Assessing the Trend and Significant Differences in Non-Performing Assets of Scheduled Commercial Banks in India

Dr Poonam Mahajan (Corresponding Author)
Assistant professor, Department of Commerce, Guru Nanak Dev University College, Narot Jaimal Singh,
E-mail ID: poonam_mcs@yahoo.co.in.

Ms Sukhjinder Kaur (First Author)
Assistant professor, Department of Commerce, Guru Nanak Dev University College, Sujanpur.

Dr Gurpreet Kaur
Assistant professor, Department of Commerce, Bebe Nanki University College, Mithra.

Abstract

Purpose: The objective of the study is to assess the trend and significant differences in NPAs of SCBs (public, private and foreign sector) in India for a period of 22 years from financial year 2001 to 2022.

Methodology: Secondary sources such as website of RBI and the annual reports of SCBs are used to extract data. The Ratios, one-way ANOVA analysis and two paired sample T-test have been employed to study the trends and to measure the significant differences in the NPAs of these banks over a period of 22 years.

Findings: The trend line shows that non-performing assets of public sector banks has upward trend as compared to private and foreign sector banks. Both ANOVA one-way test and Two paired sample T test shows that there are significant differences in the NPAs between and within public, private and foreign sector banks during period of the study.

Practical Implications: This type of study could help policymakers in effectively implementing stringent measures to recover non-performing assets. Customers and investors can make informed investment decisions by considering the performance of non-performing assets (NPAs) of these Banks.

Keywords: SCBs, Public, Private and Foreign Sector Banks, NPAs, Ratios, ANOVA one-way test.

Introduction

Financial institutions are nerve centre of an economy. They control the financials and coordinate all the economic activities of a nation. The financial and non-financial organisations play a significant role by providing public at large with economic safety for their funds. The banking industry is one of the core components of most economies because it channelises funds to customers with fruitful returns. It facilitates trade and commerce along with paves a path for the financial stability to the Indian economy.

The Indian banking system is going through many revolutionary changes that brought a magnificent and drastic changes in the structure and functioning of banks in India since last 30 years. Most banks have shown tremendous resilience to these changes through adaptability and innovation. The evolution of banking industry with introduction LPG policy in 1991 to structured banking sector reforms that lead it to technological advancement and diversification of financial products and services is applauded worldwide. The opening of Indian economy in 1991 encouraged foreign and private investors that led to the introduction of modern digitalised, diversified and structured banking system. In order to give them more wings, the RBI introduced universalisation concept and issued license to private players operate as banks in India. Small finance banks, the Payment banks were introduced along with 'public, private and foreign' banks since 2013-14. As of 2022, more than 80% of the population has a bank account in comparison to 17% in 2009 (Report by Grant Thornton India Ltd, 2020, p. 15).

As per the Reserve Bank of India (RBI), India's banking sector is sufficiently capitalised and well-regulated. The financial and economic conditions in the country are far superior to any other country in the world. Credit, market and liquidity risk studies suggest that Indian banks are generally resilient and have withstood the global downturn well. The Indian banking system (SCBs) consists of 22 private sector banks, 12 public sector banks, 46 foreign banks, 1485 urban cooperative banks, 56 regional rural banks and 96,000 rural cooperative banks in addition to cooperative credit institutions. As of March 2023, the total number of ATMs in India reached 14,74,548. Moreover, there are 1,21,894 on-site ATMs and Cash Recycling Machines (CRMs) and 96,243 off-site ATMs and CRMs. Banks added 1,486 ATMs in the financial year 2022 and 2,815 in financial year 2021. 100% of new bank account openings in rural India are being done digitally (Banking Industry Report by IBEF, November, 2023, accessed from https://www.investindia.gov.in/sector/bfsi-banking).

The core banking can be observed as a stepping-stone to advanced digitalised expansions in banking. Mobile and electronic banking helped to reduce human intervention for banks and easiness for customers to handle their finances from mobile devices. It helped to strengthen and economise the Indian banking system. There is sharp increase in core banking activities like deposits, advances and investments in scheduled commercial banks during last two decades presented in table 1.

Table 1 Aggregates of SCBs

Aggregates	Amount (Cr)			
	2000	2010	2020	2023
Deposits	813345	4492826	15113512	18043914
Advances	**435958**	3244788	10370861	**13675235**
Investments	308944	1384752	3747349	5415148

The results of table 1 show that there is 21.18% in deposits, 30.37% in advances and 16.53%increase in investments of SCBs in 2023 over 2000 respectively shows the strengthening of Indian banking system. The advance is a type of credit provided by banks to any business for short-term requirements as working capital. The growth in advances of banks measure its earnings potential and performance over a period of time. The banks extend credit to its customers on term basis. That advance in the form of credit becomes non-performing assets only when repayment of instalment of principal or payment of interest is outstanding for 90 days.

Non-Performing Assets (NPAs)

NPAs or non-performing assets are like cancerous disease that is extinguishing the entire banking system of India. RBI NPA circular 2022 and 2023 described different types of NPAs as substandard NPAs, suspicious or doubtful NPAs and loss assets. Substandard NPAs are the ones which are overdue for fewer than 12 months or equal, Suspicious NPA is in the category of substandard

NPA for 12 months or less and loss Assets if NPAs are recognised as losses incurred by banks or financial institutions, according to the Reserve Bank of India (RBI) inspections. The rules of provision are being set by the Reserve Bank of India and are the same for all banks dealing with NPAs. Ten per cent of the allowance is applicable for the total amount without any budget for securities or any other coverage of government guarantee. An NPA that falls into the lower category would add another 10 per cent coverage to 20 per cent of the total outstanding amount. The provisional requirement for suspicious or unsecured NPAs has been declared 100 per cent (Master Circular issued by RBI - Income Recognition, Asset Classification, Provisioning and Other Related Matters – UCBs, May 8, 2023).

The explanations for contributing to non-performing assets (NPAs) could be that the banks are giving credit to those whose financial soundness is not guaranteed and carries much higher risk. Funds are being redirected elsewhere by the company's promoters in the unproductive projects. There is not enough way for commercial banks to collect and distribute credit information and there is amateurish recovery of loans from unexpected defaulters. Increase in NPAs reduce the profits and the capital adequacy of a bank or financial institution. The banks are reluctant to lend and take risks at zero percent. Thus, the creation of new debts is hampered. Their focus is shifted to debt risk management instead of being profitable due to fear of mounting NPAs and hereby funding costs are increased.

The RBI is very cautious to take precautionary actions to control and reduce NPAs. They advised banks to consider CIBIL score of an individual/corporation before making a loan or payment and take the shelter of debt recovery tribunals and the use of people's courts for speedy settlement. Strict action should be taken against big NPAs and bankruptcy and the implementation of the bankruptcy code should be used at large scale.

RBI issued guiding principles on NPA in 2021 to include some primary actions taken by the central Bank to avert NPAs. The efforts should be done to mend the existing restructuring system and restructuring large values, etc. The liberal sale of assets must necessarily be given more regulatory treatment. The lenders must be allowed to spread sales losses for at least two years, if a loss is disclosed. Purchasing facilities should be allowed by specialised agencies for the acquisition of 'Stressed Company'. Required steps should be taken to facilitate the better functioning of asset restructuring companies.

Review of Literature

Das (2023) studied the trends and determinants of NPAs of 20 PSBs, 19 private banks and 5 foreign banks during post crisis period from the financial year 2010 to 2020. He found that the PSBs have been badly affected. The volume of loan defaults of private sector banks has an upward trend so NPA problem is not much prevalent in private banks as a group. Dhanya and Jayashakthi (2023) carried out a comparative study of NPAs to know the efficiency of HDFC (the largest private sector bank) bank in India for period of five years from 2017-22. The NPAs of HDFC bank was increased with the increase in net profit which requires immediate attention to eliminate the huge amount of NPAs to attain smooth sustainability in the country.

Javheri and Gawali (2022) focussed on the movement and variations in the Non-Performing Assets of the SBI, BOB and PNB (selected PSBs) and HDFC, Axis and ICICI bank (selected PVSBs) for the period of 10 years from 2011-2020. They used ratios, graphs and t-test to see trends and significant differences in their NPAs. The study concluded that rising NPAs of these selected banks have serious impacts on Profitability and Liquidity. The public sector banks have rising NPAs but the performance of Private Banks is well than public sector Banks in case of NPAs. HDFC Bank is best executor when it comes to NPAs. The level of NPAs is stable throughout the years.

Reddy and Babu (2021) tried to understand the reasons for the incidence of NPAs during 2006 to 2019 of the Indian 'public and private' sector banks. Dynamic regression model was deployed to understand the influence of past NPAs on incidence of current NPAs. The results showed that the influence of previous year asset quality is not significantly influencing current year asset quality. The accretion of NPAs and economic growth, the bank's size, its profitability, credit growth and priority sector lending continue to have substantial impact on the asset quality of the banks in India. Kumar et al. (2020) examined the impact of 'NPA' on the banks' profitability. The HDFC & SBI banks were used for comparison. It was found that surge in the provisions for NPA have inverse relationship with the profitability of banks.

Sahoo and Majhi (2020) analysed the recovery machinery of NPAs through Enforcement of Securities Interest Act (SARFASEI Act), Lok Adalat, Securitization and Reconstruction of Financial Assets Debt Recovery Tribunals (DRTs) and its impact on NPA. Brahmaiah (2019) examined the NPAs trend for period of five years from the financial year 2013 to 2018 of public and private sector banks in India. The extent of 'NPAs and its ratios' are significantly higher in PSBs than PVSBs. The managements of PSBs are apathetic and incompetent to the performance of PSBs as there are no incentives or penalties for their accountabilities, responsibilities and acts.

Boddu (2019) compared the loans and advances and NPAs of both 'public and private' sector banks in India to explore the preventive measures to control the mounting NPAs. Suitable precautionary measures help banks to decrease the level of NPAs in India. Chaitra and Vasu (2018) analysed the comparative study of NPA factor and ROA of PSU and Private sector Banks for the period of 5 years from period 2013-14 to 2017-18. The NPAs of public sector banks have upward trend and the ROAs have lower trend as compared to 'private' sector banks.

Mittal and Suneja (2017) examined the level of NPAs in the Indian banking sector and then analysing the causes for rising NPAs and concluded that the magnitude of NPA in PSBs is more than PVSBs. Miyan (2017) did comparative analysis of selected 'Private and Public sector bank' on various performance parameters such as GNPA, ROA and NNPA. 5 years data was used for analysis from 2011-2016. It was found that Performance of PSU banks is way behind the private sector banks. T- Test was used to find the significant difference.

Rana (2016) looked at the non-performing assets of India's public sector banks. The key goal of this research is to gauge the aggregate performance of Indian public banks in terms of NPAS. The researcher concluded that NPAs are steadily growing in India's public sector banks with the increasing percentage share of NPAs in both the priority and non-priority sectors. Kumar and Ghani (2015) examined the viability and non-performing assets of India's SCBs. The NPA ratios have declining trend and inverse relationship was found with ROA.

Dass and Dutta (2014) analysed the NPA differences among 26 public sector banks for the period of 6 years from years 2008-2013. The results of ANOVA one way method showed that there are significant mean differences between 26 public sector banks. Mohnani and Deshmukh (2013) suggested that the emerging competition has resulted in new challenges for the Indian banks and the parameters for evaluating the performance of banks have also changed.

Gurumoorthy (2012) analysed that the banking and financial sector get higher priority in the liberalized economy. The profitability and earning capacity of banks are highly affected due to NPAs. Moreover, the profit margin of the banks goes down because the non-receipt of interest and principal blocked bank's money in the form of funds and is not available for further use of banking business. Thus, the banks must take action for the recovery of NPAs.

Kaur (2012) examined NPAs position, the income and expenditure pattern and profitability performance of PSBs in India for a period of 2000-01 to 2009-10 respectively. Growth rate, compound growth rate, coefficient correlation, ratio analysis and median test have been used for the analysis. The author concluded that the PSCBs succeed in recovery of loans and hereby the study showed downward trends of NPAs for the period under study.

Rajamohan (2012) described that Indian banking industry plays a key role in the socio-economic growth of a country. The banks gain sufficient strength to pose virtuous performance that is reflected in the high growth of low-cost deposits, a well-diversified credit portfolio. The corporate, retail and SMEs improved margins through a steady reduction in NPAs.

Bhavani and Veena (2011) examined that the total NPAs in PSB accounted for 78% fall in revenues from traditional sources. Goyal, K. (2010) examined the state of affairs of NPAs of Indian PSBs for the period of 2002-03 to 2008-09 respectively. The study examined the trends of NPAs, health of several loan assets, quality of assets and sector wise NPAs etc. The descriptive analysis, correlation analysis, regression Analysis, one way ANOVA etc. have been used for the analysis. The study observed improvement in the quality of assets. They managed NPAs but a need was felt to be vigilant for the agricultural sector loans.

Need of the Study

The Performance of financial institutions (banks) is measured in terms of both income generation and quality of assets. Non-Performing Assets reveal the quality of assets, possibility of losses and reduction in income levels due to provision against such loses. A lower level of NPAs helps the banks in consolidating their position, increasing confidence to depositors and increasing market share of the banks (Boddu, 2019). The Banking industry in India has historically been one of the most stable systems globally, despite global upheavals and an upward trajectory aided by strong economic growth, rising disposable incomes, increasing consumerism and easier access to credit. The future of banking in India is certainly digital. The convergence of advanced technologies like AI, data analytics and E-banking will reshape the banking structure, bringing greater ease, competence and convenience to customers.

The health of the Indian banking system is robust, fortified by a multi-year low non-performing loans and adequate level of capital and liquidity buffers (Sengupta, 2023). But rising NPAs during last two decades challenged the bank's reputation and lost the public confidence in banks. The depositor's withdrawal of deposits may become the basis for the liquidity questions for banks. The lack of liquidity prevents banks from lending for other productive activities in the economy. The restriction in investments may slow down the economy leading to inflation and unemployment etc. This results in increase in the interest rates to maintain profit margins and financial crunches which can disturb the economy.

The Indian economy enjoyed a booming phase in 2000s. Businesses and companies borrowed extensively from the Indian banks to fund their projects. Banks were giving liberal funds for projects in the infrastructure and power sectors at lower rates of interest which became unviable later due to multiple reasons like rising costs and 2008 recession after effects etc (Nagarajan, 2013). All these directed to the impairing of balance sheet of banks with rising non-performing assets by 2013. When RBI started cleansing the books of the banks, the cases of wilful defaulting with thousands of crores came out. This was when the negligence of banks in assessing the creditworthiness came into light and the corruption involved in a few cases. All these factors led to the mounting NPAs in indian banks which almost doubled by 2021. A good management was needed to reduce the effects of NPAs and hold them to a bare minimum by effective corrective action taken at the appropriate time (Kumar and Ghani, 2015).

Thus, a need was felt to measure the trend and movement of NPAs in SCBs (public, private and foreign sector banks) from the financial year 2000-01 to 2021-22 and see the significant differences in the NPAs with the help of ratios in these banks.

Objectives of the Study

The objectives of the study can be summed up as:

1. To measure the trend and movement of non-performing assets of SCBs (foreign, private and public sector banks) in India.
2. To analyse the significant differences in non-performing assets of SCBs (private, foreign and public sector banks) in India.

Hypothesis Development

After extant review of literature, the following null hypothesis have been developed and tested:

H_0: There is no significant difference in NPAs of SCBs (Public, private and foreign sector banks) in India.

Research Methodology

Source of Data: The secondary data has been used in the study. The data related to NPAs and total assets, gross and net advances has been taken out from annual reports and website of RBI and some figures have been taken from statistical tables relating to banks in India.

Time Period: The period of study is for two decades, i.e. from financial year 2000-2001 to 2022-23. The period from years 2004-05 to 2008-09 is considered as credit boom period in which the world economy as well as the Indian economy were booming. Indian firms borrowed furiously in order to avail of the growth opportunities. At the same time with the onset of the global financial crisis in 2007-08 and the slowdown in the growth after 2011-12, revenues fell well short of forecasts. So, many loans were termed as NPAs during mid-2000s. so, this period has been taken for present study.

Statistical Tools and Techniques: ANOVA one way test has been used to assess the significant differences in the NPAs of SCBs (public, private and foreign sector banks) in India for a period of 22 years. Two sample paired t-test has been used to measure the significant differences among public-private, private-foreign and private-foreign banks. Ratios have been calculated in percentages and trend has been shown with the help of line diagrams. SPSS 21.0 has been used to analyse the data.

Following ratios have been calculated to achieve the first objective. GNPA to Gross Advances Ratio= Gross NPAs/Gross Advances; GNPA to Total Assets Ratio = Gross NPAs/ Total Assets; NNPA to Net Advances Ratio = Net NPAs/ Net Advances; NNPA to Total Assets Ratio = Net NNPA/ Total Assets. The terms used in the study have been computed as; Gross NPAs =Sub-standard assets+ Doubtful Assets+ Loss Assets; Net NPAs =Gross NPAs – Provision for NPAs; Gross Advances= All loans and advances made by Banks; Net Advances = Gross Advances –Provisions for NPAs.

Discussion, Analysis and Hypothesis Testing

The ratios have been calculated in percentages to measure the movement and trend of NPAs of all banks in India for period of 22 years.

Trend and Movement of Non-Performing Assets of Foreign, Private and Public Sector Banks in India.

These ratios indicate the total non-performing assets of the total advances, net advances and total assets. It signifies the amount of the advances that are not recoverable and assets that are not performing well. The high gross NPA indicates that a bank has a large number of loans that are not being repaid. Net NPA is a measure of the actual losses that a bank has incurred on its NPAs. A high net NPA indicates that a bank has incurred large losses on its NPAs. These can be a sign of financial problems for the bank. Various NPAs ratios have been presented in table 2 for the period of 22 years from financial year 2001 to 2022. To measure the trend of NPAs of Private, public and foreign sector banks in India.

Table 2 Trend of NPAs of Private, Public and Foreign sector banks in India

year	Gross NPA to Gross Advances (%)			Gross NPA to Total Assets (%)			Net NPA to Net Advances (%)			Net NPA to Total Assets (%)		
	Private	Public	Foreign	Private	Public	Foreign	Private	Public	Foreign	Private	Public	Foreign
2001	5.1	**12.4**	6.8	2.1	**5.3**	3	3.1	**6.7**	1.8	1.2	**2.7**	0.8
2002	8.6	11.1	5.4	3.9	4.9	2.4	4.9	5.8	1.9	2.1	2.4	0.8
2003	7.5	9.4	5.3	3.9	4.2	2.4	4.8	4.5	1.7	2.3	1.9	0.8
2004	3.8	7.8	4.6	1.8	3.5	2.1	2.4	3.1	1.5	1.1	1.3	0.7
2005	2.8	5.6	3	1.5	2.7	1.4	1.5	2	0.8	0.8	1	0.4
2006	1.7	3.6	2	1	2.1	1	0.8	1.3	0.8	0.4	0.7	0.4
2007	1.9	2.7	1.8	1.1	1.6	0.8	1	1.1	0.7	0.5	0.6	0.3
2008	2.5	2.2	1.8	1.4	1.3	0.8	1.2	1	0.8	0.7	0.6	0.3
2009	3	2	3.8	1.7	1.2	1.4	1.4	0.9	1.8	0.8	0.6	0.7
2010	2.9	2.2	4.3	1.6	1.3	1.6	1.1	1.1	1.8	0.6	0.7	0.7
2011	2.3	2.2	2.5	1.3	1.4	1	0.6	1.1	0.7	0.3	0.7	0.3
2012	1.9	3	2.7	1.1	2	1.1	0.4	1.5	0.6	0.2	1	0.2
2013	1.8	3.6	3	1	2.4	1.3	0.4	2	1	0.3	1.3	0.4
2014	1.8	4.4	3.9	1.1	2.9	1.4	0.7	2.6	0.5	0.4	1.6	0.2
2015	2.1	5	3.2	1.3	3.2	1.4	0.9	2.9	0.5	0.5	1.8	0.2
2016	2.8	9.3	4.2	1.8	5.9	1.9	1.4	5.7	0.8	0.8	3.5	0.3
2017	4.1	11.7	4	2.6	7	1.7	2.2	6.9	0.6	1.3	3.9	0.3
2018	4.7	**14.6**	3.8	3	**8.9**	1.6	2.4	**8**	0.4	1.5	**4.5**	0.2
2019	5.3	11.6	3	3.5	7.3	1.2	2	4.8	0.5	1.3	2.8	0.2
2020	5.5	10.3	2.3	3.6	6.3	0.8	1.5	3.7	0.5	1	2.1	0.2
2021	4.8	9.1	3.6	3.1	5.3	1.2	1.4	3.1	0.8	0.9	1.7	0.3
2022	3.8	7.3	2.9	2.5	4.3	1	1	2.2	0.6	0.6	1.2	0.2

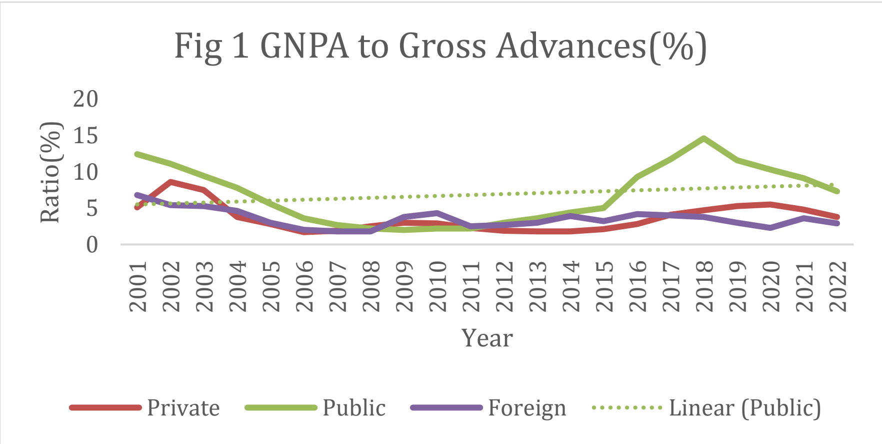
Source: Trend and progress of Banking in India(www.rbi.gov.in)

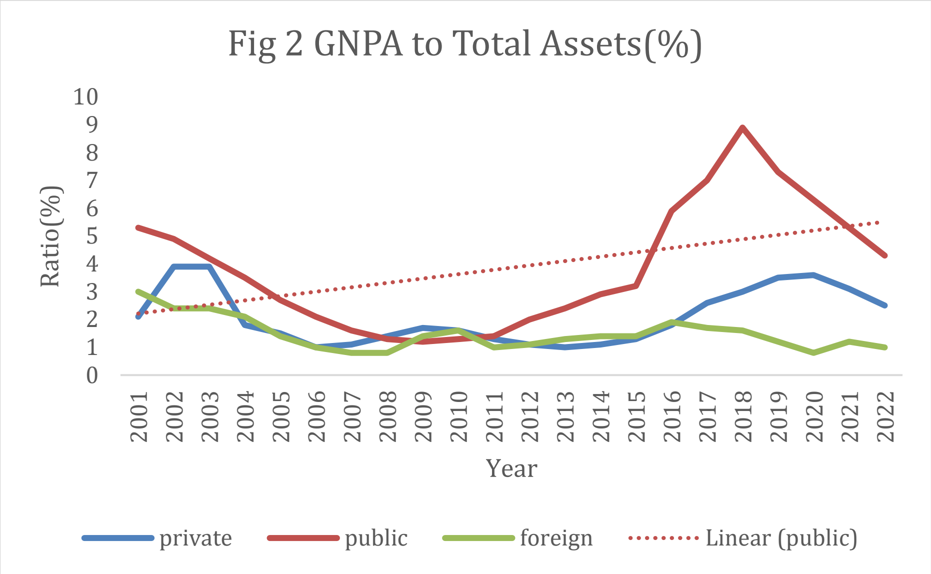
The results of table 2 predicts that Gross NPA to Gross advances ratio has declining trend from financial year 2001 to 2022 in case of public, private and foreign sector banks. In case of 'private sector banks', it fell down from 8.6% in 2002 to 1.9% in 2007 and again started rising with marginal difference in the year 2017 to 4.7% and 5.5% in 2020 and again started reducing to 3.8% in the year 2022. The situation is quite different for 'public sector banks' as there is sharp rise in this ratio in the year 2018 to 14.6%. Earlier it had a falling trend from 12.4% in 2001 to 2.2% in the year 2011. It started rising from 3% in the year 2012 to 14.6% in the year 2018 and then has a declining trend till it reached 7.3% in the year 2022 which is still highest among private and foreign sector banks in India. For 'foreign sector banks', this ratio has highest value in the year 2001 which has upward and downward movement of this ratio during study period and thereafter has 2.9% in the year 2022.

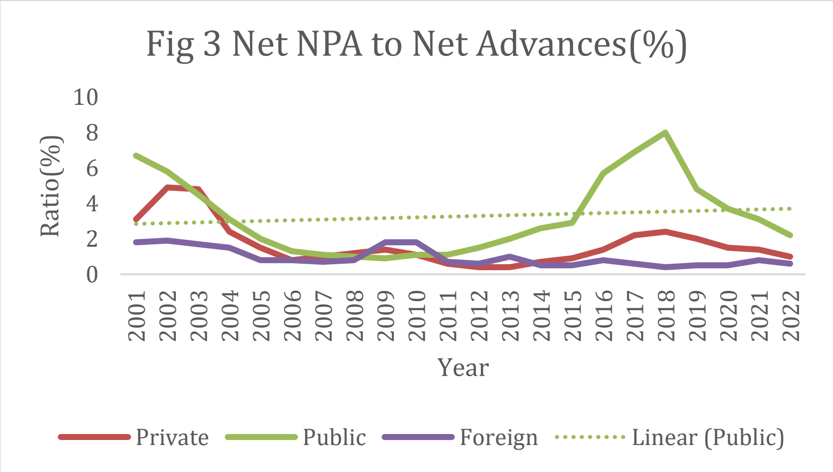
The results of table 2 predicts that Gross NPA to Total Assets ratio has mix trend from financial year 2001 to 2022 in case of 'public, private and foreign sector banks'. In case of 'private sector banks', it fell down from 3.9% in 2003 to 1.8% in 2016 and again started rising with marginal difference in the year 2020 to 3.6% and 2.5% in 2022. In case of public sector banks, the situation is quite different as there is sharp rise in this ratio in the year 2018 to 8.9%. Earlier it had a falling trend from 5.3% in 2001 to 3.2% in the year 2015. It started rising from 5.9% in the year 2016 to 8.9% in the year 2018 and then has a declining trend till it reached 4.3% in the year 2022 which is still more than private and foreign sector banks in India. In case of foreign sector banks, this ratio has 3% (highest) value in the year 2001 which has downward trend of this ratio during study period and thereafter has 1% in the year 2022.

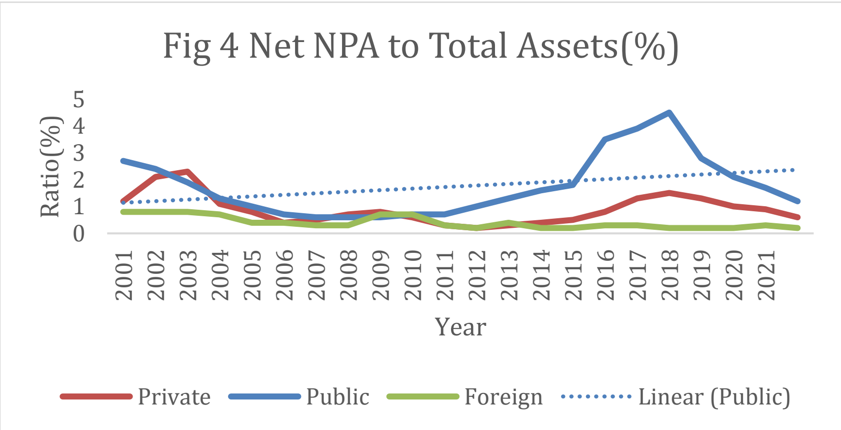
The Net NPA to Net Advances ratio has blend trend during study period. In case of private sector banks, it rose to 4.8% in the year 2003 from 3.1% in the year 2001. Thereafter, it moves down to 1% in the year 2022 though it has slight jump in the year 2018 but it still less than public sector banks. The situation is different in case of public sector banks where this ratio has highest magnitude as compared to private and foreign sector banks during period of study. It is 6.7% in the year 2001, started falling till it reached to 2.9% in the year 2015 and again started rising till it reached its peak of 8% in 2018 during study period. It again started moving down to 2.2% in the year 2022. The case of foreign sector is very interesting as they manage to lower this ratio from range 0.4% to 1.8% during 22 years of study.

The Net NPA to Total Assets ratio has interesting movement during study period. Private banks are able to keep it in the range of 0.2% to 2.3% during study period. Foreign sector banks kept this ratio as lower as possible to 0.2% in most of the years of study. Though this ratio is lower as compared to other ratios in case of public sector banks but still more than private and foreign sector banks. It started falling from 2.7% in the year 2001 to 1.8% in the year 2015. It started rising again in the year 2016-18 till it reached its peak of 4.5% in the year 2018 and again has downward trend till it reached 1.2% in the year 2022. The trendline for public sector banks can be depicted with the help of line graphs in fig. 1,2,3,4 respectively.









The overall analysis of this table shows that though this ratio has mixed trend but in case of public sector banks, this ratio has comparatively more rising trend as compared to private and foreign sector banks. The reason could be economic conditions in the financial year 2018. Various political parties also questioned RBI for failing to take preventive action in checking bad loans in the banking system in the year 2018. The RBI stated in its report in 2023 that the Indian financial system led by a sound banking system remains stable and supportive of productive needs of the economy. Aided by robust earnings, adequate capital and liquidity buffers and improving asset quality, Indian banks are well positioned to sustain the upturn in the credit cycle that has been underway since early 2022.

The strong reason could also be that the 'public sector banks' had a higher exposure to the mining, iron and steel, textiles, infrastructure and aviation sector of the economy. 29% of advances and 53% of stressed advances at PSBs belonged to these sectors in December 2014. Later on, global financial crisis and environmental and land acquisition issues affected the infrastructure projects, adverse court judgements had an impact on the mining and telecom sector and dumping from China impacted the steel industry. Thus, these factors were beyond the control of bank management of PSBs. A broad set of actions, some immediate and others were required over the medium-term and aimed at preventing the recurrence of such crises. The credit growth of banks improved in September 2018 were driven largely by 'private' sector banks. Thus, the learned lesson was that the banks must conduct adequate credit worthiness assessments of borrowers in order to minimise the number of nonperforming assets (NPAs). The credit assessment and performance measurement approaches were applied so that borrowers' creditworthiness can be assessed in a variety of ways (Rana, 2016).

Significant Differences in Non-Performing Assets of SCBs (Public, Private and Foreign Sector Banks) in India

ANOVA one way test has been used to measure the significant difference in NPAs of Public, private and foreign sector banks in India.

Table 3 ANOVA One way Test

Ratios (%)	Between the groups			Within the groups			F value
	SS	MS	df	SS	MS	df	
GNPA to Gross Advances	156.398	446.069	2	78.199	7.080	63	11.044*
GNPA to Total Assets	20.569	10.285	2	34.542	0.548	63	15.933*
NNPA to Net Advances	61.588	30.794	2	138.343	2.196	63	14.023*
NNPA to Total Assets	20.569	10.285	2	34.542	.548	63	18.758*

Note: *, significant at 1% level of significance.

The results of table 3 show that F value for GNPA to Gross advances, Gross NPA to Total Assets, Net NPA to Net Advances and Net NPA to Total Assets is 11.044, 15.933, 14.023 and 18.758 respectively which is significant at 1% level of significance. Hence, H_0 is rejected at 1% level of significance. Thus, the results show that there are significant differences in the NPAs of 'public, private and foreign' sector banks in India.

Further, to check the significant differences in NPAs of private-public, private-foreign and public-foreign sector banks can be tested with help of paired sample T test. The results can be presented in table 4.

Table 4 Paired Sample T-Test

Ratios	Private-Public	Private-Foreign	Public-Foreign
GNPA to Gross Advances	-5.146*	.388	4.445*
GNPA to Total Assets	-4.999*	2.939*	5.246*
NNPA to Net Advances	-4.389*	4.848*	3.320*
NNPA to Total Assets	-4.285*	5.348*	4.729*

Note: *, significant at 1% level of significance.

The table 4 show that the t value of private-public and public-foreign sector banks is significant at 1%level of significance for GNPA to Gross advances ratio. Hence, there are significant differences in NPAs of private-public and public-foreign sector banks but this ratio is not significant for private and foreign banks. It means, there are no significant differences in NPAs of private and foreign sector banks during period of study. The t values for GNPA to total Assets, Net NPA to net advances and Total Assets is significant at 1% level of significance for pairs of private-public, private-foreign and public-foreign sector banks in India. Hence, it can be concluded that there are significant differences in NPAs of private-public, private-foreign and public-foreign sector banks in India during period of study.

Limitations and Scope of further Study

The present paper has covered a period of 22 years to study the trends of NPAs of public, private and foreign sector banks. The study of individual banks in each sector could be studied and better conclusions could be drawn out for each bank in all sectors. Effect of mergers could also be studies. The impact of NPA on profitability, liquidity and solvency of banks along with various determinants of NPAs in each sector could also be studied.

Implications of the Study

Bankers: Due to higher NPAs, banks will suffer significant revenue losses that will possibly affect their brand image and reputation among stakeholders. Due to insufficient funds, banks will have to increase the interest rates on loans to maintain their profit margins. It affects their liquidity, profitability and solvency also. So, the present study will help the bankers to be vigilant for their NPAs so that effective credit policies and strict prudential norms for credit management could be framed to maintain its stake in the economy.

Academicians and Researchers: The present study could be of helpful to researchers and academicians to carry out further research to study the impact of NPAs on profitability of banks. This study could be a base for further analysis of determinants of NPAs of public, private and foreign sector banks.

Conclusion and suggestions to improve NPAs

NPAs are often treated as an intrinsic part of the banking business. Some loans will definitely go bad and this truth is known within banking circles. The Indian banking sector has proven it wrong because it has shown a exclusive competence in pursuing small borrowers while overseeing the bigger ones. The NPAs of public sector banks have upward trend during period of study. Though private and foreign sector banks managed to some extent their rising NPAs with help of professionals, core competent teams and rigorous policies but still it is also having a mix trend of upward and downward movement in NPAs. There is significant difference in the NPAs of 'Public, private and foreign' sector banks during last two decades. The PSBs are more accessible and approachable to small and medium scale industries and poor people of the country. They trust more in PSBs than private and foreign sector banks. Most of the times, these people became unable to repay loan amount to PSBs in due time. It gave rise to mounting non-performing loans that is often clubbed with feeble governance and the peculiar Indian phenomenon of wilful defaulters- individuals who possess the means to repay but chose not to and carry on without any consequences. The actions and signals from regulatory authorities can be a ray of hope in such alarming situation. So, important measures that could be taken to curb rising NPAs are a constant dialogue with borrowers, Lok Adalat, compromise settlements and securitizations of assets. So, the strict follow up and appropriate penal or criminal action, where warranted, would be an indicator to tackle the issue of rising NPAs. Despite the decline in gross NPAs, apprehensions persist over new NPA formation and the prerequisite for better administration of Indian banking system.

References

- Brahmaiah, B. (2019), "Why Non-Performing Assets are more in Public Sector Banks in India, Theoretical Economics Letters, 9, pp. 75-82. Doi: 10.4236/tel.2019.91007.
- Boddu, S. (2019), "Prevention of NPAs: A comparative study on Indian Banks", International Journal of Scientific and Research Publications · Volume 9, Issue 1, January, pp. 618-622. DOI: 10.29322/IJSRP.9.01.2019.p8574
- Bhavani, P., and Veena, V.D., (2011), "NPAs in Indian Banking Sector-Trends and Issues", Journal of banking, financial services and Insurance Research, Volume 9, Issue 1, pp. 67-84.
- Chaitra K.S., and Vasu, V. (2018), "Comparative study on Non-Performing Assets of Public and Private sector Banks", International Research Journal of Management, Sociology and Humanity, Volume 9, Issue 3, pp. 128-144.
- Dhanya P., and Jayashakthi A. (2023), "An Empirical Study on Non-Performing Assets in HDFC Bank", International Research Journal of Modernization in Engineering Technology and Science, Volume 05, Issue07, July, pp 2886-90.
- Das, S.K. (2023), "NPAs in India's banks: trends and determinants", Journal of Money and Business, Vol. 3 No. 2, 2023 pp. 147-158.
- Das, S. and Dutta A., (2014), "A study on NPA of Public sector Banks in India", IOSR Journal of Business and Management, Volume 16, Issue 11, November, pp. 75-83.
- Gurumoorthy, T.R., (2012), "Non-Performing Assets (A study with reference to Public Sector Banks), Indian Journal of Applied Research, 2(2), November.
- Goyal, K. (2010), "Empirical study of NPAs Management of Indian Public Sector banks", APJRBM, Volume 1, Issue 1, October.
- Javheri, J., and Gawali, R. (2022), "A study on NPAs of selected private and Public Sector Banks in India", Indian Journal of Finance and Banking, Vol 9, Issue 1, February, pp. 129-139.
- Kumar, A., and Ghani, U. (2015). An Analysis of Non-Performing Assets and Profitability of Schedule Commercial

Banks in India. International Journal of Business and Administration Research Review, 1(12).

- Kumar, A., Jha, S.K. and Grover, S. (2020), "Impact of Non-Performing Assets on Profitability: A Study of Selected Private and Public Sector Banks in India", The Empirical Economics Letters, 19, October, pp. 129-138.
- Kaur, A. (2012), "An empirical study on the performance evaluation of Public Sector Banks in India", International Journal of Marketing, Financial services and Management Research, 1(11), November, pp. 117-131.
- Mohnani, P. and Deshmukh, M., (2013), "A study of Non-Performing Assets of Public and Private sector Banks", International Journal of Science and Research, Volume 2, Issue 4, April, pp. 278-281.
- Miyan, M. (2017), "A Comparative Statistical Approach towards NPA of PSU and Private Sector Banks in India", International Journal of Advanced Research in Computer Science, Volume 8, No. 1, Jan-Feb 2017.
- Mittal, R.K. and Suneja, D. (2017), "The problem of rising Non-Performing Assets in Banking Sector in India: Comparative Analysis of Public and Private sector Banks", International Journal of Management, IT & Engineering Vol. 7 Issue 7, July, pp.384-398.
- Nagaraj, R. (2013), "India's Dream Run, 2003-08: understanding the Boom and its Aftermath", Economic and Political Weekly, Volume 48, number 20, May, pp. 39-51.
- Reddy, K.S., and Babu, A.S. (2021), "Asset Quality of Commercial Banks in India: An Empirical Analysis, The IUP Journal of Applied Economics, Vol. XX, No. 2, April, pp. 56-69.
- Rana, P. (2016). Analysis of Non-Performing Assets of Public Sector Banks in India. International Journal of Advance Research in Computer Science and Management Studies, 4(6).
- Rajamohan, S. (2012), "Analysis of NPAs of Public Sector Banks in India", International Journal of Business Management Tomorrow, Volume 9, issue II, September, pp. 1-6.
- Sahoo, M. K. and Majhi, M. (2020), "The Recovery Management System of NPA-A case study of Commercial Banks in India", Parisodh Journal, Volume IX, Issue III, March, pp. 5065-5076.
- Sengupta (2023), Indian banking health fortified by low NPAs, capital adequacy and liquidity buffers: RBI, research article accessed from https://bfsi.economictimes.indiatimes.com/news/banking/indian-banking-health-fortified-by-low-npas-capital-adequacy-and-liquidity-buffers-rbi/101362139