



RESEARCH ARTICLE

AN ANALYSIS OF NON PERFORMING ASSETS OF INDIAN SCHEDULED COMMERCIAL BANKS

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Abstract

Non-performing Asset breaks the recycling procedure of deposit and investment as it does not generate substantial income and blocks the cash flow. The motive of the paper is to conduct comparative analysis among Gross NPA, Net NPA, and Net Profit by adopting correlation, ANOVA, the average for selected bank groups which are analyzed in MS-EXCEL and SPSS. The aggregate data of 16 years from 2004-05 to 2019-20 is taken from the RBI website. Public Sector banks acquire more GNPA and NNPA and less Net Profit as compared to other two due to various reasons explained in this paper. Pearson correlation in SPSS shows that there is strongly negative and significant correlation between net profit and GNPA of public sector bank group which reflects that rising bad assets can reduce the banks' profitability. But in case of foreign banks group, a strong but positive association between net profit and GNPA is observed. The Private bank group shows no significant association between these two variables. ANOVA test result shows there is a significant difference in the movement of GNPA and NNPA (in amounts) for different groups of banks during the study period. But in the case of Net profit, no significant difference was observed for these bank groups.

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Introduction:-

The banking Sector enhances investment, socio-economic developmental activities, overall productivity, and growth. Banks are the custodian of public money, who mobilize the deposits for revenue creation, profit-making and control the money circulation. Indian banks are channeling almost two-third of the household savings and converting it into capital for investment which creates a profit-earning cycle by balancing deposits and advances. In a bank-dominated economy, sustained impairment of the banking sector due to balance sheet problems creates a drag on real economic activity and can take the shape of an economic crisis (Sengupta and Vardhan, 2017).

Concept of Non-Performing Assets (NPA)

Under RBI guidelines, any interest amount and principal installments, purchased bill, fees, commission, and any payable amounts that are kept as overdue for ninety days and in case of agricultural advances overdue for two harvest seasons are considered as NPAs. Gross NPA is the total of all loans or advances. It reflects the asset quality of the banks as includes all non-standard assets. Net NPA is a value after deduction of provision from GNPA reflecting the actual burden on the lenders.

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According to Guidelines of RBI (31st March 2005), banks are required to classify their total assets into four categories;

1. Standard assets are the well-performing assets used for further recycling, in which the interest and principal amounts are regular and on-time
2. Sub-standard assets are the assets that are remained as NPA for 12 months or more
3. Doubtful assets are the assets that are remained sub-standard for more than 12 months in which the recovery is very difficult and uncertain
4. Loss assets are the uncollectible assets with hundred percent loss but not written off from the balance sheet yet

Statement of the Problem

A rapid increase in NPA in the last two decades is due to the over-optimistic attitude of both borrowers and lenders, prosperity that attracts new loans to risky and unsecured investments. Post financial crisis, the repayment capacity of large loan borrowers was affected so badly that their recovery was questioned. NPA breaks the recycling procedures by not generating additional income, blocking the cash flow and adversely affecting the profitability, liquidity, asset quality, and efficiency of the banks, and adversely impacting its soundness. Non Performing Assets are like a black spot in the asset side of a Bank's Position Statement where the unrecoverable amount of assets is shown (Roy and Samanta, 2017).

Many times, banks face difficulties in the smooth functioning of daily banking operations due to the lack of cash in hand caused by NPA. Erosion and misallocation of capital resources break the recycling procedures. Sometimes banks have to borrow from other sources to maintain the liquidity and capital Adequacy Ratio, even they start disapproving the fresh loans to more profitable businesses, face loss that leads to their doom. Addition costs are also made for the salary of specialized or skilled employees who are hired for the management and timely, efficient recovery of NPA. The value of the loan-disbursement process is harmed because of non-recovery of loan installment and the interest on the loan which in turn is the consequence of the growth of NPAs which adversely affect the lending activity of the banks (Rajput, Arora, & Kaur, 2011).

Causes

Factors causing the growth of NPA are classified into two categories. First, one is internal factors which includes weak credit appraisal, improper follow-up, weak legal procedures, inefficient management, lack of trained employees, slackness in credit management, changes in timeframe and cost expenditure in new projects, high-risk investment/over-optimism, unsecured advancing, directed lending to social and priority sectors, poor auditing, and monitoring, managerial deficiency, improper SWOT analysis (Strength, Weakness, Opportunities, and Threat), lack of appropriate technology, ignorance of Early Warning Signal, violation of RBI guidelines, miss-use and concentration of funds. Secondly, external factors including natural calamities, lack of demand, instability, and uncertainty of the market, wrong projection, frequent changes in policies and practices, industrial sickness, shortage of resources, inflation, fluctuation in exchange rates, capital market crisis, dual administration, political pronouncements, fraudulency, failure of government developmental schemes, transfer of short terms into long term advances, etc.

Measures

Under Preventive measures, Four 'C's; Character, Capacity, Collateral, Condition that mean the assessments of character, background, financial status, revenue projection, assets pledged of the borrower, and stability of the market is quite necessary for the prevention of further NPAs. Willful defaulters contribute a significant portion to NPAs. Proper credit assessments (with Credit Information Bureau India Limited), diversification of funds, deregulation of norms, strict follow of RBI guidelines and policies, Early Warning Signals for credit deterioration could avoid any slippages. EWS-Early Warning Signals are those which clearly indicate or show some signals of credit deterioration in the loan account (Joseph, 2014).

Table 1:- NPAs of Scheduled Commercial Banks Recovered through Various Channels.

Year		Recovery Channel	Lok Adalat	DRTs	SARFAESI Act	IBC	Total
2015-16	1	No. of cases referred	44,56,634	24,537	1,73,582		46,54,753
	2	Amount involved	72,000	69,300	80,100		2,21,400
	3	Amount recovered*	3,200	6,400	13,200		22,800

	4	Amount recovered/amount involved (%)	4	9	17		10
2016-17	1	No. of cases referred	21,52,895	28,902	80,076		22,61,873
	2	Amount involved	1,05,787	67,089	1,13,100		2,85,976
	3	Amount recovered*	3,803	16,393	7,758		27,954
	4	Amount recovered/amount involved (%)	4	24	7		10
2017-18	1	No. of cases referred	33,17,897	29,345	91,330	704**	34,39,276
	2	Amount involved	45,728	1,33,095	81,879	9,929	2,70,631
	3	Amount recovered*	1,811	7,235	26,380	4,926	40,352
	4	Amount recovered/amount involved (%)	4	5.4	32	49.6	14.9
2018-19 (Provisional)	1	No. of cases referred	40,80,947	52,175	2,48,312	1,135**	43,82,569
	2	Amount involved	53,506	3,06,499	2,89,073	1,66,600	8,15,678
	3	Amount recovered*	2,816	10,574	41,876	70,819	1,26,085
	4	Amount recovered/amount involved (%)	5.3	3.5	14.5	42.5	15.5

Source-RBI website

1. * : Refers to the amount recovered during the current year, which could be with reference to the cases referred during the current year as well as during the earlier years.
3. DRTs: Debt Recovery Tribunals; SARFAESI Act: The Securitisation and Reconstruction of Financial Assets and Enforcement of Securities Interest Act, 2002; IBC: Insolvency and Bankruptcy code.
4. **: means the cases admitted by National Company Law Tribunals (NCLTs).
5. Data regarding IBC are available for only 2017-18 and 2018-19(P)

Table 1 contains four years' data on the recovery of various bad assets through Lok Adalat, Debt Recovery Tribunals (DRTs); the Securitisation and Reconstruction of Financial Assets and Enforcement of Securities Interest Act (SARFAESI Act, 2002); Insolvency and Bankruptcy Code (IBC). Even though no. of cases referred to Lok Adalat were being higher all these years, but amounts involved in SARFAESI Act were higher except for 2017-18 in which the amount involved in DRTs was the highest. Recovery percentage was also better in the case of SARFAESI Act, till 2016-17, after then the Insolvency and Bankruptcy code had the highest recovery percentage as compared to others. So, IBC is giving speedy recovery as compared to others.

Some curative measures are recapitalization, One Time Settlement, Debt Recovery Tribunal, Lok Adalat, Securitization and Financial Assets and Enforcement of Security Interest (SARFAESI Act, 2002), Assets Reconstruction Companies, Insolvency and Bankruptcy Code, Stressed Assets Management Groups, liquidating assets pledged as security or sale of debt to any collection agency at a discount, etc.

Public sector banks in India use the Core Banking Solution (CBS) to regularly monitor the progress of non-performing assets which is without doubt a step in the right direction (Rajput, Arora, & Kaur, 2011).

Recent Measures Taken By Government

To clean up the banking system, the Government has implemented 4 R's strategies; Recognition with transparency, Resolution/Recovery, Recapitalisation, and Reforms in the financial system. RBI (Prudential Framework for Resolution of stressed Assets) direction 2019 has introduced newly revised norms, applicable from Jan 2020 for early recognition, timely report of stress assets, classification of assets as Special Mention Accounts (SMA), additional provisioning, the new framework of thirty days gap for stressed assets recognition instead of one-day that apply to all financial institutions. After identification of the defaulters, other lenders should review the account of

the borrowers within thirty days i.e. called 'Review Period'. Within these stipulated days, the lenders should make some strategies for resolution procedures, such as the sale of loans to other parties, legal action against the defaulters, change in ownership, restructuring, disclosure under 'Note on account' of the balance sheet, etc. Within one eighty days from the last date of the 'Review Period' banks should start the implementation process of the resolution plan. The new norms are introduced on 7th June 2019, have withdrawn the previous resolution strategies with immediate effect. The RBI has warned against any concealing or ever-greening of any kind of accounts from the lender's side.

Relevance of the Study

Comparative assessment of GNPA and NNPA among different categories of banks is very crucial to gain an in-depth idea about NPAs. The reasons behind the differences among variables should be highlighted and analyzed for adequate and effective solutions. The study enlightens the shareholders, investors, bankers, academicians about NPAs status in the country and helps them in building new strategies to manage and maintain bad assets in our banking sector.

The rest of the paper is divided into four sections; Section 1 covers the introductory part, Section 2 discusses some existing literature reviews, Section 3 explains data analysis and in Section 4 the summary and conclusion are discussed.

Objectives:-

- 1) To study the trend and composition of NPAs and the net profit in various groups of banks in India.
- 2) To conduct a comparative analysis of GNPA, NNPA and Net Profit among different groups in India.

Hypothesis

- 1) There is no significant correlation between the net profit and the NPAs of various groups of banks taken under consideration.
- 2) There is no significant difference in the movement of GNPA for different bank groups during the study period.
- 3) There is no significant difference in the movement of NNPA for PSBs, PRBs and FBs during the study period.
- 4) There is no significant difference in the movement of Net Profit for PRBs, PSBs and FBs during the study period.

Review of Literature:-

P. J. Nayak Committee was set up on 20th Jan, 2014 to examine the working of boards and suggested that the discussion should be upgraded including issues of strategy, growth, governance and risk management. According to him, the capitalization into the public sector banks is enough to resolve NPAs and to achieve Basel –III levels of tier-I capital.

Jha (2019) conducted a comparative study of NPA, advances, total assets between PNB and ICICI during 2011-12 to 2017-18. Results showed that PNB was a worse performer in the recovery of its defaults as compared to its counterpart. ICICI bank was performing better as Shareholder's Risk Ratio is lower in ICICI as they had enough provision for GNPA as compared to PNB.

Banerjee, Verma and Jaiswal (2018) conducted interbank and intra-banks comparative trend analysis of NPA and ROA, asset quality among four selected banks; two PRBs (Axis bank and HDFC bank) and two PSBs(SBI and PNB) by taking data from 2009 to 2017 using SD and mean. An increasing trend was observed in both GNPA and NNPA for all banks due to the ineffectiveness of credit administrative policies. PSBs, mostly SBI had more NPA and lower ROA, both PNB, Axis bank were better as compared to their counterparts.

Bhardwaj and Chaudhary (2018) studied the NPA status, impact and recovery for Indian SCBs by taking data from 2000 to 2014. They analyzed many dreadful impacts of NPA and suggested some measures and policies. The paper found both GNPA and NNPA had increased during study periods. Among three important recovery tools; DRTs, Lok Adalat and SARFAESI, the last one was most efficient followed by DRTs.

Murugan et al (2018) discussed some causes, impacts and recovery of NPA through Lok Adalat, DRTs, and SARFAESI act. They had conducted a comparative analysis between PRBs and PSBs from 2012 -13 to 2016-17.

The PSBs recorded more NPA. Even though the recovery amount had increased, Governments should make more provisions for faster recovery, reduction of NPA and settlements of pending cases.

Ahmed and Tripathi (2017) had studied the trend and improvement of non-performing assets in 41 SCBs from 2004-05 to 2014-15. They found that private banks were performing better than public sector ones. Only three banks (Axis Bank, HDFC Bank and ING Vysya Bank) were doing very well.

Roy and Samanta (2017) had analysed the position of NPA in Indian commercial banks and their impact on Net Profit. The result showed that a strong negative correlation between GNPA and Net Profit is observed which reflected the growth in NPA gradually reducing the profitability of various banks during the selected study periods.

Sakul (2017) highlighted the trend and compare GNPA and NNPA of HDFC, ICICI and Axis bank during 2011-12 to 2015-16. Results found that except for ICICI, all others had maintained their NPA to a manageable level. Except for Axis bank, others have a positive correlation between GNPA and Net Profit but it doesn't define more GNPA lead to more profit. Gross advances are adequate to offset the negative impact of NPA.

Sengupta and Vardhan (2017) analyzed the growth of NPA, various banks activities and crises felt by India, various policies, overall they explained the trend and extend of NPA from 1991 to 2015. The banking crisis gave rise to more NPAs. Some remedial measures that had been taken by the central bank are Debt Restructure, Indradhanus, ARCs, Recapitalization for the resolution of bad assets.

Chilukuri, Srinivas and Madhav (2016) compared the NPA for all SCBs. To check the asset quality, they used the Geometric Progression Ratio and percentage. The trend of the ratio NPA to advance had shown a fall for all categories banks, reflecting a consistency in the quality of assets. An increasing trend in Advances and fall in NPAs reflected the improvement in assets quality.

Kiran and Jones (2016) discussed the NPAs and profitability of SBI with five banks (high NPA). They used correlation and regression for data taken from 2004-05 to 2013-14 in MS Excel and found that only SBI and PNB had a positive correlation between Net Profit and NPA due to diversification and adequate management procedures. Other banks were facing huge losses due to the inefficient recovery of NPA.

Meela and Prasad (2016) examined NPA as an independent variable and its impact on five dependent variables; Loan Asset ratio, Loan Growth Percentage, Capital asset ratio, Inefficiency and Interest spread for SBI bank during 2008-09 to 2014-15. Results found a significant impact on CAR, LAR and EFF on NPA. Lending to bad customers, poor bank management and cost inefficiency, high-risk appetite attitude were the causes for NPA.

According to **Rathore, Malpani, and Sharma (2016)**, a positive relation between NPA and Profit existed in Indian banks, shown by the data taken from 2013-14 to 2015-16. They analyzed some internal and external factors of NPA and impact on profitability, productivity, Capital Adequacy, Investors' perception; shareholders' trust and discussed some preventive measures.

Garg (2015) analyzed the trend and magnitude of NPA for three types of SCBs; PSBs, PRBs and FBs by taking secondary data from 2000-01 to 2010-11. The correlation between net profit and NPA was insignificant for PRBs and PSBs but showed a positive significant relation for FBs. The reason may be the diversification of banking services that nullified the negative impact of NPA on banks' profitability. AVOVA test showed a significant contrast among NPA amounts but not in % NNPA for all.

Rao and Patel (2015) studied the concepts and causes of NPA by taking data from 2009-10 to 2013-14. Statistical tools such as ratio analysis, ANOVA were computed in SPSS and the least square method was used for the prediction of NPA of PSBs, PRBs and FBs for 2014. The finding showed that % GNPA was almost similar for all types of banks. Higher NPA was predicted by PSBs in 2014 as compared to others.

Sikdar and Makkad (2015) conducted a comparison among NNPA, Advances and CAR among the selected banks by taking data till 2011-12. New PRBs had shown a significant level of growth in their Advances, maintains a higher CAR and managed lower NPA as compared to their counterparts. NPA both in terms of absolute and percentage had increased after Asian Economic Crisis in 2009-10.

Somisetti, Babu and Kumar (2015) explained some conceptual aspects of NPA and compared NPA with the performance of both PSBs and PRBs from 2002-03 to 2013-14. The banks with a significant amount of GNPA and restructured loans were CBI at the top, followed by UBI, P and S bank and PNB respectively. They recommended some preventive and curative measures to deal with NPA.

Chawla and Rani (2019) had conducted a comparative study by taking data on NPAs (gross, net, addition, reduction, and provision) of PNB from 1997-1998 to 2016-2017. The result showed that significant differences in GNPA ratio, NNPA ratio, addition to NPA, provision for NPA, priority and non-priority sector advance ratio, and segment-wise NPA ratio were observed in PNB across three sub-periods.

Nag (2015) had studied thirty selected Indian banks to analyze the growth of bad assets during 2007-2008 to 2013-2014. No significant difference was observed among the growth of NPA for various selected categories.

Thomas and Vyas (2019) compared the loan recovery strategies of SCBs and their effectiveness by using McKinsey 7's model on GNPA and found that a significant difference in the movement of GNPA is observed between SBI & its associate and PRBs groups.

Data analysis:

The present study uses the secondary data sets which are collected from the RBI websites, Indian Bank's Association and conducts comparative analysis among four categories of banks by using various statistical tools like Correlation, ANOVA, and the descriptive statistics computed in MS-Excel and SPSS. Variables those are taken for the study are; Net Non Performing Assets (NNPA), Gross Non-Performing Assets, Net Profit of Public Sector Banks (PSBs), Private Sector Banks (PRBs) and Foreign Banks (FBs) on an aggregate basis from 2004-05 to 2019-20 for sixteen years.

Table 2:- The Gross Non-Performing Assets of Public Sector, Private Sector and Foreign Banks (Rupees in Billion).

YEARS	PSB			PRB			FB		
	Amount (in Billion Rupees)	%GNPA	Annual growth %	Amount(in Billion Rupees)	%GNP A	Annual growth %	Amount(in Billion Rupees)	%GNP A	Annual growth (%)
2004-05	465.99	5.4		87.82	3.9		21.91	3	
2005-06	421.17	3.7	-9.62	78.1	2.5	-11.07	19.27	2.1	-12.05
2006-07	389.68	2.7	-7.48	92.55	2.2	18.5	22.62	1.9	17.38
2007-08	406	2.2	4.19	129.97	2.5	40.43	28.59	1.9	26.39
2008-09	459.18	2	13.1	169.26	2.9	30.23	64.44	4.3	125.39
2009-10	573.01	2.2	24.79	176.39	2.7	4.21	71.11	4.3	10.35
2010-11	710.42	2.2	23.98	182.4	2.2	3.41	50.45	2.5	-29.05
2011-12	1124.88	3	58.34	187.67	1.9	2.89	62.68	2.7	24.24
2012-13	1644.61	3.6	46.2	201.7	1.8	7.48	79.25	3	26.44
2013-14	2272.64	4.4	38.19	245.42	1.8	21.68	115.65	3.9	45.93
2014-15	2784.68	5	22.53	341.06	2.1	38.97	107.61	3.2	-6.95
2015-16	5399.56	9.3	93.9	561.87	2.8	64.74	157.98	4.2	46.81
2016-17	6847.33	11.7	26.81	932.09	4.1	65.89	136.21	4	-13.78
2017-18	8956.01	14.6	30.8	1293.35	4.6	38.76	138.29	3.8	1.53
2018-19	7395.41	11.6	-17.43	1836.03	5.3	41.96	121.42	3	-12.2
2019-20	6783.17	10.3	-8.28	2058.47	5.5	14.14	102.08	2.3	-15.93
Total	46633.74			8574.15			1299.56		
Average	2914.61	5.87		535.88	3.05		81.22	3.13	
CAGR%	19.55	4.40		23	2		11	-2	

Source: RBI Website and Author's compilation.

1. After 2018-19, IDBI bank has been recognized as private bank.
2. Bank of Baroda merged with the Vijaya bank and Dena bank in 2018, the gross merged value reflected in the year 2019-20.

Table 2 shows the trend of the GNPA amount, ratio, and growth for PSBs, PRBs and FBs from 2004-2005 to 2019-2020. In 2004-2005, the GNPA amount of PSBs was Rs.465.99 billion, after fall for only two years; it had shown a sudden rise in 2007-08 up to 2017-18. In the last two years, it was showing a declining trend that ended at Rs.6783.17 billion in 2019-2020. Similar for GNPA ratio and annual growth of the GNPA in PSBs. The PRBs group had shown a fall in GNPA from Rs.87.82 billion to Rs.78.1 billion then after 2005-2006, it started increasing up to Rs.2095.68 billion in 2019-2020. Mixed trends were observed for the foreign banks and the private banks in terms of GNPA throughout the study period. In the beginning year, the GNPA amount of FBs was Rs.21.91 billion (2004-05), after some rises and falls it ended up to Rs.102.08 billion in 2019-2020. The average and total of GNPA for PSBs were far higher than PRBs and FBs. The Compound Annual Growth Rate (CAGR %) of GNPA (in amount) for both PRBs was higher as compared to PSBs. This might be due to the sudden rise of GNPA amount in 2018-19 and current loans defaults, fraudulency, corruption. But the GNPA ratio was well maintained by the Private bank group (CAGR% is 2 percent), which reflected that total advances were sanctioned adequately to maintain NPA in banks.

Table 3:- The Net Non-Performing Assets of Public Sector, Private Sector and Foreign Banks (Rupees in Billion).

YEAR	PSB			PRB			FB		
	Amount(i n Billion Rupees)	%NNP A	Annual growth %	Amount(i n Billion Rupees)	%NNP A	Annual growth %	Amount(i n Billion Rupees)	%NNP A	Annual growth %
2004-05	169.04	2.1		42.12	2.2		6.39	0.8	
2005-06	145.66	1.3	-13.83	31.7	1.01	-24.74	8.08	0.8	26.45
2006-07	153.25	1.1	5.21	40.28	0.9	27.07	9.27	0.7	14.73
2007-08	178.36	1	16.38	56.47	1.08	40.19	12.47	0.8	34.52
2008-09	211.55	0.9	18.61	74.12	1.28	31.26	29.96	1.8	140.26
2009-10	296.43	1.1	40.12	65.06	1.02	-12.22	29.77	1.8	-0.63
2010-11	360.55	1.1	21.63	44.32	0.5	-31.88	13.13	0.7	-55.9
2011-12	593.91	1.5	64.72	44.01	0.4	-0.7	14.12	0.6	7.54
2012-13	900.37	2	51.6	59.94	0.5	36.2	26.63	1	88.6
2013-14	1306.35	2.6	45.09	88.62	0.7	47.85	31.6	1.1	18.66
2014-15	1599.51	2.9	22.44	141.28	0.9	59.42	17.62	0.5	-44.24
2015-16	3203.76	5.7	100.3	266.77	1.4	88.82	27.67	0.8	57.04
2016-17	3830.89	6.9	19.57	477.8	2.2	79.11	21.41	0.6	-22.62
2017-18	4544.73	8	18.63	643.8	2.4	34.74	15.48	0.4	-27.7
2018-19	2851.22	4.8	-37.26	673.08	2.02	4.55	20.5	0.5	32.43
2019-20	2309.17	3.7	-19.01	557.45	1.5	-17.17	20.84	0.5	1.66
Total	22654.75			3306.82			304.94		
Average	1415.92	2.92		206.68	1.25		19.06	0.84	
CAGR %	19	4		19	-3		8	-3	

Source: RBI Website and Author's compilation.

In 2004-05, the NNPA of the Public Sector Banks was Rs.169.04 billion, had risen from 2005-06 up to 2017-18 showing a long increasing trend and then declined from Rs.4544.73 billion to Rs.2309.17 billion in 2019-20. Private Sector Banks had a fall in NNPA in 2005-06, after then, NNPA had started increasing up to Rs.74.12 billion in 2008-09. Then with some decline for only three years it again started rising to Rs.673.08 billion in 2018-19. In last year, it again declined to Rs. 557.45 billion. In 2004-05, NNPA of Foreign Banks was Rs.6.39 billion, and then it increased to Rs.29.96 billion in 2008-09. After huge declines for two years, again, it started rising to 2013-14. From 2014-15, fluctuation in trend was observed till 2019-20. The total and average of GNPA in the case of public sector bank group is way higher than those of private bank and foreign bank groups. Compound Annual Growth Rate (CAGR) of NNPA (in amount) for both PSBs and PRBs are 19 percent but in the case of NNPA ratio, PSBs had 4 percent whereas PRBs had -3 percent, which reflected that loans and advances are maintained well by Private banks group. In the foreign bank group, the CAGR of both NNPA amount and ratio was lesser as compared to the other two groups.

Table 4:- The Net Profit of the Public Sector, Private Sector and Foreign Banks (Rupees in Billion).

YEARS	PSB	PRB	FB
2004-05	154.41	35.33	19.8
2005-06	165.38	49.74	30.68
2006-07	201.52	64.65	45.85
2007-08	265.9	95.21	66.12
2008-09	343.71	108.67	75.09
2009-10	392.56	131.11	47.4
2010-11	448.99	177.11	77.18
2011-12	495.13	227.18	94.26
2012-13	505.82	289.95	115.86
2013-14	370.18	337.34	101.39
2014-15	375.39	387.34	128.03
2015-16	179.93	413.13	108.03
2016-17	-113.88	422.47	129.65
2017-18	-853.7	417.83	108.52
2018-19	-666.08	276.21	145.07
2019-20	-260.2	191.11	161.8
Total	2005.11	3624.38	1454.73
Average	125.32	226.52	90.92

Source: RBI Website and Author's compilation.

The Net Profit of the Public Sector Banks showed a smooth rising trend up to Rs.505.82 billion in 2012-13 from Rs. 154.41 billion in 2004-05, it started declining up-to Rs.666.08 billion losses. The loss had reduced in the last year to Rs.260.2 billion. The Net Profit of the Private Banks had an increasing trend throughout the years except for the last three years; it declined from Rs 417.83 billion in 2017-18 to Rs 191.11 billion in 2019-20. The Net Profit of FBs showed an increasing trend from Rs. 19.8 billion in 2004-05 to Rs.75.09 billion in 2008-09. After a huge decline in 2009-10, it started increasing up to Rs. 115.86 billion in 2012-13 and then showed fluctuation in the trend. The Net profit for FBs ended up at Rs 161.8 billion in 2019-20. Average values of the Net Profit were Rs.90.92 billion for FBs, Rs 125.32 billion for PSBs and Rs.226.52 billion for PRBs. The PRBs maintained the highest Net Profit (Rs.3624.38 billion), followed by PSBs and FBs respectively.

Anova					
GNPA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	74096665.144	2	37048332.572	11.422	.000
Within Groups	145967099.069	45	3243713.313		
Total	220063764.213	47			

Fig1:- Result of ANOVA among the GNPA (in amount) of the three categories of banks.

Fig 1 shows that there is significant difference in the movement of GNPA amount among the three categories of banks. Post –hoc test Tuskey-HSD reflects that the significant difference in the movement of GNPA occurs between Public sector and Private sector banks. Test also shows that GNPA of Public sector banks also statistically different from Foreign Banks group.

Anova					
NNPA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	18393076.789	2	9196538.394	12.308	.000
Within Groups	33622755.752	45	747172.350		
Total	52015832.540	47			

Fig 2:- Result of ANOVA among the NNPA (in amount) of the three categories of banks.

Fig 2 shows that there is significant difference in the movement of Net NPA amount among the three categories of banks. The post-hoc result is similar to the earlier finding when Gross NPA is taken for the analysis.

Anova					
Net profit					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	159006.971	2	79503.485	1.293	.285
Within Groups	2767742.565	45	61505.390		
Total	2926749.536	47			

Fig 3:- Result of ANOVA among the Net Profit of the three categories of banks.

Fig 3 shows that there is no significant difference in the movement of the Net Profit among the three categories of banks. We could not reject the null hypothesis.

The reasons of the highest NNPA and GNPA in the PSBs could be the inappropriate lending process, improper monitoring, and asymmetric information, defaulter friendly management system, directed lending to priority sector, etc. Even though there is no significant difference exists among the Net Profits for all categories of banks, still, the PSBs are facing net loss for the last three consecutive years due to rising NPAs.

Pearson correlation in SPSS shows that there is a strong negative and significant correlation (84 percent) between net profit and GNPA of the Public sector bank group which reflects that rising bad assets gradually reduce the profitability of the Public sector banks. A similar result is found by Roy and Samanta (2017). In case of the foreign banks group, a strong but positive association (78 percent) is shown between net profit and GNPA. The private bank group shows no significant association between these two variables. ANOVA test result shows that there is a significant difference in the movement of GNPA and NNPA (in amounts) for the different groups of banks during the study period. But in the case of Net profit, no significant difference was observed for these bank groups.

In case of Foreign Bank, a significant positive association between net profit and GNPA is observed which is an exception, as FBs manage to maintain higher Profit by diversifying and expanding their services and operations. The reasons of the highest NNPA and GNPA in the PSBs could be the inappropriate lending process, improper monitoring, and asymmetric information, defaulter friendly management system, directed lending to Priority sector, etc. Even though there is no significant difference exists among Net Profits for all categories of banks, still, the PSBs are facing net loss for the last four consecutive years due to rising NPA.

Summary and Conclusion:-

The motive of the study is to conduct a comparative analysis among Gross NPA, Net NPA, and Net Profit in distinct classes of banks. The paper uses basic statistics, correlation, ANOVA computed in MS-EXCEL and SPSS by taking the secondary data from the RBI website from 2004-05 to 2019-20. Government having more equity performs all its developmental activities through the public sector banks are always get influenced by political parties, government policies, high regulation, dual administration; priority sector lending causes a large number of bad assets in PSBs. Then the conflict between 'Social banking and Sound Banking' arises.

To track the loans and advances, NPA mobile tracker applications, 'Maximus Traction' is developed that is linked to the Core Banking Solution (CBS) system for basic information. It can provide advanced and updated information to the lender about borrowers by systematical interaction through direct contact (SMS & email, mobile, and internet) and track through GPS, SARFEASI details, and initiate follow-up actions for easy and immediate recovery. Banks with the help of 'Delinkure' (product of Sesame Software Solution) and 'Neptune' (tool of NPA management) can efficiently and successfully manage the loan recovery process by giving early warning signals, reporting, managing legal procedures, maintaining systematic and frequent contact, taking early and cost-effective actions for current and prospective delinquencies. The current paper is based on secondary data. The calculation and analysis may not give cent percent accurate results. Only the aggregate values of all variables of various types of banks are taken for study.

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