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IMPACT OF NPAS ON THE PROFITABILITY OF SELECT PUBLIC SECTOR BANKS (PSBS) AND PRIVATE SECTOR BANKS (PVBS) IN INDIA: AN EMPIRICAL ANALYSIS

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Abstract
The present paper critically examines Net Non-Performing Assets (NNPAs) impact on the net profitability of selected commercial banks and its ultimate effect on the economy's resilience. As per the RBI data, five banks (both public and private) have been taken for the purpose of our study. The research was conducted over a period 2017-18 to 2021-22. The data is collected from secondary sources with the help of published annual reports, journals etc. For the purpose of our study, statistical tools such as correlation has been used to compute the relationship between Net NPA and net profits and regression analysis has been used to find out causal impact of Net NPA on profit of selected banks. Finding of the study showed a negative correlation between NNPA and profitability in case of State Bank of India, Punjab National Bank and Central Bank of India and among Private Sector Banks (PVBs); Axis Bank and ICICI Bank showed an inverse relationship. The output obtained from regression analysis for Public Sector Banks (PSBs) reported an inverse impact of Net NPA on net profits only in case of State Bank of India. Conversely among PVBs; HDFC Bank and Axis Bank showed a negative relationship. More interestingly, the paper also signifies the measures taken by RBI and the Government of India to reduce the NPA crisis.

Keywords- Non-Performing Asset, Net Profit, Private banks, Public Banks, Correlation, Regression Analysis.

Introduction

The economic reforms of 1991 paved the way for private participation in development and redefined the role of government in the economy. It compelled the private sector to demand high investible capital from the banking system. The banking system has observed a phenomenal expansion in the geographical coverage and financial spread after the historical move of nationalization of banks in 1969. The masses had access to the banking services that directly benefitted the economy. India was thriving at 9-10% in the mid-2000s and the economic reform was going to be one of the major attributable reasons as Indian corporate sectors had assumed; consequently increased borrowings. The recommendations of the Narasimham committee on Financial Sector Reform directed the goal of making more funds available to the banks to take care of the banking needs of multifarious sectors of the country. The preface to the problem of NPA and Twin Balance Sheet Crisis is thought to have originated from this period which was worsened due to the global financial crisis of 2008. The domino effect of the global financial crisis can be cited viz. the bleeding balance sheet of the telecom and aviation sector due to a fall in national and international demand, paralyzed policy, and inability to service debt, a substantial portion of the corporate loans were turned companies into IC1 (Interest Coverage < 1) companies.

Banks are the most important financial intermediary for any economy's growth and development. The evolution of the term 'banking' goes back to the 17th century C.E as introduced by British rulers in India. The banking sector of India has witnessed several changes in terms of reforms in policy and other macroeconomic environments. A comprehensive financial sector reform was introduced in 1992-93 by

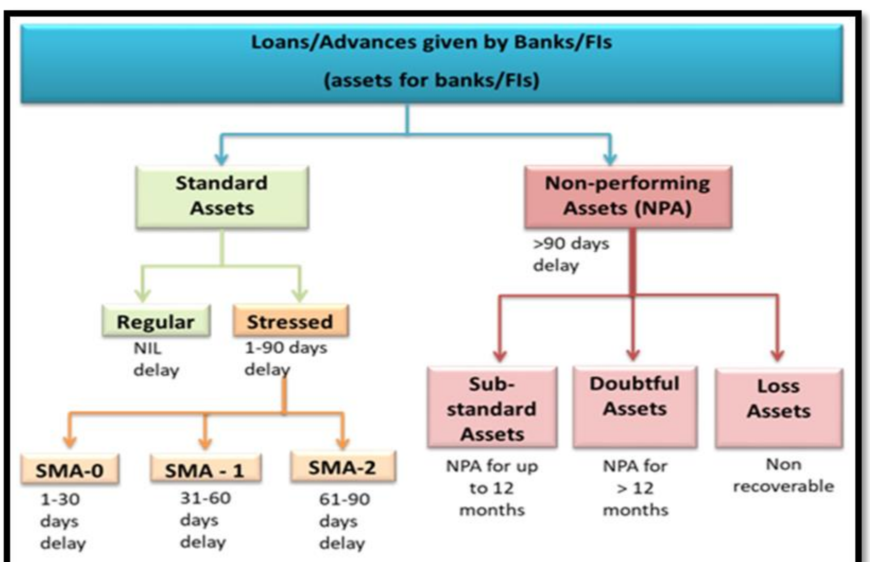
Narasimham Committee (also known as Committee on Financial System) aimed to examine all aspects relating to structure, organization, function, and procedures. Dual control of RBI and Banking Division of Ministry of Finance should be changed as RBI to be made the primary agency for the regulation of the banking system, directed investment and directed credit program to be phased out gradually, RBI to be the sole authority to simplify the structure of interest rates-are few of the recommendations to be mentioned. Today Banking sector of India is among the finest emerging, resilient market economies and well-directed towards meeting the challenges of globalization.

The Reserve Bank of India holds the apex position in the country in classifying the banking structure of India. The Reserve Bank of India Act, 1934 classifies banks as scheduled and non-scheduled banks. All the Public Sector Banks (PSBs) and Private sector banks (PVBs) are Scheduled Commercial Banks.

The present paper focuses on selected Public Sector Banks (PSBs) and Private Sector Banks (PVBs) of the Indian Banking System to study the impact of NPA. In the development of the Indian banking system, PSBs have played a significant role in handling a large volume of operations, worldwide network branches along with their traditional business of mobilizing money resources within the country i.e. lending and accepting money to borrowers and from depositors respectively. PVBs too have emerged as one of the vital financial intermediaries besides PSBs, which have contributed to almost all sectors viz. agriculture, infrastructure, trade, and other various categories of Industry. An inevitable threat to the banking sector is the prevalence of Non-performing assets (NPAs).Today the performance of banks is not only determined based on the number of branches and volume of deposits but also on the quality of assets i.e. whether the asset is fetching regular income for the bank or showing stress to generate regular income. A high level of NPA implies there is high possibility of credit default which further intensifies the bank's inability to continue its business activity. Therefore, managing NPA and limiting it within a tolerance level is vital for a bank's success.

NPA and its classification

Assets that continue to generate income for the bank are known as Performing Assets. When asset discontinues generating income for the bank is known as Non-Performing Assets (NPAs). The current policy of RBI of identifying NPA ensures greater transparency. Under it, if a loan is not serviced for 90 days (one term), it is considered as NPA. The below chart shows the classification of assets of the banks:



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Types of NPA

1. Gross NPA: Gross NPA is the term used by commercial banks that refer to the sum of all the loans that have been defaulted by the borrowers for more than or equal to the ’90 days.
2. Net NPA: Net NPA refers to the amount that result after deducting provisions for unpaid debts from Gross NPA.

Concept of NPA Provisioning

Provisioning simply means keeping aside an amount from profit or income in a particular quarter for non-performing assets; such assets that are having the potential to generate losses in the future. It is a method by which banks provide for bad assets and maintain healthy books of accounts. Provisioning is done based on several factors viz. Category of which asset belongs to, type of the bank i.e. Tier-I banks or Tier-II banks. The guideline of RBI which is based on Basel II norms for Non-performing asset provisioning is as below-

Asset Classification	Period of NPA	Provisioning %
Sub Standard		
Secured	Up to one year	15
Unsecured	Up to one year	25
Doubtful		
Secured	2nd year	25
Unsecured	2nd year	100
Secured	3rd year and 4th year	40
Unsecured	3rd year and 4th year	100
Secured & Unsecured	5th year	100
Loss Asset:	Classification date onwards	100

Reasons for NPA

The income of commercial banks is subject to interest payments by industries, corporates, and individuals against the advancement of loans by these banks to the borrowers to a greater extent. The income gets deteriorated due to the presence of a growing incidence of NPA. The factors that contribute to the rising of NPA are:-

- The unwillingness of big corporate houses to service interest and principal amount(Wilful Default)
- Before the global financial crisis of 2008 banks showed little interest to recognize bad loans as NPA to make their balance sheets look clean; due to which the graph of NPA was skyrocketed after the underlying period once they started recognizing bad loans as NPA.

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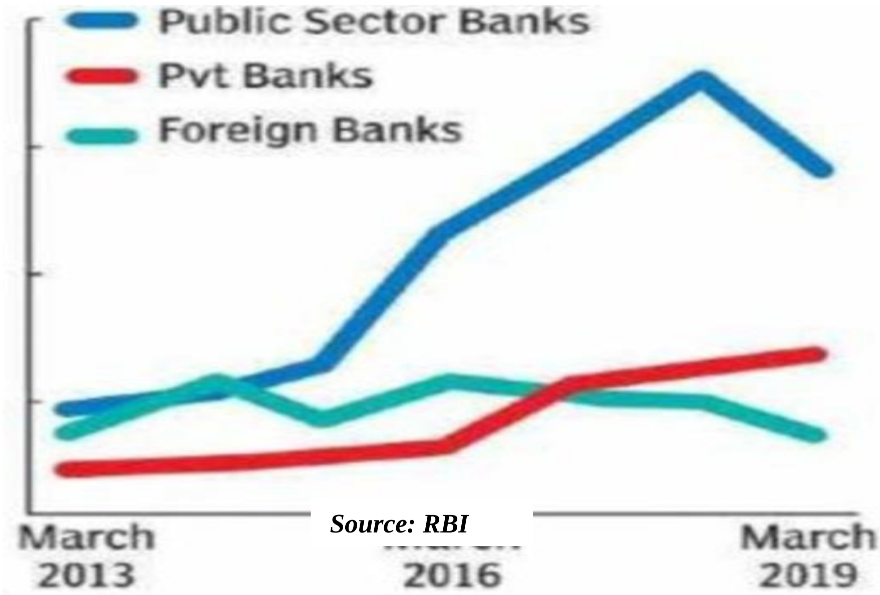
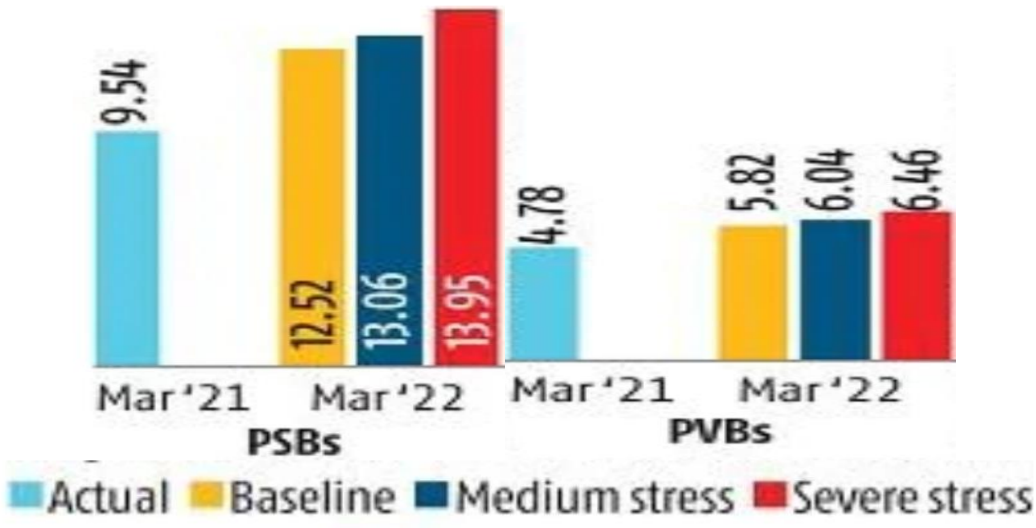


Source: RBI

- The suggestions of the Narasimham Committee (CFS) under the Directed Credit Programme made all Indian banks follow the compulsory target of priority sector lending(PSL) which is 40% for agriculture, small and medium enterprises(SMEs),road and water transport, retail trade, small business, artisans, distressed urban poor and indebted non-institutional debtors besides other weaker section of society.
- The Narasimham Committee (CFS) also suggested Directed Credit Programme should be a case of extraordinary support to certain weak sections rather than just be a regular program. The committee also shuffled the sectors covered under PSL every three years however hardly any follow-up had been taken by the government except cutting down the PSL target for the foreign banks from 40% to 32%.
- Poor government policy incorporates less power and autonomy to banks in the selection of customers (borrowers).
- Loan waiver schemes are frequently brought into effect by the government and thereby discourage borrowers to service loans timely.
- Aggressive lending by the banks to high corporate leverage out of stiff competition among the banks
- Poor surveillance of loan account and follow-up.

The Recent Upsurge of NPA during corona virus pandemic

The Financial Stability Report of 2020 released by the Reserve Bank of India conducted a stress test and classified stress scenarios of the banking sector into four major categories-Baseline Scenario, Medium Stress, Severe Stress, and Very Severe Stress. According to the report, about 14.7% of total loans could become gross non-performing assets in a very severe stressed scenario. The gross NPA ratio could rise to 12.5% under the baseline scenario. The projection of PSBs' and PVBs' GNPA ratios under stressed scenarios for the current financial year stood at 13.95% and 6.46% respectively.



The public sector banks in particular have been hit by the NPA Crisis extremely which has impaired the general credit expansion in the economy. The nationwide lockdown due to the pandemic and a moratorium on loans are one of the important factors behind the surge in NPA. The following figures below shows the moratorium availed by the PSBs and PVBs:

Figure: 1, Moratorium Availed by PSBs

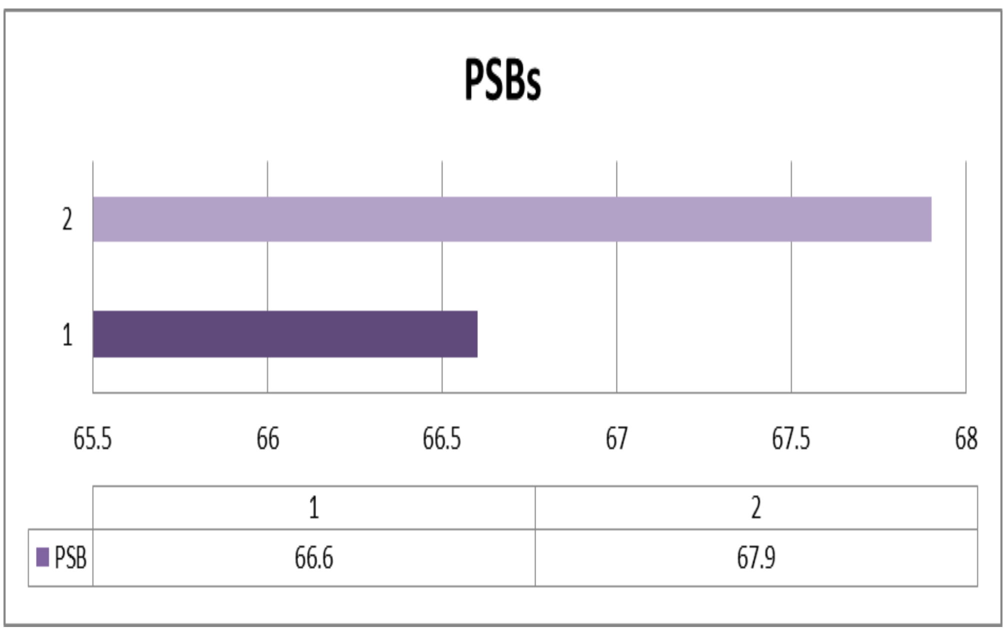


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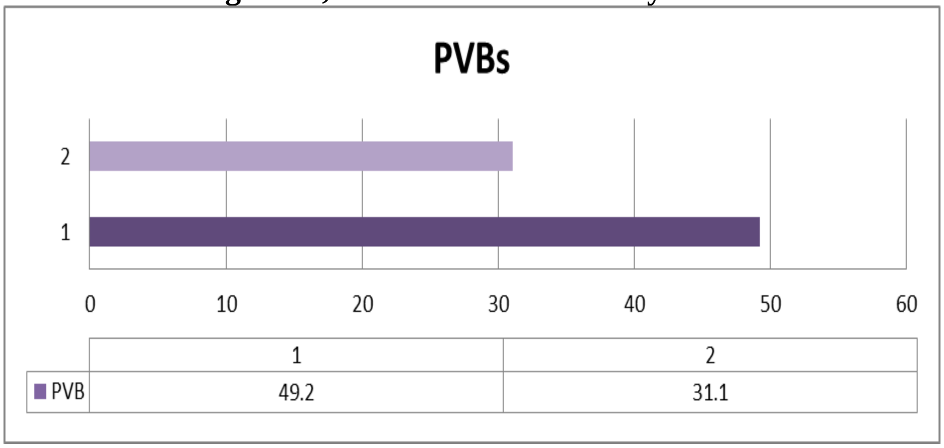
Figure: 2, Moratorium Availed by PVBs



Note:

- Percentage of customers availed moratorium for outstanding loans.
- Percentage of loans outstanding.

Review of Literature

Researchers over a longer period have contested the impact of NPA on the profitability of the banking system in India. A review of relevant literature has been described below:-
Shenbhagavalli et al. (2013) have conducted a study on NPAs in banking with emphasis to PSBs. It examined the cause and impact of NPA in PSBs. The research was conducted by using multiple regression analysis, T-test, Factor analysis, frequency table and reliability test. The paper also explains the reasons for an asset turning bad and suggests way for managing the same.

Rahaman and Sur (2021) have highlighted the major factors that affect the NPAs of PSBs during 1999-2000 to 2015-16. The critical review of 26 PSBs was made using panel data set. The study suggested that the operating efficiency, priority sector lending, business per employee, real interest rate have a direct impact on NPAs of banks. However, other factors such as credit orientation, GDP growth rate, financial intermediation, net interest margin, non – interest income and high capital adequacy reported an inverse relation with the NPAs of banks.

Hussiain, Maheshwari et al. (2021) has examined the impact of NPAs of selected PSBs namely SBI, BOI, UBI, OBC and CB during a period 2015-16 to 2019-20. Both Gross NPAs and Net NPAs have been considered for the purpose of the study. The study revealed that the average ratio of NPA to Total Assets of all banks excluding CB remained very high indicating a need for an effective control of its asset quality.

Samir and Kamra (2013) have made a comparative analysis of NPAs of selected banks such as SBI, PNB and CBI. It mainly highlighted the reasons for NPA and has examined the various sectors of NPA in banks using coefficient of correlation. The paper also suggests various policies and strategies to be adopted by the banks to overcome the mounting problems of NPA and its recovery.

Kandasamy et al. (2013) have examined the impact of various financial ratios on NPA of private banks by using multiple regression analysis. It stated that, a higher priority sector lending would have a positive influence on private banks but transaction cost should be reduced to ensure higher profits.

Jain et al. (2018) has examined the trends in NPA of SBI and ICICI bank from 2013-14 to 2016-17. The paper compares the Total Advances, Net profit, Gross NPA & Net NPA of both the banks and has analysed the existence of linear relationship between Net NPA and net profits. The observed evidence in support of relationship between variables using correlation analysis was found to be insignificant. However, an overview of various reasons for NPA has also been highlighted in this study.

Murugan et al. (2018) in his paper titled A Comparative study of NPAs in public sector banks and private sector banks in India examined that the extent of NPA in public banks is very high as compared to private banks. The study was conducted by using correlation analysis. The paper also discuss about the various factors that are responsible for increasing NPA in such banks.

Research Methodology

NPA is a decisive factor that has disapprovingly affected the growth of financial sector in India. NPAs impact the flow of credit to the Public Sector Banks (PSBs) and Private Sector Banks (PVBs) which in turn affect the development and growth of the economy; for this reason proper flow of credit is very important so as to enhance the growth and development of the economy. The Public Sector Banks (PSBs) and Private Sector Banks (PVBs) have been selected based on purposive sampling technique. The names of selected PSBs are State Bank of India, Punjab National Bank, Central Bank of India, Bank of Baroda, and Union Bank of India and selected PVBs are HDFC, Axis Bank, ICICI, Kotak Mahindra Bank, and IndusInd Bank. Descriptive research method has been used for the purpose of conducting the research. In our quest to study the impact of Net NPA over the profitability of selected banking institutions, the data have been collected from secondary sources such as published annual reports of banks, various articles and websites, etc have been used. The data was collected and analyzed for a period starting from 2017-18 to 2021-22. In the present study the relationship between variables and repercussion between them will be analyzed by using correlation and regression analysis. The research report is mainly focused to analyse the impact of Net Non – Performing Asset (NNPA) on the profitability of PSBs and PVBs.

Scope of the study

A myriad of research papers have signified the impact of NNPAs on the profitability of the banks; however only a few are associated with the time period of the corona virus pandemic. Therefore, it becomes very essential to study this particular area of NNPAs and its impact on the banks in India. The main scope of the present study is to highlight the scenario of Indian banking institutions both Public Sector Banks (PSBs) and Private Sector Banks (PVBs) in India during the phase of the corona virus pandemic.

The objective of the study

- To understand the concept of NPA along with its classification.
- To determine the impact on the profitability of Public Sector Banks (PSBs) due to NPA.
- To determine the impact on the profitability of Private Sector Banks (PVBs) due to NPA.
- To know about the background of the problem of NPA and the major reasons that has contributed to the origination of the NPA crisis.
- To understand the resolutions applied by the Government of India to tackle the NPA crisis.

Hypothesis

H_1: There is a significant impact of Net NPA of PSBs on profitability.

H_2: There is a significant impact of Net NPA of PVBs on profitability.

Data Analysis and Interpretation

Table 1, Relationship between NNPA and Profitability of PSBs from 2017-18 to 2021-22

Year	State Bank of India		Punjab National Bank		Central Bank of India		Bank of Baroda		Union Bank of India	
	Net NPA	Net Profit	Net NPA	Net Profit	Net NPA	Net Profit	Net NPA	Net Profit	Net NPA	Net Profit
2017-18	1,10,854.70	(6,547.45)	48,684.29	(12,282.82)	17,377.87	(5,104.90)	23,482.65	(2,431.81)	24,326.31	(5,247.37)
2018-19	65,894.74	862.23	30,037.66	(9,975.49)	11,333.24	(5,641.48)	15,609.50	433.52	20,332.42	(2,947.45)
2019-20	51,871.30	14,488.11	27,218.89	336.19	11,534.46	(1,121.35)	21,576.59	546.19	17,303.14	(2,897.78)
2020-21	36,809.72	20,410.47	38,575.70	2021.62	9,036.46	(887.58)	21,799.88	828.96	27,280.52	2,905.97
2021-22	27,965.71	31,675.98	34,908.73	3456.96	6,675.17	1,589.35	13,364.65	7,272.28	24,303.30	5,232.10
Correlation	-.932		-.408		-.779		-0.805		.517	

Note: N=5

Table 1 shows the correlation between Net NPA and the profitability of Public Sector Banks (PSBs). Union Bank of India (.517) shows a moderate degree of positive correlation. While State Bank of India (-.932) indicates a high degree of negative correlation, Punjab National Bank (-.408) shows a low degree of negative correlation, and Central Bank of India (-.779) high degree of negative correlation. On the other hand, Bank of Baroda (-0.805) shows a high degree of negative correlation. All the banks except Union Bank of India have a negative correlation showing the inverse relationship between Net NPA and net profits.

Table 2
Regression coefficients of Net NPA and Profitability of PSBs

Name of Banks	P-value	R square	F (1, 3)
State Bank of India	0.021*	0.869	19.851**
Punjab National Bank	0.495	0.166	0.599
Central Bank of India	0.120	0.608	4.644
Bank of Baroda	0.100	0.648	5.522
Union Bank of India	0.372	0.267	1.095
Note: N=5			

*** implies the hypothesis is rejected at 5% level of significance.**
**** F (1, 3); implies that the computed value is greater than critical value.**

Table 2 shows the impact of Net NPA on the profitability of selected PSBs. The R^2 value of 0.869 in case of State Bank of India revealed that the explanatory variable was able to explain 86.9% variability on the outcome variable with F (1, 3) = 19.851, p<0.05. Therefore, we have sufficient evidence to reject the null hypothesis (H_0) in case of State Bank of India indicating that net profits of State Bank of India got impacted due to NPA. However, an inspection to the regression analysis of banks other than State

Bank of India with F (1, 3) < 10.128 (Critical value), p>0.05 showed the acceptance of H0; indicating that the Net NPA did not have any significant impact on the profitability.

Table 3,
Relationship between NNPA and Profitability of PVBs from 2017-18 to 2021-22

Year	HDFC		AXIS BANK		ICICI		KOTAK MAHINDRA BANK		INDUSIND BANK	
	Net NPA	Net Profit	Net NPA	Net Profit	Net NPA	Net Profit	Net NPA	Net Profit	Net NPA	Net Profit
2017-18	2,601.02	17,486.73	16,591.71	275.68	27,886.27	6,777.42	1,665.05	3,411.50	745.67	3,605.99
2018-19	3,214.52	21,078.17	11,275.60	4676.61	13,577.43	3,363.30	1,544.37	4,084.30	2,248.28	3,301.10
2019-20	3,542.36	26,257.32	9,360.41	1627.22	10,113.86	7,930.81	1,557.89	4,865.33	1,886.58	4,417.91
2020-21	4,554.82	31,116.53	6,993.52	6588.50	9,180.20	16,192.68	2,705.17	5,947.18	1,476.57	2,836.39
2021-22	4,407.68	36,961.33	55.12	13,025.48	6,960.89	23,339.49	1,736.71	6,964.84	1,529.83	4,611.12
Correlation	.939		-.927		-.568		.431		.046	

N = 5

Table 3 shows the correlation between NPA and the profit of private banks. HDFC (.939) shows a high degree of positive correlation. While Axis Bank (-.927) indicates a high degree of negative correlation, ICICI (-.568) moderate degree of negative correlation. In case of Kotak Mahindra Bank (.431) and IndusInd Bank (.046) show a low degree of positive correlation. Axis Bank and ICICI have a negative correlation showing the inverse relationship between NPA and Profits.

Table 4
Regression coefficients of Net NPA and Profitability of PVBs

Name of Banks	P-value	R square	F (1, 3)
HDFC Bank	0.018*	0.881	22.299**
Axis Bank	0.023*	0.860	18.381**
ICICI Bank	0.318	0.322	1.428
Kotak Mahindra Bank	0.468	0.186	0.686
IndusInd Bank	0.942	0.002	0.006

Note: N=5

*** implies the hypothesis is rejected at 5% level of significance.**
**** F (1, 3); implies that the computed value is greater than critical value.**

Table 4 shows the impact of Net NPA on the profitability of selected PVBs. The R^2 value of 0.881 in case of HDFC Bank revealed that the explanatory variable was able to explain 88.1% variability on the outcome variable with $F(1, 3) = 22.229$, $p<0.05$. Also, the R^2 value obtained in case of AXIS Bank is 0.860 which revealed 86% variability in the control variable is explained by predictor variable with $F(1, 3) = 18.831$, $p<0.05$. Therefore, we have sufficient evidence to reject the null hypothesis (H_0) in case of both HDFC Bank and AXIS Bank indicating that net profits of both these banks got impacted due to NPA. However, an inspection to the regression analysis of banks other than HDFC and AXIS Bank with $F(1, 3) < 10.128$ (Critical value), $p>0.05$ showed the acceptance of H0; indicating that the profitability did not got impacted due to NPAs.

Resolutions taken by the government to solve NPA

As of December 2021, the Gross NPA in PVBs is 2.04 lakh crore. PSBs have even higher NPAs which is Rs.5.40 lakh crore crippling the biggest part of lending activities in the country as they account for over 70% of the country's banking sector. Reserve Bank of India over the years has introduced multiple schemes to resolve the NPA Crisis.

Flexible Refinancing Infrastructure(5/25 scheme): Aims to improve the credit profile and liquidity position of borrowers while allowing lenders to extend the period of loans to 25 years with interest rates adjusted every 5 years.

Strategic Debt Restructuring (SDR): An opportunity for banks to convert the debt of the companies to 51% equity to be sold to the highest bidders with the dilution of ownership.

Asset Reconstruction Companies (ARC): Asset Reconstruction Company was set up on the recommendations of Narasimham Committee I under the SARFAESI Act (2002), to buy bad loans from banks and collect and manage them. The Union Budget of 2021-22 highlights the establishment of NARCL, a bad bank to purchase bad loans from banks. IDRCL, an Asset Management Company will sell the assets (bad loans) taken over by NARCL.

Basel Norms of RBI: These are standard norms for regulation of the banking sector to ensure adequate capital with banks as security against the risk of non- recovery, which is measured by the Capital Adequacy Ratio (CAR). Scheduled commercial banks are required to maintain 9% of Risk Weighted Asset as Capital to Risk-Weighted Ratio (CRAR).

Automation of Income Recognition, Asset Classification, and Provisioning Process of Banks: The system-based asset classification aims to improve banks' efficiency and transparency because the process of manual identification of asset classification, income recognition, and provisioning is set to be eliminated.

Conclusion

It can be concluded from the empirical analysis that, among the selected public sector banks, State Bank of India's profitability got a significant impact due to NPA. Whereas in case of private banks, the profitability of only HDFC and Axis Bank during the study period reported a significant impact due to Net NPA. Banks other than SBI, HDFC & Axis Bank reported an insignificant relationship that widens the scope for further study about other factors other than Net NPA that can affect profitability of banks. The growing incidence of NPA necessitates banks to maintain provisions that reduce the lending capacity of banks and also impact the profitability of banks. This will result in lower dividends to the shareholders and erodes the market value of banks. The recapitalization of banks is based on their performance and profitability. Therefore, the study suggests that banks should make their credit policy and credit appraisal procedure more stringent, and follow guidelines and resolutions issued by regulatory bodies to prevent and reduce the NPA crisis respectively.

Limitation of the study

- The profitability of banks is affected by various factors however the focus of the present paper only is on NPA.
- Five banks of each sector i.e., public and private are selected, the rest are ignored.
- Data was collected for the period of 2017-18 to 2021-22 for five years, thus better results and better insights can be achieved if a longer period is considered.

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