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DIMENSIONS, STATUS AND IMPACT OF NON-PERFORMING ASSETS (A COMPARATIVE STUDY CONCERNING ALL PUBLIC SECTOR, PRIVATE SECTOR AND FOREIGN BANKS IN INDIA)

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ABSTRACT:
Banks play a crucial, functional and dynamic role in every nation's economy at a greater extent as a financial intermediary. Indian banking sector also contributes to the economic growth and development of the country. Banks channelize the funds from surplus units to deficit units for productive purposes also helps the government in formulating financial policies. The traditional activities of a bank were lending and borrowing money but due to many factors banking sector have been extending its operations and involving in all sorts of modern financial services depending upon socio-economic conditions of an economy. Therefore, the banking sector can be considered as high-priority constituent in Indian financial service sector. But during the post-reforms period, Indian banking industry had witnessed decline in operational efficiency and that led to decrease in profitability, productivity and efficiency due to several reasons. Some specific reasons may be considered as foreign direct investment, various credit programs and credit sanctioning policies, mechanisms etc. and due to these banks' efficiency was deteriorated. Because of all these reasons banks affected the cost side and health of banks, and the most alarming issue was quality of assets. To address this, issue several reforms were formulated and implemented but still this problem of Non-performing assets (NPAs) not completely resolved. Banking reforms formulated prudential norms focusing on asset classification, income recognition and provisioning in order to improve the efficiency of the banks. NPAs became a significant area of concern for the banking sector. As of 31st March 2018, gross NPAs stood at Rs. 10.35 lakh crores, out of which 85% arises by the loans assets given by public sector banks and expecting rise in the volume of NPAs in the years to come. Due to changing dynamics of the business environment, it is very essential to make a periodic assessment of NPAs to know the exact reasons and there is a need for re-engineering the banks. Keeping this present scenario into account, this research paper has been made an attempt to examine the status of NPAs and its impact on operational efficiency and profitability by considering all public sector, private sector banks and foreign banks established in India, based on statistics during the post-millennium period. This paper considers the aggregate data of the three sectors banks in order to examine the differences between three groups of banks with regard to NPA management from the financial year 2007-08 to 2018-19.

Introduction:

Indian banking sector can be considered as a primary vehicle for economic growth and development of Indian economy. Banks play a crucial role in disbursement of surplus funds to the deficit sector for the purpose of productive use of the funds. The major portion of financial sector activities are largely from commercial banks as banks act as a

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financial intermediary to cater the requirements of the individual to corporates. It even supports governments of India and RBI in formulation and implementation of financial policies and reforms. Therefore, the nation's economic development is significantly dependent on the effectiveness of the banking system. The Indian banking sector major role is financial intermediation, credit channel and also extends its support as facilitator for payments. These primary activities of commercial banks help in generation of income in the form of interests on loans and advances. And their costs, along with the incomes and benefits. But there was a steep shrink in the productivity and performance of banks due to various reasons during the post-reform period. The bank's asset quality deteriorated and it impacted very badly the operational efficiency of the banks especially public sector banks income and cost side. Many reforms have been taking place since 1992 to till date for effective management of loan assets and to improve the profitability and productivity of the banks. As per the statistics of the banking sector, there was a considerable change in the volume of NPAs but this problem is still alarming to take careful and effective measures to reduce the levels of NPAs.

Review of Literature:

The research studies indicate that there were many studies carried out on performance of banks, Non-performing assets trends and management of NPAs. Following is the literature review of a few works performed on the causes, reasons, effects of NPAs, and management practices conducted by commercial Banks in India. Various studies on non-performing assets in the public sector and private sector banks have shown similar findings regarding the causes for NPAs. Reviews by Gerlach, S., Peng, W. & Shu, C. (2005), Narula and Singla (2014), Ganesh Chawla et. Al., 2020) found that NPAs there was a significant increase in NPAs as there was no proper lending structure and no application of technology to complete the process quickly, mismanagement and country's low HDI scores. Studies by Kaur and Saddy (2011), Srinivas K T (2013), Arora and Ostwal (2014), Jaslene Kaur Bawa et. al., (2019), Selvarajan and Vadivalagan (2013), Mehta et. al., (2020) emphasized mismanagement of Fund has led to the deterioration of financial positions. These studies also found that the NPAs affect a bank's profitability, asset growth, and total liabilities ratio to total assets. In private banks, recovery management is better as compared to public sector banks. The majority of the personal sector banks issue high-risk loans and are the reason for high NPAs. Arora, N. (2018), Gaur & Mohapatra (2020) discussed the implication of public sector banks' lending practices, especially the compulsory nature of priority sector lending, for non-performing assets. According to the findings of the studies of Meenakshi and Mahesh (2010), Hosmani and Hudagi (2011), Olekar and Talawar (2012), Roman and Danuletiu (2013), Sikdar and Makkad (2013), NPA in the priority sector is higher than non – priority sector. Studies highlighted the role of joint liability groups (JLGs) and self-help groups (SHGs) in enhancing the loan recovery rate. Majorly these studies recognized the need for proper credit risk assessment and recommended proper recovery management. Cowley and Cummins (2005), Jain (2007), Vallabh, Bhatia, and Mishra (2013) highlighted the need

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for draconian act SARFASI and prudential norms for risk management of financial market products and problems like NPAs in all the banks in India.

Statement of the problem:

The problem of NPAs in the banking sector was first released in India only in the early 90's. Thereafter many steps were taken to solve the issue of existing NPAs and in this process several committees like Narasimham Committee and Verma Committee. were formulated to make suggestions for effective management of NPAs. These committees made an attempt to reduce the NPAs in the balance sheets of banks and also helped in reducing the level of NPAs. but unfortunately these reforms failed to address the problem completely, may be lack of systematic and evaluation process of NPAs, unanimity in the policies, no consistency in the application of norms etc. Therefore, NPAs became an ongoing problem of the banking sector even today. Therefore, a periodical assessment of NPAs and its related issues from time to time is very essential to understand the effectiveness of various measures designed and implemented to improve the reduction in the volume of NPAS. such assessments definitely help in understanding the rigor of the problem and also to improvise the existing mechanism. Even though the nature of the problem is the same with all the banks but magnitude and impact of NPAs are likely to differ from one bank to another, especially private sector banks to public sector and foreign banks. So it requires specific remedial measures as per the intensity of the problem. This can be possible only when there is a periodical assessment in various banks. In this background, the present study has attempted to compare the Indian Public sector, Private sector, and foreign banks NPAs magnitude, current status, management practices and impact on bank's operational performance.

Objectives of the study:

The comparative study on NPAs of Indian banks and foreign banks is carried out with the following objectives:

- To examine the business and operational efficiency of all the Public, Private and Foreign Banks in India.
- To study the status, trends, and movement of Non-performing assets of public, private, and foreign banks for ten years.
- To examine the impact of Non-performing assets on the performance of Indian banks and foreign banks.

Hypotheses of the study:

Ho_1: There is no significant difference in the operational efficiency among Public, Private and Foreign banks

Ho_2: There is no significant difference in the management of NPAs between Indian banks and foreign banks

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$Ho_{3:}$ There is no impact of the NPAs on the performance of the Indian and foreign banks

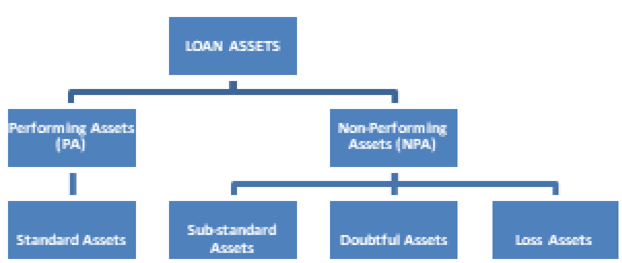
Methodology:

The present study is developed to be a descriptive study with appropriate analytical discussions in tune with the proposed objectives. The secondary data has been obtained for ten years starting from 2007-08 (the year in which global recession erupted due to ill practices of financial institutions) to 2018-19, The data was drawn from the official website of Reserve Bank of India including publications and Annual reports of RBI. The data obtained has been analyzed using financial ratios like percentages, averages, and appropriate statistical measures/ techniques like One-way ANOVA to determine the significance of the difference in standards among three groups of banks, multiple regression analysis to measure the impact of NPAs on the efficiency of the banks. The reference period is from 2007-08 to 2018-19 i.e. 12 years.

Theoretical Background about NPAs

The banking sector in India plays a very important role in economic development of India as it contributes significantly. The traditional activity of the banking sector was confined to lending and borrowing funds but due to various factors, the banking sector extended its operations into various financial services. However, success always depends upon efficient management of funds and this depends upon operational efficiency of the banks. Trends and progress of Indian Banking sector indicates that the banking sector has been suffering with Non-Performing Assets (NPAs) and this concept was introduced in the year 1990 by Narasimham Committee. And banks witnessed NPAs impact on profitability and efficiency. Therefore, several recommendations were made in order to reduce the level of NPAs and in this process banks' loans and advances are categorized into performing and non-performing assets. Further, recommendations were made on asset recognition, provisioning against loans and advances which were already proved as bad. Asset classification is one important aspect which helps the banking sector in order to manage loans and advances. The Reserve Bank of India, issued specific guidelines on credit facility and prudential accounting norms. Depending on the credit weaknesses and collateral security norms loan assets were classified as follows:

Chart 1 - Classification of Loans



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Results and Discussions:

FINANCIAL PERFORMANCE OF BANKS:

The set up banking system in India is totally different as the motto was some social and economic objective rather profitability alone. Therefore, it is truly unfair if the performance of the banks has been conducted based on profitability of the banks. So, the following indicators have been selected to assess the Indian public, private, and foreign banks' operational efficiency and performance during the 12 years of the period starting from 2007-08 to 2018-19.

1. Gross Return on Total Assets (GRTA)
2. Net Return on Total Assets (NRTA)
3. Interest Income as the Percentage of Total Assets (IITA)
4. Interest Expended as the percentage of Total Assets (IETA)
5. Net Interest Income or Margin (Spread) as the percentage of Total Assets (NIMTA)
6. Other Income as the percentage of Total Assets (OITA)
7. Return on Equity (ROE)
8. Capital Adequacy Ratio (CAR)

Table:1 PERFORMANCE INDICATORS OF PUBLIC, PRIVATE AND FOREIGN BANKS

(Values in percentages)

Banks	Performance Indicators	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
All Public Sector Banks	GPTA	1.84	1.96	1.87	2.05	2.05	1.87	1.71	1.7	1.51	1.68	1.57	1.51
All Private Sector Banks		2.28	2.46	2.68	2.58	2.51	2.64	2.79	2.86	2.92	3.02	2.82	2.55
All Foreign Banks		4.4	4.97	3.7	3.52	3.44	3.33	3.28	3.36	3.13	3.27	2.86	2.78
All Public Sector Banks	NPTA	1	1.03	0.97	0.96	0.88	0.8	0.5	0.46	-0.07	-1.1	-0.84	-0.65
All Private Sector Banks		1.13	1.13	1.28	1.43	1.53	1.63	1.65	1.68	1.5	1.3	1.14	0.63
All Foreign Banks		2.09	1.99	1.26	1.75	1.76	1.92	1.54	1.84	1.45	1.62	1.34	1.56
All Public Sector Banks	IITA	7.8	8.05	7.46	7.52	8.55	8.54	8.31	8.12	7.74	6.2	6.68	6.87
All Private Sector Banks		8.42	8.65	7.6	7.59	8.71	9.04	8.9	8.81	8.63	8.27	7.73	7.92
All Foreign Banks		7.65	7.49	5.99	6.15	6.67	6.89	6.6	6.71	6.67	6.33	5.96	5.77
All Public Sector Banks	IETA	5.97	6.26	6.57	5.12	6.36	6.63	6.47	6.43	6.19	5.7	5.12	5.01

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All Private Sector Banks		6.47	6.6	6.58	4.97	6.43	6.72	6.4	6.39	6.08	5.59	4.94	5.14
All Foreign Banks		4.2	4.58	2.78	3.3	4.34	4.67	4.78	4.61	4.46	4.21	3.85	3.79
All Public Sector Banks	**NIMTA**	2.25	2.35	2.29	2.77	2.57	2.45	2.35	2.23	2.12	2.12	2.08	2.33
All Private Sector Banks		2.67	2.86	2.9	3.1	3.09	3.22	3.31	3.37	3.41	3.38	3.32	3.27
All Foreign Banks		4.33	4.33	3.96	3.86	3.89	3.83	3.54	3.54	3.59	3.41	3.43	3.23
All Public Sector Banks	**OITA**	1.2	1.25	1.19	0.99	0.89	0.87	0.87	0.91	0.92	1.2	1.16	0.95
All Private Sector Banks		2.02	1.82	1.87	1.64	1.62	1.62	1.67	1.72	1.73	1.88	1.69	1.48
All Foreign Banks		3.32	3.68	2.26	2.38	2.02	1.83	1.95	1.99	1.6	1.95	1.55	1.48
All Public Sector Banks	**ROE**	17.13	17.94	17.47	16.9	15.33	13.24	8.48	7.76	3.42	2.05	-14.62	-11.4
All Private Sector Banks		13.43	11.38	11.94	13.7	15.25	16.46	16.2	15.7	13.81	11.87	10.12	5.45
All Foreign Banks		16.05	13.75	7.34	10.26	10.79	11.53	9.03	10.2	8	9.12	7.16	8.77
All Public Sector Banks	**CAR**	12.5	12.3	13.3	13.1	14.1	11.31	11.3	11.2	11.8	12.1	11.7	12.2
All Private Sector Banks		14.4	15.1	17.5	16.5	16.3	15.1	15.4	15.3	15.7	15.7	16.4	16.1
All Foreign Banks		13.1	14.9	17.26	16.97	16.75	18.76	17.3	17.4	17.1	18.7	19.1	19.4

(Source: Statistical tables relating to Banks in India, RBI)

Statistical Analysis:

Table 2 - ANOVA Test Results of Public, Private and Foreign Sector Banks

Sl. No.	Parameter	Pooled Standard Deviation	One way ANOVA p-value <α	Null Hypothesis Accept/Reject
1.	GPTA	0.394716	0.000	Reject
2.	NPTA	0.510280	0.000	Reject
3.	IITA	0.625238	0.000	Reject
4.	IETA	0.629534	0.000	Reject
5.	NIMTA	0.276820	0.000	Reject
6.	OITA	0.411784	0.000	Reject
7.	ROE	6.87625	0.000	Reject
8.	CAR	1.25372	0.000	Reject

The null hypothesis is formulated on all three groups' performance, indicating no significant difference between the groups in terms of operational efficiency and

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profitability. The ANOVA test was applied to examine whether the mean scores of all the parameters considered among three groups, statistically the same or different. Some parameters indicate that there is no significant difference in the means of the three groups considered for the study, and some parameters reflected that there is a significant difference between means of public, private, and foreign sector banks. Since the mean score of all the three groups is significantly different in some aspects, further conducted Tukey's simultaneous tests for differences of means to find which specific pair of groups means significantly different and also by how much they are different.

As per the Tukey Simultaneous test, if groups share a common alphabet letter indicate that there is no significant difference between those two groups, and if they do not share a letter, there is a considerable difference. All the factors considered for analysis are summarized below as per the statistical products of each parameter. The null hypothesis has been rejected as there is a significant difference among the three groups of banks considered for the study, and an alternative hypothesis is accepted.

Table:3 Tukey Simultaneous Tests for Differences of Means

Groups	Parameter	Mean	Difference of levels	P-Value	Results
All Foreign banks	GPTA	3.503	All Private - All Public s	0.000	Significant
All Private sector banks		2.6758	All Foreign - All Public s	0.000	Significant
All Public sector banks		1.7767	All Foreign - All Private	0.000	Significant
All Foreign banks	NPTA	8.356	All Private - All Public s	0.025	Significant
All Private sector banks		7.653	All Foreign - All Public s	0.001	Significant
All Public sector banks		6.573	All Foreign - All Private	0.000	Significant
All Foreign banks	IITA	1.6767	All Private - All Public s	0.000	Significant
All Private sector banks		1.3358	All Foreign - All Public s	0.000	Significant
All Public sector banks		0.328	All Foreign - All Private	0.245	Not significant
All Foreign banks	IETA	6.026	All Private - All Public s	0.987	Not significant
All Private sector banks		5.986	All Foreign - All Public s	0.000	Significant
All Public sector banks		4.132	All Foreign - All Private	0.000	Significant

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All Foreign banks	NIIM	3.745	All Private - All Public s	0.000	Significant
All Private sector banks		3.1583	All Foreign - All Public s	0.000	Significant
All Public sector banks		2.3792	All Foreign - All Private	0.000	Significant
All Foreign banks	OITA	2.167	All Private - All Public s	0.001	Significant
All Private sector banks		1.7300	All Foreign - All Public s	0.000	Significant
All Public sector banks		1.0333	All Foreign - All Private	0.036	Significant
All Foreign banks	ROE	12.947	All Private - All Public s	0.175	Not significant
All Private sector banks		10.170	All Foreign - All Public s	0.680	Not significant
All Public sector banks		7.80	All Foreign - All Private	0.589	Not significant
All Foreign banks	CAR	17.227	All Private - All Public s	0.000	Significant
All Private sector banks		15.792	All Foreign - All Public s	0.000	Significant
All Public sector banks		12.237	All Foreign - All Private	0.022	Significant

The adjusted p-value identifies the group comparisons significantly differently while limiting the family error rate to the significance level. Generally, in post hoc tests, simultaneous confidence level is used instead of an individual confidence level. The accompanying confidence level applies to the entire family of comparisons. Since the adjusted P-value is less than α, the difference in all the three pairs' means score is statistically significant while using the family error 0.05. The mean scores of foreign banks are higher among all three groups of banks. With these results, it is evident that foreign banks' performance is relatively good as compared to public and private sector banks. The reasons for high profitability in foreign banks may be identified from the review of literature are:

- Asset loss is minimal as a percentage to advances.
- Foreign bank presence may guide high profitability due to strong technological competitive edge.
- Foreign banks might also have lower costs to raise funds. If the advantage of newer technology can spread out to domestic banks leading to higher profitability for the entire banking industry.

MANAGEMENT AND STATUS OF NON-PERFORMING ASSETS

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The basic idea for knowing the asset quality is to find out the component of various assets in the asset mix and the components of Non-Performing Assets (NPAs) compared to total assets. Under the prevalent norms of asset classification, the banks' loan assets are broadly classified as performing (standard) and non-performing while non-performing Assets (NPA) are further classified into substandard, doubtful, and loss assets. The table below is furnishing Gross and Net NPAs as a percentage of advances and total assets of all the three groups of banks for the 12 years' reference period.

Table:4 Management and status of Non-performing assets

Banks	NPA Ratio	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
All Public Sector Banks	GNPAs to Gross advances	2.2	2	2.3	2.3	3.2	3.6	4.4	5	9.3	11.7	14.6	11.9
All Private Sector Banks		2.5	2.9	2.7	2.7	2.1	2	1.8	2.1	2.8	4.1	4.6	5.3
All Foreign Banks		1.9	4.4	4.4	2.6	2.8	3	3.9	3.2	4.2	4	3.8	3
All Public Sector Banks	GNPAs to Total Assets	1.3	1.2	1.3	1.3	1.9	2.4	2.9	3.2	5.9	7	8.9	7.3
All Private Sector Banks		1.4	1.7	1.5	1.3	1.1	1.2	1.1	1.9	2.2	2.6	4	3.5
All Foreign Banks		0.8	1.6	1.6	1	1.1	1.2	1.5	1.4	1.9	1.7	1.6	1.2
All Public Sector Banks	NNPAs to Net Advances	1	0.9	1.1	1.1	1.5	2	2.6	2.9	5.7	6.9	8	4.8
All Private Sector Banks		1.7	1.5	1	0.6	0.5	0.5	0.6	0.9	1.4	2.2	2.4	2
All Foreign Banks		0.8	1.8	1.8	0.7	0.6	1	1.1	0.5	0.8	0.6	0.4	0.5
All Public Sector Banks	NNPAs to Total Assets	0.6	0.6	0.7	0.7	1	1.3	1.6	1.8	3.5	3.9	4.5	2.8
All Private Sector Banks		0.4	0.5	1	0.6	0.5	0.5	0.8	0.9	1.2	1.4	2	1.3
All Foreign Banks		0.3	0.7	0.7	0.3	0.2	0.4	0.4	0.2	0.3	0.3	0.2	0.2

(Source: Statistical tables relating to Banks in India, RBI)

The statistical observations of one-way ANOVA are indicated below:

The null hypothesis is formulated on the status and level of Non-Performing Assets of all the three groups indicating no significant difference between the groups in terms of status. The ANOVA test was applied to test whether the mean scores of three groups were

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statistically the same or different, and the following tables indicated statistical observations and hypothesis results.

Table:5 One-way ANOVA statistical observations

Sl. No.	Parameter	Pooled Standard Deviation	One way ANOVA p-value <α	Null Hypothesis Accept/Reject
1.	GNPAs to Gross Advances	2.73728	0.020	Reject
2.	GNPAs to Total Assets	1.70847	0.006	Reject
3.	NNPAs to Net Advances	1.52721	0.001	Reject
4.	NNPAs to Total Assets	0.862505	0.000	Reject

From the p-value as shown in Table -5, study would infer that there is no difference between three groups of banks in terms of NPAs as a percentage of gross advances and total assets. Based on the results null hypothesis should be rejected at the 5% significance level, since p is less than 0.05. Thereby, there is a significant difference between all three groups considered for the study in terms of GNPAs to Gross Advances (p=0.020), GNPAs to Total Assets (p=0.006), NNPAs to Net advances (p=0.001) and NNPAs to Total Assets (p=0.000). Hence the null hypothesis is rejected and there is a difference between all the three groups of banks' NPAs. The above table also indicates that the mean scores of public sector banks are high compared to private and foreign sector banks.

Tukey Simultaneous Tests for Differences of Means:

Since there is a significant difference between the three groups of banks, Tukey simultaneous tests for difference of means to find the pairwise difference accurately.

Table:6 Tukey pairwise comparisons

Groups	Parameter	Mean	Difference of levels	P-Value	Observation
All Foreign banks	GNPAs TO GROSS ADVANCES	6.04	All Private - All Public	0.025	Significant
All Private sector banks		3.433	All Foreign - All Public	0.065	Not significant
All Public sector banks		2.62	All Foreign - All Private	0.907	Not Significant
All Foreign banks	GROSS NPAs to TOTAL ASSETS	3.717	All Private - All Public	0.043	Significant
All Private sector banks		1.958	All Foreign- All Public	0.006	Significant

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All Public sector banks		1.3833	All Foreign -All Private	0.691	Not Significant
All Foreign banks	NET NPAs TO NET ADVANCES	3.208	All Private-All Public	0.011	Significant
All Private sector banks		1.275	All Foreign -All Public	0.002	Significant
All Public sector banks		0.883	All Foreign -All Private	0.806	Not Significant
All Foreign banks	NET NPAs to TOTAL ASSETS	1.917	All Private-All Public	0.022	Significant
All Private sector banks		0.925	All Foreign -All Public	0.000	Significant
All Public sector banks		0.3500	All Foreign -All Private	0.246	Not Significant

Based on the Tukey comparison results there is a significant difference between the means of all private - all public, all foreign banks. The groups do not share a letter indicating that there is a significant difference between the groups. Moreover, If the range does not include zero, which suggests that the difference between these means is substantial or else the range consists of zero, there is a significant difference between the mean scores of groups or pairs. *indicates that range does not include zero and the difference between mean scores of these pairs are significant. ** The confidence intervals for the remaining pairs of means all have zero, which indicates that the differences between the mean scores are not significant. The tables also show that the mean scores of foreign banks are high in all cases.

Information showing the trends and movement of Loan Assets of Public, Private, and Foreign banks during 2007-08 to 2018- 19 in the table - along with average loan assets computed for the reference period. It can be seen from the table that the standard Assets assume a dominant share of the total loan assets during the 12 years. The rate of increase in NPAs sub-standard assets, doubtful assets, and loss assets stand minimal, while the percentage of standard assets on gross advances are encouraging. The average standard assets recorded were high in the case of private banks (97.11 percent) followed by foreign banks (96.60 percent) and public sector banks (94.02 percent).

Table:7 Status of loan assets as a percentage of Gross Advances (In percentages)

Bank	Classification of assets	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Average
All Public Sector Banks	**Standard Assets**	97.8	98	97.8	97.8	97	96.4	95.6	95	90.7	88.3	85.4	88.4	94.02
	Sub-standard Assets	1	0.9	1.1	1.1	1.6	1.8	1.8	1.9	3.4	3	3.5	2.2	1.94
	Doubtful Assets	1.1	0.9	0.9	1	1.2	1.7	2.3	2.9	5.5	8.4	10.2	8.2	3.69
	Loss Assets	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.9	1.2	0.37

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All Private Sector Banks	**Standard Assets**	97.5	97.1	97.3	97.8	98.1	98.2	98.2	97.9	97.2	95.9	95.4	94.7	97.11
	Sub-standard Assets	1.4	1.8	1.4	0.6	0.5	0.6	0.6	0.7	0.9	1.4	1.2	1.3	1.03
	Doubtful Assets	0.9	0.9	1	1.3	1.1	1	0.8	1.1	1.6	2.3	3.2	3.7	1.58
	Loss Assets	0.2	0.2	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.2	0.3	0.29
All Foreign Banks	**Standard Assets**	98.1	95.7	95.7	97.5	97.3	97	96.1	96.8	95.8	96	96.2	97	96.60
	Sub-standard Assets	1.2	3.5	2.9	0.9	0.9	1.1	1.4	0.7	1.7	1.2	1.1	0.8	1.45
	Doubtful Assets	0.5	0.6	0.9	1.1	1	1	1.4	1.6	1.6	2.4	2.3	2	1.37
	Loss Assets	0.2	0.3	0.5	0.6	0.8	0.9	1	0.9	0.9	0.4	0.5	0.3	0.56

(Source: Statistical tables relating to Banks in India, RBI)

MOVEMENT OF NPAs

The asset quality of loans and advances was considered as one of the important aspects when the prudential norms were introduced. The overdue advances of banks in India are mounting, and in consequence, the NPAs in their portfolio are on the rise, impinging on the banks' viability. Information on the movement of NPAs for the Public, Private and foreign banks during 2007-08 to 2018-19 as shown in table -8. Fluctuations have been noticed in both additions and deductions during the eleven-year reference period. Banks in India are taking appropriate steps to reduce the Net NPAs every year. An addition to NPA is a significant indicator of the efficiency of credit risk management. In order to find out the asset quality, it is necessary to understand the movement of NPAs in terms of additions and reductions of NPAs during the year. As growth and profitability of firms depends on effective management of NPAs, if additions are decreased and reductions are increased indicates a positive sign towards effective asset quality management.

Table:8 Movement of NPAs (Rs. in millions)

Bank	Bank	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
All Public Sector Banks	**Opening Balance**	388484	397605	449574	594344	749262	1178389	1660057	2272639	2784680	5399565	6192097	8400130
	Additions	240936	314592	448188	582270	931528	1198116	1643116	1778615	3859620	3275942	4881754	2167626
	Reductions	224897	260533	269517	371125	478924	654580	868485	756785	650288	822802	1338435	
	written off	0	2093	28972	58850	23477	71869	137951	509790	594448	819908	1295036	1833911
	Closing Balance	404523	454570	599273	746639	1178389	1650057	2282737	2784679	5399563	6847323	8956013	7395410
	Opening Balance	91016	124380	168898	173409	182386	187678	210705	245424	333610	561874	932092	1849235

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All Private Sector Banks	**Additions**	6578	127384	148169	86855	98742	142426	193803	266799	428677	813660	1076805	905264
	Reductions	37602	49897	99941	54464	60382	78249	102761	98868	35155	236534	408034	427485
	written off	18	32601	40727	23394	32617	41150	56324	72292	119275	206907	30750	490977
	Closing Balance	129974	169266	176400	182406	187678	210705	245424	341062	561857	932027	1293352	1836037
All Foreign Banks	**Opening Balance**	22414	26384	64371	71336	50687	62966	79649	115556	107610	158052	136291	138495
	Additions	32299	81483	99440	35274	44937	41519	67957	40968	79627	66048	70195	61141
	Reductions	16969	28277	62998	55143	32622	24187	28082	29030	17896	36368	47358	25568
	written off	9150	15145	29477	779	36	527	3874	19884	11289	51441	20633	40480
	Closing Balance	28594	64445	71336	50687	62996	79771	115650	107610	158052	136291	138495	122423

Impact of NPAs:

NPA is an alarming obstacle for the growth of the banking sector in particular and economic growth of the country in general. Therefore, an attempt is also made to examine the impact of NPAs (Gross and Net) on some of the profit and performance indicators observed among all public sectors, private sectors, and foreign banks. Out of all the factors, four performance indicators have been taken for studying the impact of NPAs. They are Net Profit, Interest, Return on equity (ROE), and Capital Adequacy ratio (CAR). To test the impact, pairwise correlation and multiple regressions have been used. Firstly, the pair-wise comparison applied to the parameters considered for the study. ..

Table:9 Pair-wise comparisons between Net NPAs to TA, Net profit, Interest to TA and CAR

Variable	Net NPA to TA	ROE	CAR	Interest to TA	NP to TA
Net NPA to TA	1.0000				
ROE	-0.7253*	1.0000			
CAR	-0.5906*	0.1661	1.0000		
Int to TA	-0.0230	0.4643*	-0.4166*	1.0000	
NP to TA	-0.8919*	0.7141*	0.6501*	0.0815	1.0000

*Significant at 5% level

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Pearson's correlation, r, shows the strength and direction of the association between variables. If the statistical results show positive values, it indicates a positive correlation between the variables. The statistical table results at a 5% significance level reveal that the correlation between Net NPAs to ROE, CAR, Interest, and Net profit is negative. That means there is an inverse relationship between variables. Therefore, it is clear that Net NPAs on the banks' performance if Net NPAs increase, the banks' performance decreases, and vice versa.

Table:10 One-way ANOVA to test the difference significance across sectors

Source	SS	df	MS	F	Prob. > F
Between Groups	15.0738888	2	7.53694441	10.13	0.0004
Within Groups	24.5491669	33	.743914148		
Total	39.6230557	35	1.13208731		

Barlett's test for equal variance: Chi2 (2) = 35.3931 Prob>chi2 = 0.000

The above table indicates that the difference is significant across the sectors as the P-value is less than the ANOVA tabulated value (P< statistical value) i.e 0.0004 > 35.3931. Therefore, there is a significant difference across the sectors at a 5% level of significanc

The impact of NPA on profitability when CAR and Interest to TA are controlled

To examine the effect of NPA on profitability applied multiple regressions on Net NPA to TA (Net NPAs as an independent variable), Net Profit to TA (Net Profit as a dependent variable) and also included other factors like capital adequacy ratio, return on capital assets and Return on Interest as these also considered to test the impact. All the 3 sectors banks were coded as =1 (Public sector), 2 (Private sector), 3(Foreign banks) and examined the effect of NPAs on three groups i.e Public sector, Private sector, and Foreign Banks**.**

Table:11 Effect of NPAs on the performance of Public Sector Banks

	Public Sector Banks		Private Sector Banks		Foreign Banks		Industry as a whole	
NPAs to TA	Coefficient	p>l t l	Coefficient	p>l t l	Coefficient	p>l t l	Coefficient	p>l t l

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Lag NPAs to TA	-.3928859	0.008	-.1817346	0.313	0.2316368	0.424	-0.4264998	0.000
CAR	0.936638	0.395	.0369121	0.860	0.0735135	0.370	0.1300966	0.002
Interest to TA	0.2623684	0.206	.2884798	0.391	0.4959249	0.023	0.1828536	0.028
Constant	-2.159631	0.403	-1.466737	0.808	-2.951912	0.270	-1.7659900	0.116

The above table is related to the impact of NPAs, indicating that the P-value is less than 0.01 i.e p value<0.01 for lag net NPA _TA, t-value=-3.64, and significant. Therefore, reject the null hypothesis, and establish that there is a significant impact of NPAs on profitability. And other variables CAR and Interest to total assets indicating there is no significant impact of NPAs as p-value in both the cases is more significant than 0.01(p-value 0.395>0.01, 0.206>0.01). So results are stating that the impact of NPAs exists only on profitability in the case of public sector banks. There is a negative correlation observed as it indicates that if NPAs increase, profits will decrease. Dr. Anshu Tyagi et al. (2020) found the same in their study.

In private sector banks, it is found that there is a negative correlation (-0.1817346), which means if NPAs decrease, profits increase, and vice versa. In terms of P-value, it is more than 0.05 (p-value>0.05), indicating to accept the Null hypothesis. It can be concluded that there is no significant impact of NPAs on the performance of the banks.

In the case of foreign in India, the observations are indicating a positive correlation (-0.1817346), which means if NPAs decrease, profits also decrease and vice versa. There is a direct correlation existing between NPAs and the performance of the foreign banks. And P-value is greater than 0.05 (p-value>0.05), indicating to accept the Null hypothesis. It can be concluded that there is no significant impact of NPAs on the performance of the banks. But in case of interest to TA p-value is less than 0.05 indicating an impact of NPAs on the amount of interest.

In the case of the banking industry as a whole, NPAs affect the banks' performance and the above results also indicate that there is a negative coefficient and gives strength to the study. Accordingly, NPAs do affect the profitability of banks even after controlling for CAR and Interest income. And P-value also recorded less than 0.05 so there is a significant impact of NPAs on the performance of the banking industry as a whole.

Findings of the study

- The mean scores of GPTA and NPTA recorded highest in foreign banks (3.503 and 1.6767) comparatively Public sector banks and private banks. And the mean scores

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of IITA were recorded highest in the case of private sector banks (8.356), but the mean scores of IETA also recorded highest in private sector banks (6.026) only.

- The mean scores of NIIM, OITE, and CAR are highest in foreign banks (3.745, 2.167, and 17.227) second highest are private banks with 3.1583, 1.7300, and 15.792, respectively. But in the case of ROE, the mean scores of private sector banks showed the highest compared with public and private sector banks. The over-performance of foreign banks indicating a better position.

- The mean scores of Gross NPAs to Gross Advances, Gross NPAs to TA, Net NPAs to Net Advances, and Net NPAs to TA recorded highest in public sector banks compared to private and foreign banks. This is an alarm condition to public sector banks to minimize its NPAs and strengthen the loan recovery system.

- In the case of quality of assets, the average of standard assets was highest in private sector banks (97.11), followed by foreign banks and private sector banks. The highest average score of substandard assets and doubtful assets is recorded in the case of public sector banks (1.94 and 3.69), and the highest average of loss assets is recorded in the case of foreign banks.

- The impact of NPAs on the performance also has been studied and observed a negative correlation in all three groups' banks. It is a clear indication that if NPAs are increasing, profits are decreasing and vice versa. So it can be concluded that NPAs impact banks' efficiency and performance as well.

Conclusion

Banking sector is facing many challenges and risks due to an increasing borrower's base, changes in technology and business environment but on the other side the government and RBI have taken a lot of measures to improve profitability and efficiency of banks by formulation of new economic policy initiatives, economic liberalization and globalization. But still some of the failures cannot be completely ruled out immediately, over some time these may be resolved. RBI and government of India needs to be a little stronger in policy formulation and implementation.

Implications and Suggestions

- As per the study's observations, it is clear that the public sector banks' operational efficiency is less compared to foreign banks in Indian and private sector banks. Therefore, public sector banks should focus more on reducing its Non-performing assets as it may impact badly public sector banks' operational efficiency.

- The size and trend of NPAs indicates for immediate reformatory developments so that the issues with NPAs may be accommodated. Hence, besides recovery of NPAs, banks should also focus minimizing the level of NPAs especially public sector banks.

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- Since the problem of NPAs has been increasing, it has to be addressed at two interdependent levels. No doubt, a banker will be successful when he is able to reduce or manage well. Therefore, it can be done (1) by formulating procedures and policies which will be focused on new additions and reductions yearly. (2) at second level needs to formulate reforms strongly to focus on chances and volume of future occurrences of NPAs.

- In fact, many enactments related to NPA have taken place in the year 1992 at the time of financial reforms made by the government of India to strengthen the economy after the financial collapse. But these were not serving the purpose completely and they were out of the tune tune with some of the cases. In this complex business scenario, it is very essential to amend provisions of NPAs and also required to enact new laws to bridge the gaps in the banking sector as a whole. In 2016, the insolvency and bankruptcy board was established under the IBC, 2016 to oversee these problems.

- As per banking statistics, 701 cases related to NPAs have been registered out of which 176 were resolved as of march, 2018 under the mechanism of IBC. These results were witnessing that there is aneed to strengthen the overall system to build a strong technical and operational mechanism especially for the loan sanctioning process. It also required to take steps to strengthen Enactment of Revenue Recovery Act, comprehensive DRT Act, revision in sick industrial companies Act (SICA), BIFR. and there is need have a special attention on strengthening Rehabilitation and Recovery Branches (RARBs) for the better management of NPAs.

- As per the IBC, there is a provision of 180days time-bound for the recovery process when the borrowers are unable to pay their dues. But still a strong and effective credit monitoring. There is a need for an integrated financial reporting system of NPAs in banks. The Management information system should bring out the inter-relationship between the volumes of NPAs, the cost and related collections, and disbursements so that managerial decision-making may improve managing NPAs.

Further Research:

Review of literature reveals that several studies have been conducted on the banking sector by academicians, institutions, researchers and committees. Analyzing the performance of banks has always been a popular research subject. The issues with Non-performing assets have been reviewed in several theoretical and empirical studies. Many studies have been conducted by a large number of researchers, on theoretical aspects of NPAs, classification, NPAs impact, reasons for increasing and measures taken by the banking sector etc. Also specific studies pertaining to NPAs focusing on individual banks were reviewed. But there were no rigorous or specific empirical studies carried out on the perceptions, problems and challenges of employees who have been dealing with the asset management of banks. And also research can be carried out to identify appropriate legal systems and its implications.

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