default by the borrower. They represent a significant threat to the stability and efficiency of the banking sector, as they erode banks' profitability, weaken their capital base, and impair their ability to extend credit. Moreover, NPAs can have broader macroeconomic implications, as they undermine investor confidence, dampen credit growth, and impede economic recovery efforts.

In recent years, the problem of NPAs has become particularly acute in countries like India, where both public and private sector banks have been grappling with high levels of NPAs. The Indian banking sector has witnessed a

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significant increase in NPAs, which has raised questions about the sector's ability to support economic growth and development. Against this backdrop, this research seeks to examine the impact of NPAs on the profitability performance of selected public and private sector banks in India. By analysing key financial ratios such as Gross NPA, Net NPA, and Return on Assets (ROA) over the period 2018-19 to 2022-23, the study aims to assess the extent of the NPA problem and its implications for bank profitability. Additionally, the research will explore the factors contributing to the high levels of NPAs in the Indian banking sector and evaluate the effectiveness of measures taken to mitigate the NPA burden.

Non-Performing Assets (NPA):
Non-performing assets (NPA) refer to loans or advances given by banks that have stopped generating income for the bank because the borrower has failed to pay the principal or interest for a certain period, usually 90 days. NPAs are a key indicator of the health of a bank's assets and its ability to manage risk.

Classification of Assets:
In the context of banking, assets are primarily loans and advances that banks extend to their customers. The Reserve Bank of India (RBI) has defined asset classification norms that categorized loans based on their performance:

1. **Standard Assets:** These are loans that are performing well and where the borrower is making regular payments. There is no risk of default, and these assets generate consistent income for the bank.
2. **Sub-standard Assets:** When a loan becomes an NPA, it is first classified as sub-standard. These are assets that have been non-performing for a period less than or equal to 12 months. The risk of loss is higher than in standard assets, but there is a reasonable expectation of recovery.
3. **Doubtful Assets:** If a sub-standard asset remains non-performing for over 12 months, it is classified as doubtful. The chances of recovery for these loans are uncertain, and banks may have to provision more against these assets.
4. **Loss Assets:** These are considered bad loans, where the loss has been identified by the bank or internal or external auditors or the RBI inspection but the amount has not been written off wholly. In other words, these are assets with no realistic prospects of recovery.

Types of NPA:

1. **Gross NPA** refers to the total value of all loan assets classified as Non-Performing Assets (NPAs) according to RBI guidelines as of the balance sheet date. This includes all categories of NPAs, such as sub-standard assets, doubtful assets, and loss assets.

Gross NPA ratio = (Gross NPAs / Gross Advances) ×100

2. **Net NPA**, on the other hand, considers the actual burden faced by banks by deducting the provisions maintained for NPAs from Gross NPAs. This provides a more accurate reflection of the impact of NPAs on the bank.

Net NPAs = Gross NPAs−Provisions
Net NPAs give a clearer picture of the extent of NPAs that are a real burden on thebank, after accounting for provisions set aside to cover potential losses.

Review of Literature:-

(Wadhwa & Ramaswamy, 2020) The study examined the impact of Non-Performing Assets (NPAs) on bank profitability and explored the relationship between NPAs and key financial indicators. Using RBI data, the study analysed five banks with the highest NPAs from 2014-2015 to 2018-2019, employing correlation and multiple regression analyses. Findings revealed higher NPAs in public banks compared to private banks, highlighting the need for proactive NPA management. The study emphasized the complexity of NPA assessment and suggested future research consider a wider range of banks and financial indicators, as well as macroeconomic factors.

(Das & Uppal, 2021) This study examined the impact of Non-Performing Assets (NPAs) on the profitability of Indian commercial banks from 2005 to 2019. Using data from 39 public sector and private banks, the study finds that increasing NPAs has a negative effect on bank profitability. Additionally, operating costs are negatively associated with profitability. The study suggested that banks should focus on reducing NPAs and operating costs to improve profitability.

(Abhani Dhara K, 2017) This paper explored the relationship between Non-Performing Assets (NPA) and profitability in the banking sector, emphasizing how NPAs serve as an indicator of a bank's efficiency. The study focused on five private sector banks and analysed data from 2013 to 2017, the study applied descriptive research tools and t-tests to investigate the impact of NPAs on profitability. Despite efforts to recover loans, NPAs have significantly increased, highlighting a major challenge for banks. The findings confirm a strong negative impact of NPAs on bank profitability and suggest that while eliminating NPAs may not be feasible, effective management and preventive measures can significantly reduce their ratio and improve bank performance.

(Agarwala & Agarwala, 2019) This study analysed the significance of non-performing assets (NPAs) as indicators of the banking sector's health, focusing on the growth patterns of different banks from 2010 to 2017. Specifically, it investigates the contributions of individual banks, including private sector banks, nationalized banks, and the State Bank of India (SBI) and its associates, to the NPA levels within the industry. The study is based on secondary data, collected from the annual reports of the banks. The study employed geometric mean used to calculate the mean growth rate of gross NPAs for each bank. The findings indicated that private sector banks generally exhibit lower NPA growth rates compared to nationalized banks and SBI associates, suggesting a more effective management of poor loans. Conversely, nationalized banks and SBI associates struggle with high NPA growth due to the ineffective handling of poor loans. This research provides valuable insights into the banking sector post-financial crisis and offers useful information for investors concerned about bank profitability and prospects.

(Swamy, 2017) This paper examined the determinants of default risk and profitability in banks in emerging economies using panel data from 1997 to 2009. Contrary to common beliefs, the study finds that priority sector credit and rural branches do not significantly affect Non-Performing Assets (NPAs), challenging prevailing assumptions. It also revealed that bad debts are more influenced by industry performance than other sectors of the economy. Public sector banks are effective in managing bad debts, while private banks show stability due to better risk management and technology. Additionally, the study concluded that capital adequacy and investment activity significantly impact profitability, but asset size does not. These findings provide new insights into risk and profitability in emerging market banks, highlighting the importance of effective risk management and investment strategies.

(Bondu, 2022) The paper examined the impact of Non-Performing Assets (NPAs) on the profitability of public and private sector banks in India. For this purpose, select four banks - two public sector banks (State Bank of India and Canara Bank) and two private sector banks (Axis Bank and Kotak Mahindra Bank) over five years (2017-2021). The data collected from the Money Control website, RBI, and official bank websites, includes metrics such as Gross NPA %, Net NPA %, Net profit, Net NPA, and Return on Assets (ROA) %. Statistical analyses, specifically mean and correlation coefficients, are utilized to assess the influence of NPAs on the bank's profitability and to compare NPA levels between public and private sector banks. The study finds that public banks are more affected by NPAs than private banks and alsohighlights the importance of effective NPA management and its impact on the overall economy.

Objective of the Study:-

1. To analyse the impact of Non-Performing Assets (NPAs) on the profitability performance of selected public and private sector banks in India.
2. To assess the trend of NPAs, Gross NPA ratio, Net NPA ratio, and Return on Assets (ROA) of the selected banks over the period 2018-19 to 2022-23.
3. To compare the levels of NPAs and profitability performance between public and private sector banks.
4. To assess the effectiveness of NPA management strategies in improving bank profitability.

Hypothesis of the Study:

H_{01}: There is no significant impact of Non-Performing Assets on the profitability performance of selected public and private sector banks in India.

H_{02}: There is no significant correlation between Gross NPA, Net NPA, and ROA ratios in the selected banks.

Limitation of the Study:

1. The study focuses on selected public and private sector Banks.
2. The analysis of the study is limited to the five years of 2018-19 to 2022-23.
3. The study is based on secondary data and the data has been collected from the annual reports.

4. The study analyses the limited set of variables.

Research Methodology:-

Nature of Study:
The present study is descriptive & analytical and it is based on secondary data. For this purpose, Select Five Public Sector Bank i.e. SBI, PNB, CANARA BANK, BOB, BOI and Five Private Sector Bank i.e. HDFC, ICICI, AXIS BANK, KOTAK MAHENDRA BANK, YES BANK.

Data Collection:
The data has been collected from the annual reports of the selected Public and Private Sector Bank.

Period of the Study:
The duration of the study is five financial years from 2018-19 to 2022-23.

Variables used for analysis:
In this study, Gross NPA and Net NPA as Independent Variable and Return on Assets (ROA) is a dependent Variable.(Pandey, Kumar, & Gupta, 2021)According to this ROA is a measure that indicates how effectively a company generates profit from its assets.
ROA = Net Income /Total Assets

Tools used for Analysis:
Ratio Analysis, Mean, and Correlation and Regression tests have been used for data analysis.

Data Analysis and Interpretation:
Table 1:- Descriptive Statistics of the Public and Private Sector Banks.

	N	Mean		Standard Deviation	
		Public Sector Bank	Private Sector Bank	Public Sector Bank	Private Sector Bank
Return on Assets	25	.1960	.9780	.51414	1.60614
Gross NPA	25	9.1284	4.3628	3.82224	4.50466
Net NPA	25	3.2324	1.4696	1.67945	1.51172

In the above table 1 descriptive statistics for both the banks private and public sector banks. Analysis shows the Return on Assets (ROA), Gross NPA, and Net NPA for Public and Private Sector Banks.

Return on Assets (ROA):
1. The mean ROA for Public Sector Banks is 0.1960, with a standard deviation of 0.9780.
2. The mean ROA for Private Sector Banks is 0.51414, with a standard deviation of 1.60614. On average, Private Sector Banks have a higher ROA compared to Public Sector Banks.

Gross NPA:
1. The mean gross NPA for Public Sector Banks is 9.1284, with a standard deviation of 3.82224.
2. The mean gross NPA for Private Sector Banks is 4.3628, with a standard deviation of 4.50466. On average, PublicSector Banks have a higher gross NPA compared to Private Sector Banks.

Net NPA:
1. The mean net NPA for Public Sector Banks is 3.2324, with a standard deviation of 1.67945.
2. The mean net NPA for Private Sector Banks is 1.4696, with a standard deviation of 1.51172. Similar to gross NPA, Public Sector Banks have a higher net NPA on average compared to Private Sector Banks.

Overall, the descriptive statistics suggest that Private Sector Banks tend to have higher ROA and lower NPAs (both gross and net) compared to Public Sector Banks.

Correlation Matrix:
Correlation Co-efficient Matrix Public Sector Bank
Table 2:-

	ROA	**GROSS NPA**	**NET NPA**
ROA	1		
GROSS NPA	-.785	1	
NET NPA	-.811	.861	1

In above table 2, the values -0.785 for ROA and Gross NPA and -0.811 for ROA and Net NPA are considered strong negative correlations. This indicates a significant negative association between these variables. ROA has a negative correlation with both Gross NPA and Net NPA. This means there's a tendency for ROA to decrease as NPAs increase. In other words, higher levels of non-performing assets lead to lower bank profitability. The correlation between Gross NPA and Net NPA is 0.861, which is a strong positive correlation. This implies that Gross NPA and Net NPA tend to move in the same direction.

Correlation Co-efficient Matrix Private Sector Bank
Table 3:-

	ROA	**GROSS NPA**	**NET NPA**
ROA	1		
GROSS NPA	-.826	1	
NET NPA	-.789	.969	1

In Table 3, the private sector bank correlation matrix shows ROA has a strong negative correlation with both Gross NPA (-0.826) and Net NPA (-0.789). This indicates that as non-performing assets (NPAs) increase, profitability (ROA) tends to decrease for private sector banks. Gross NPA and Net NPA have a strong positive correlation (0.969). This implies that banks with higher gross NPAs also tend to have higher Net NPAs.

Regression Analysis:
Public Sector Bank:

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.828[a]	.686	.658	.30078
a. Predictors: (Constant), NET NPA, Gross NPA				
b. Dependent Variable: Return on Assets				

In Table 4, the Regression analysis of the value of R squared 0.686 indicates that 68.6% of the variation in ROA can be explained by the Predictor (Net NPA and Gross NPA) and adjusted R-squared value 0.658is a more accurate estimate of the model's explanatory power, considering the number of variables. The std. error of the estimated value 0.30078 represents the average difference between predicted and actual ROA values.

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.354	2	2.177	24.064	.000[b]
	Residual	1.990	22	.090		
	Total	6.344	24			
a. Dependent Variable: Return on Assets						
b. Predictors: (Constant), NET NPA, Gross NPA						

In this table, the ANOVA analysis test explained the F-value is 24.064 is high with a P-value is less than 0.05 rejecting the null hypothesis, indicating that the model significantly explains the variation in ROA

Private Sector Bank:

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.828[a]	.685	.657	.94133
a. Predictors: (Constant), Net NPA Ratio, Gross NPA Ratio				
b. Dependent Variable: Return on Assets				

In this table, the correlation coefficient (R) is 0.828. This indicates a strong positive correlation between the predicted ROA from the model and the actual ROA values. The R-squared value is 0.685. This means that 68.5% of the variation in ROA can be explained by the model (considering Net NPA Ratio and Gross NPA Ratio). The adjusted R-squared value (0.657) is slightly lower. **Std. Error of the Estimate** value (0.94133) represents the average difference between the predicted ROA values from the model and the actual ROA values

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	42.418	2	21.209	23.935	.000[b]
	Residual	19.494	22	.886		
	Total	61.912	24			
a. Dependent Variable: Return on Assets						
b. Predictors: (Constant), Net NPA Ratio, Gross NPA Ratio						

In this ANOVA Analysis table F-statistic (23.935) and Sig. (0.000b): This test statistic (F) and its significance level (Sig.) indicate that the model statistically explains a significant portion of the variance in ROA (p-value < 0.05) rejecting the null hypothesis and accepting the alternate hypothesis having a significant relationship between the gross NPA and Net NPA to the ROA.

Conclusion:-

Based on the analysis provided, the study likely concludes that Non-Performing Assets (NPAs) have a significant negative impact on the profitability of both Public and Private Sector Banks in India. Here's a summary of the key findings:

- **Correlation Analysis:** There's a strong negative correlation between ROA (Return on Assets) and both Gross NPA and Net NPA for both sectors. This indicates that higher levels of NPAs lead to lower bank profitability.
- **Regression Analysis:** The regression models for both Public and Private Sector Banks show that Net NPA Ratio and Gross NPA Ratio are significant factors influencing ROA. The models explain a good portion of the variation in ROA.
- **Public vs. Private Sector Banks:** While the impact of NPAs is negative for both sectors, the model for Private Sector Banks seems to have a slightly less precise fit compared to Public Sector Banks. This suggests that there might be other relevant factors affecting profitability in Private Banks that are not captured by this model.

The study likely emphasizes that managing NPAs effectively is crucial for the financial health and profitability of both Public and Private Sector Banks in India. Lower NPAs are associated with higher ROA, highlighting the importance of sound credit risk management practices.

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Annexure:

Gross NPA Ratio of the Public Sector and Private Sector Banks

YEAR	**SBI**	**PNB**	**CANARA BANK**	**BOB**	**BOI**	**HDFC**	**ICICI**	**AXIS BANK**	**KOTAK MAHENDRA**	**YES BANK**

									BANK	
2018-19	7.53	15.50	8.83	9.61	15.84	1.35	7.38	5.31	2.15	3.22
2019-20	6.15	14.21	8.04	9.40	14.78	1.25	6.04	4.52	2.25	16.80
2020-21	4.98	14.12	8.93	8.87	13.77	1.31	5.33	3.54	1.31	15.41
2021-22	3.97	11.78	7.34	6.61	9.98	1.17	3.76	2.57	2.34	13.93
2022-23	2.78	8.74	5.35	3.79	7.31	1.12	1.12	1.98	1.78	2.13

Sources: Annual Report of the selected banks

Net NPA Ratio of the Public Sector and Private Sector Banks

YEAR	SBI	PNB	CANARA BANK	BOB	BOI	HDFC	ICICI	AXIS BANK	KOTAK MAHENDRA BANK	YES BANK
2018-19	3.01	6.56	5.37	3.33	5.61	0.39	2.29	2.2	0.75	1.86
2019-20	2.23	5.78	4.22	3.13	3.88	0.36	1.54	1.62	0.71	5.03
2020-21	1.50	5.73	3.82	3.09	3.35	0.4	1.24	1.06	1.21	5.88
2021-22	1.02	4.8	2.65	1.72	2.34	0.32	0.81	0.67	1.21	4.53
2022-23	0.67	2.72	1.73	0.89	1.66	0.27	0.51	0.41	0.64	0.83

Sources: Annual Report of the selected banks

Return on Assets Ratio of the Public Sector and Private Sector Banks

YEAR	SBI	PNB	CANARA BANK	BOB	BOI	HDFC	ICICI	AXIS BANK	KOTAK MAHENDRA BANK	YES BANK
2018-19	0.02	-1.25	0.06	0.06	-0.84	1.9	0.39	0.63	1.69	0.52
2019-20	0.38	0.04	-0.32	0.06	-0.43	2.01	0.81	0.2	1.87	-5.39
2020-21	0.48	0.15	0.23	0.07	0.28	1.97	1.42	0.7	1.85	-1.43
2021-22	0.67	0.26	0.48	0.6	0.43	2.03	1.84	1.21	2.13	0.4
2022-23	0.96	0.18	0.81	1.03	0.49	2.07	2.16	0.8	2.47	0.2

Sources: Annual Report of the selected banks