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A Systematic Literature Review On Non-Performing Assets In Public Sector Banks

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Abstract
The banking sector is a significant element of any financial system, and non-performing assets (NPAs) represents a significant challenge within the system. Narsimhan committee introduced non-performing assets in 1991 on "Financial Sector Reforms". This paper offers a comprehensive literature review covering the period from 2003 to 2023, with a focus on NPAs in the Indian banking system. It explains the definition, growth, composition, determinants, recovery channels, and management of NPAs. The research highlights various reasons for debt piling contributing to the upliftment of NPAs, including poor credit recovery systems, inadequate credit appraisal and monitoring, government policies, and wilful defaulters. Addition to this, it investigates the determinants of NPAs, such as bank-specific variables and macroeconomic factors. The problem of NPAs become a hinderance in the economic development of the country. The study also delves into recovery channels, including Debt Recovery Tribunals and the SARFAESI Act, proposed by researchers to mitigate NPAs. Through a systematic literature review, the paper highlights gaps in existing research and suggests future directions for exploring effective NPA management in Indian commercial banks.

Keywords
NPA, Recovery channels, Banks, Financial Institute

Introduction
The banking sector serves as a cornerstone of every financial system. Non-performing assets represent the loans and advances that are in default when interest or principal amount remain overdue for some time. Recent research has labelled NPAs as an important "financial threat" (Mishra et al., 2019). According to the Reserve Bank of India (RBI), an asset is classified as NPA if, interest and/or instalment of principal remain overdue for more than 90 days (RBI Annual Report, 2021).

The Narasimhan Committee Report (1991) proposed that any advances in savings, cash credits, or overdrafts where the interest remains unpaid for a period of four consecutive quarters (equivalent to 80 days) should be classified as Non-performing Assets (NPAs). Additionally, if the interest payments or instalments of the principal remain overdue for more than 180 days, any previously credited amount should also be classified as an NPA. However, the report acknowledges that a lenient requirement of '90 days' has been adopted in line with international standards, ensuring greater transparency and adherence to global norms.
According to the Reserve Bank of India (RBI), when an amount stops earning it turns into NPA. Loans and advances are classified as performing and non-performing. Loan assets become non-performing (NPAs) when -

i. In respect of term loans, interest and/or installment of principal remains overdue for more than 90 days;
ii. In respect of Overdraft or Cash Credit advances, the account remains "out of order", i.e. if the outstanding balance exceeds the sanctioned limit/drawing power continuously for a period of 90 days, or if there are no credits continuously for 90 days as on the date of balance-sheet, or if the credits are not adequate to cover the interest debited during the same period;
iii. In respect of bills purchased/discounted, the bill remains overdue for more than 90 days;
iv. In respect of agricultural advances
(a) for short-duration crops, where the installment of principal or interest remains overdue for two crop seasons; and
(b) for long-duration crops, where the principal or interest remains overdue for one crop season.
NPAs are classified into Sub-standard, Doubtful, and Loss assets-
i. Sub-standard: A loan asset that has remained nonperforming for a period less than or equal to 12 months.
ii. Doubtful: A loan asset that has remained in the substandard category for 12 months.
iii. Loss: A loan asset where loss has been identified but the amount has not been fully written off.

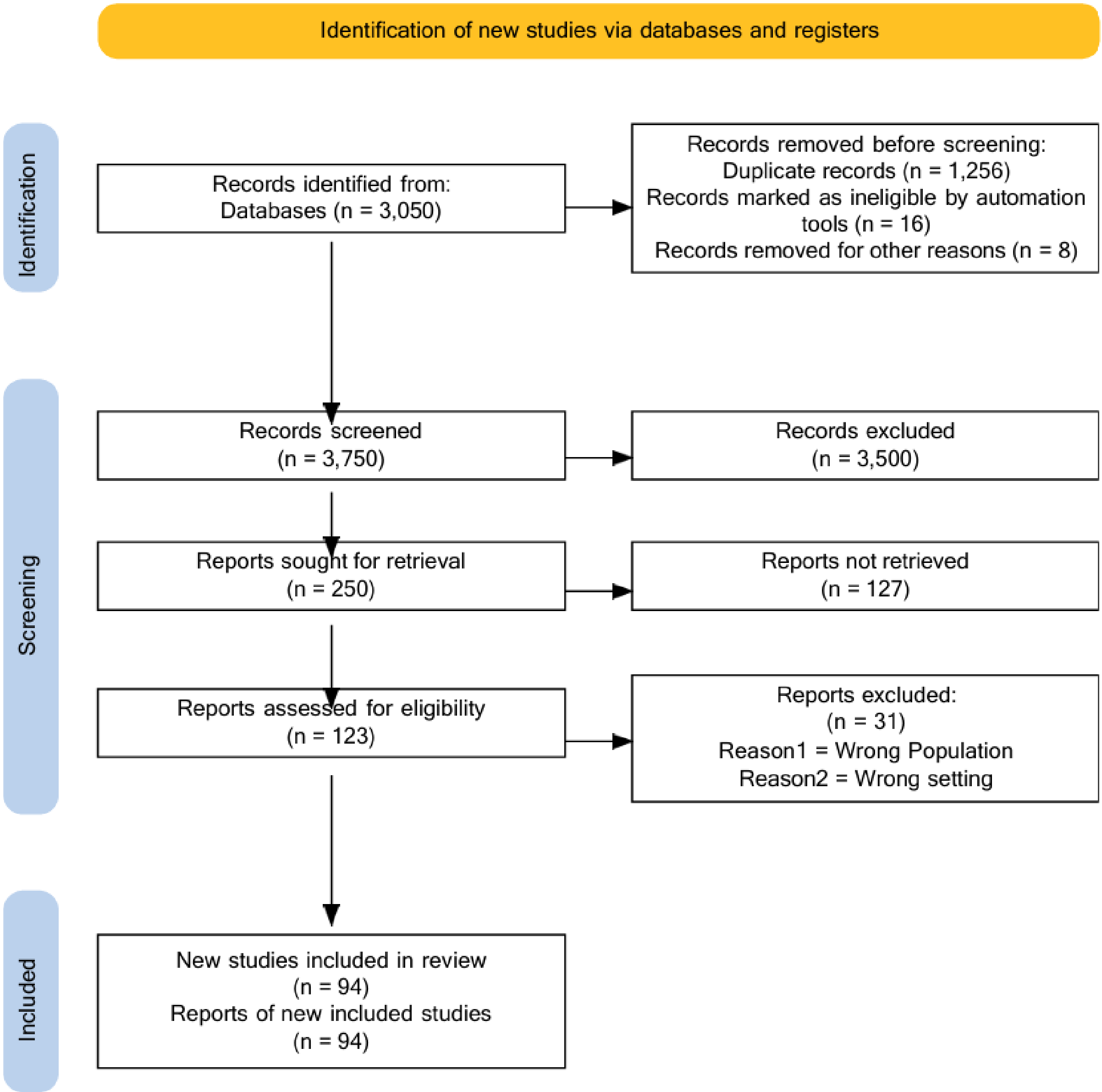
Substandard Assets:
i. A general provision of 15% on the total outstanding;
ii. Additional provision of 10% for exposures that are unsecured ab initio (i.e. where the realizable value of the security is not more than 10 percent ab initio;
iii. Unsecured Exposure in respect of infrastructure advances where certain safeguards such as escrow accounts are available – 20%.

Doubtful Assets:
-Secured portion: i. Up to one year – 25%
ii. One to three years – 40%
iii. More than three years – 100%
-Unsecured portion 100%

Loss Assets: 100%
(RBI bulletins, 2023)

Methodology:
The primary aim of the literature review is to examine existing research, comprising articles, research papers, working papers, PhD thesis, annual reports, and bulletins for a detailed analysis of the definition, growth and composition, determination, financial ratios, recovery channels, financial sustainability and other aspects of NPA management of commercial banks. The paper published from 2003 to 2023 has been selected for review. The duration is attributed to the inception of the NPA concept following the financial sector reforms implemented in 1991, as per the recommendations outlined in the Narasimhan Committee Report (Narasimhan, 1991). Hence, research is conducted from 2003 to 2023 to review a trend of non-performing assets in the Indian Banking System. The selected papers for the literature review have been chosen through a systematic approach to reviewing the literature. The research papers and articles were selected by conducting keyword searches within the abstracts and concluding remarks of the entire database.

Google Scholar is used to search the keywords. At the first search total 260 articles appeared, further these 260 articles are analysed on the basis of abstract and conclusion. On the basis of NPA trends and determination total 123 articles are taken into consideration. In the thirds step, a through analysis of 123 articles was done and confirm on the base of significance of the study result. As a result, 92 articles were confirmed for the final study. The process of systematic literature review used in the study is shown in Fig 1.



Source: Prepared by Authors.

Fig. 1. Steps taken to Carried out Systematic Literature Review.

Literature Review:

Non-performing assets-

The issue of non-performing assets (NPAs) has garnered significant attention within the banking sector, prompting extensive research to understand its underlying causes and implications. Many published papers have delved into the area of non-performing assets and many researchers have studied the issue of NPA in the banking sector. Non-performing assets arise when a borrower defaults in making the payment on time. Any asset that stops giving returns to its investors for a specified period is known as a Non-Performing Asset (NPA) (Kapoor, B. & Kumar. R. 2020). The rise in NPAs affects the profitability and efficiency of the banking sector leading to the deterioration in asset quality (Ali et al., 2020).

Composition, growth and trend of npa-

A review of the relevant literature has been described. Research by Ali et al. (2020), Paramasivam and Srividhya (2017), Kattidiyali and Sisugoswami (2020), Bhaskaran et al., (2016), Mehta and Jha(2020), and others have shed light on the reasons behind the escalating NPA crisis. NPAs are on the rise in the banking industry due to various reasons such as poor credit recovery (Ali et al., 2020), Inadequate monitoring systems (Paramasivam, C. & Srividhya, G., 2017), Lack of management(Ali et al., 2020), Unsecured loans(Kattadiyil, B & Sisugoswami, M., 2020), Government policies(Bhaskaran et al., 2016), Wilful defaulters(Mehta. K & Jha, S., 2020).

Bhaskaran et al. (2016) in the research paper "Non-performing assets of public and private sector banks in India – a comparative study" stated that private sector banks exhibit better loan recovery performance compared to public sector counterparts. This difference is attributed to the absence of robust secured loan policies in the public banks, as well as a mandatory lending obligation towards sectors like micro-units and poverty alleviation programs like IRDP, RREP, Jwahar Rojgaar Yojana(JRY), Pradhan Mantri Rojgaar Yojana (PMRY), etc. government scheme often aim to provide financial inclusion by extending credit to individuals who may not have the access to traditional banking services (Singh, 2013). These mandatory loans often turned into NPAs due to non-repayment or government waive-off schemes. The researcher also identifies that lending in priority sector is more as compared to non-priority sector (Bhaskaran et al. 2016). The government policies formulated and mandate a compulsory lending phenomenon is a reason for increasing NPAs. The problem of NPA is greater in the public sector banks as compared to private and foreign banks in India. (Samir and Deepa 2013)

Samir & Kamra D (2013) in the research paper "A comparative analysis of non-peforming assets (NPAs) of selected commercial banks in India" mentioned that NPAs are increasing as banks try to avoid the prolonged legal battle, while Kattidiyali and Sisugoswami (2020) highlighted that banks are doing improper evaluation at the appraisal stage of borrowing screening, driven by banks' target. Aggressive lending to corporate entities (Paramsivam & Srividhya, 2017) and granting loans to ineligible people or without security and to inefficient projects (Shenbagavalli et al., 2013) further escalate the NPA issue.

Moreover, Mehta & Jha (2020), Kattadiyil & Sisugoswami (2020), Shenbagavalli et al. (2013), and Jayadev & Padma (2020) in their articles respectively point out the wilful defaulter's trend. The reasons for this phenomenon vary, such as banks offering loans to already wilful defaulters even if they do not have CIBIL score at a high rate of interest, borrowers not in the condition to repay the loans, customers are capable but intentionally choosing not to pay and rest on the government waive off scheme. Abhilash (2021) emphasizes the need for pre-approval checks and the construction of a committee to control NPAs.

Yurttadur et al. (2019) draw light on the prevalence of NPAs in the banking sector, such as in Turkey, while Bodla and Verma (2007) signify the importance of credit assessment and monitoring mechanisms to mollify NPA risks. Deposit insurance, regulations, and efficiency play crucial roles in describing banking failure and are the elements of Macro-level factors highlighted by Wheelock and Wilson (1995). Ghosh (2005) suggests that high leveraged corporate sector increases the risk of default and affects assets quality of the bank.

Us V. (2014) in his research paper mentioned that now banks have better understanding of NPAs and government of India with RBI took measures to control the increasing NPAs. Majority NPA comes from agriculture and corporate loans in the banks.

Ali et al. (2020) in the research state that quality of assets is gradually diminishing due to insufficient evaluation of proposal and poor repayment capacity. A substantial segment of non-performing assets (NPAs) within Public Sector Banks (PSBs) remains entrenched in legal processes, while another portion is nearly unrecoverable due to defaults by Public Sector Units (PSUs), facilitated by government-guaranteed loans. Researcher conclude that a list to defaulters should be advanced by the banks and it should be available to every bank.

Table 1. Table of Elements and Authors in the NPAs studies.

Elements	Author
Assets Quality	Gupta S, Kumar V, Khanna R (2020)
Profitability	Aggarwal N, Aggarwal V (2019)
Credit Recovery System	Ali A, Singh P, Ali S (2017) ; Samir & Kamra D (2013) ; Mehta K, Jha S (2020) ; Kattadiyil, B & Sisugoswami, M., (2020) ; Bhaskaran R et. al., (2016);
Credit Monitoring System	Paramsivam C, Srividhya G. (2017)
Management	Ali A, Singh P, Ali S (2017)
Credit Appraisal	Paramsivam C, Srividhya G. (2017); Kattadiyil, B & Sisugoswami, M., (2020)
Priority vs Non priority sector	Bhaskaran R et. al., (2016); Arora N, Arora G N, Kanwar K (2018)
Wilful Defaulters	Mehta K, Jha S (2020); Kattadiyil, B & Sisugoswami, M., (2020)

Determinants of npa-

Some researches also mentioned the determinants of NPA.

Mensah et al. (2015) conducted research on the factors influencing non-performing loans within the Ghanaian banking sector, examining both bank-specific variables and macroeconomic factors. The study focused on 12 Ghanaian banks and utilized data spanning from 1998 to 2008. Employing a random-effects panel regression model at the national level to control for cluster effects, the research found that elevated credit growth, provisions for loan losses, and bank-specific factors were the primary drivers in mitigating non-performing asset levels. Jayadev and Padma (2020) conducted a review on the influence of deliberate defaulters on Indian banks. Utilizing quarterly data disclosed by CIBIL spanning from 2003 to 2016, encompassing 48 quarters, the study employed Ordinary Least Squares (OLS) time series regression analysis. The findings of the research indicated that both bank-specific factors and macroeconomic variables had a notable effect on GDP, bank credit, recovery amounts, and intentional defaults. Aggarwal & Aggarwal (2019) investigated the Non-Performing Assets (NPA) situation in the Indian banking system and found that the Gross NPA position of banks initially exhibited a low growth rate (calculated using the geometric mean) but steadily increased over time. In 2015, the RBI conducted an "asset quality review," leading to a sharp rise in NPA growth. The poor asset quality poses a challenge for banks because, according to RBI guidelines, banks must set aside provisions based on their asset quality, resulting in a decline in bank profitability. This not only impacts the profitability of banks but also affects shareholders' wealth. Therefore, stringent norms introduced by the RBI are necessary to control the growth of these assets. The impact includes the quality of assets and declining bank profitability. Garg (2019) employed the OLS regression method in a study spanning from 2008 to 2017. The incline in the value of NPAs in Japan, which were predominantly grant against collateral, had a significant impact on their balance sheets. Dhar S & Bakshi A (2015) analyzed loan losses from 2001-05 using a panel method. They found that certain bank-specific factors, such as net interest margin and capital adequacy ratio, have a negative and significant impact on the gross non-performing advances (GNPA) ratio of Indian PSBs. The study also revealed that the relative proportion of sensitive sector (SEN) advances, which include commercial real estate, commodities, and capital markets, is positively associated with the NPA ratio, and this relationship is statistically significant. The research aimed to validate various hypotheses proposed in the literature and underscored the significance of bank-specific variables in explaining loan loss issues. All the independent variables selected for the analysis are fundamental determinants of banks' performance concerning asset quality, earning capacity, management efficiency, capital adequacy, and liquidity. Akhter N (2023) conducted analyses using both Random Effect Model and Fixed Effect Model for the period 2011-20, with the Fixed Effect Regression Model being chosen based on the Hausman test results. Firm-specific determinants were examined: a) Bank size and NPAs: The study found a positive relationship between bank size and NPLs, suggesting that larger banks are more prone to creating NPLs compared to smaller competitors. b) Capital adequacy and NPLs: A negative relationship was observed, indicating that banks tend to avoid risky lending to protect their capital, leading to better control over problematic loans. c) Provisioning policy and NPLs: Positive relationship were found, indicating that banks allocate funds for provisions to mitigate potential defaults from clients in challenging environments. d) Profitability and NPLs: Profitable banks experienced fewer issues with loan repayments, suggesting efficient management in their operational systems. Juber MD (2021) investigated the factors contributing to NPAs by analyzing annual reports from RBI and commercial banks. The study suggested that changes in government policies, such as the ban on plastic bags, adversely affected industries reliant on such products, leading to increased bad loans. Additionally, shifts in consumer lifestyles can render industries with outdated products obsolete. Natural disasters, wars, and prolonged public unrest are unavoidable circumstances that necessitate government intervention in managing assets that turn into NPAs, with banks needing to adopt a sympathetic approach. The study identified the following key reasons for NPAs: Diversions of funds by borrowers, Inadequate legal action against defaulters, Political interference in lending practices, Insufficient follow-up monitoring, Overemphasis on lending to economically weaker sections contributing to NPAs, Credit guarantee schemes and exemptions on collateral security were found to elevate NPA levels. Yuttadur M. et al. (2019) in his research suggested the impact of NPA on banks, capital adequacy ratio, real state and assets quality. It also state the increasing NPA affect the profitability of the banks. In their study on converting NPAs into assets for economic growth, Kattadiyil & Sisugoswami (2020) employed ratio analysis spanning from 2013 to 2019. The study concludes that problematic lending practice is characterized by a lack of transparency in loan disbursement.

Author	Causes of NPAs
Mensah et al. (2015)	Elevated credit growth, Provisions for loan losses, and bank-specific factors.
Jayadev and Padma (2020)	bank-specific factors and macroeconomic variables had a significant effect on GDP, bank credit, recovery amounts, and intentional defaults.
Garg (2019)	Loans granted against collateral are not recovered fully.
Dhar S & Bakshi A (2015)	Bank-specific factors (such as net interest margin and capital adequacy ratio, have a negative impact on the (GNPA) ratio of Indian PSBs).
Akhter N (2023)	Firm specific factors (a.) Bank size – Larger the bank more the NPAs. b.) Capital adequacy – bank do not invest in risky business. c.) Provision policy – banks set aside funds to guard against potential client default. d.) Profitability – profitable banks experience less issues with repayment.
Juber MD (2021)	Government policy for environmental benefits adversely affects the NPAs (such as ban of plastic bags). Industries with obsolete technology and natural disasters such as war, flood, etc.
Yuttadur M. et al. (2019	capital adequacy ratio, real state and assets quality impact NPAs
Kattadiyil & Sisugoswami (2020)	NPAs increases due to lack of transparency in loan disbursement.

Other determinants are:

1. **Economic Slowdown -** Kattadiyil & Sisugoswami (2020) A worldwide, regional, or domestic financial slowdown can lead to diminished margin and profit from business,

impending strain on the balance sheet. this strain can lead to the inability of the organization to meet loan obligations as seen in the 2008 financial crisis. economic recession (Ali & Parveen, 2020)

2. **Inadequate credit assessment** - inadequate evaluation of creditworthiness. Paramasivam C, Srividhya G (2017)

3. **Insufficient risk management** - Ali et al. (2020) The employees are not trained well to handle the cases related to NPAs. The researcher also suggested constructing a committee, especially for NPA cases.

4. **Credit recovery system** - Samir & Deepa (2013) Credit recovery within the banking sector suffers from ineffective bankruptcy laws, prolonged legal disputes, and persistent non-performing loans, particularly those extended to public sector undertakings (PSUs). Additionally, factors such as loan waivers and priority sector lending contribute to this challenge. Some of the loan amount is entangled in legal proceedings, while another portion becomes unrecoverable because it is backed by a government guarantee. (Ali et al. 2020)

5. **Credit Appraisal -** Banks and Financial institutions during the approval of the loan levy on the documents and approve the loan because of the target job. Banks provide corporate loans without background checks.

6. **Compulsory Government Policies** - The private bank manages the credit risk more efficiently than public sector banks. In the PSBs government mandates compulsory lending under the priority sector.

7. **Follow-up by banks**: There is no follow-up by banks after granting loans. It is important to visit the organization for the follow-up.

8. **Wilful defaulters**: There is an increase in wilful defaulters because of the waive-off policy by the government and due to this policy certain defaulters are capable of paying the loan amount but choose not to give it back.

Recovery chhanels

Kumar et al. (2020) unveiled an ongoing escalation in NPAs annually, particularly evident in public sector banks (PSBs) where the ratio of gross NPAs to net advances is on the rise. In contrast, this ratio is dwindling for private and new banks. To address this issue, the Central Government has implemented various measures, including the establishment of Debt Recovery Tribunals (DRT) and the SARFAESI Act. Despite these efforts, NPAs persist at elevated levels in Indian banks compared to global benchmarks. Ensuring lending to financially robust customers is imperative, as prevention is preferred over cure. Arindham Bandyopadhyay emphasized the vital role of NPA control for maintaining a resilient financial system. Analyzing authentic data and credit resource planning, the impact of measures like the one-time repayment scheme, SARFAESI Act, Lok Adalats, and Debt Recovery Tribunals was scrutinized. The study underscored the inevitability of NPAs in the financial sector, highlighting the importance of effective management for its sustainable growth. Ali et al. (2020) proposed comprehensive remedial measures, encompassing enhancements in pre-sanction appraisals, establishment of reminder systems, creation of recovery campuses, exploration of loan compromise options, and utilization of legal measures such as recovery through courts, DRT, Lok Adalats, corporate debt restructuring, and the SARFASI Act to mitigate the burgeoning NPAs. Vivek Rajbahadur Singh (2016) delved into the necessity of effective NPA management, suggesting that ARCs endowed with statutory or regulatory authority could serve as pivotal resolution entities alongside CDR mechanisms for managing NPAs.

Research gap

Numerous studies have addressed the intricate issue of Non-Performing Assets (NPAs) in banks. A thorough review of literature reveals a predominant focus on aggregate data from scheduled commercial banks, examining the composition, growth, and trends of NPAs. However, there is a notable dearth of empirical research on individual bank dynamics regarding NPA composition, growth, and trends. Additionally, there has been limited exploration into the implementation of effective models for assessing NPA management, particularly concerning various bank performance indicators such as liquidity, profitability, and solvency. Notably, the literature review lacks discussion on the effectiveness of bank specific factors and macroeconomics factors such as government policies, wilful defaulters, credit assessment, credit appraisal, GDP, inflation rate, interest rate and risk management practices through primary data.

Table 2: Reviews of Authors

Section of NPA	Authors	Area
Identification of NPA	Mishraa, Patel and Jain (2021)	Defined NPA
	RBI Annual report, 2023	Defined NPA, Classification of NPAs
	(Kapoor, B. & Kumar. R. 2020).	NPA definition
Composition, Growth and Trend of NPAs	Ali and Singh (2020)	Assets quality
	Paramasivam and Srividhya (2017)	Evolution of NPAs
	Kattidiyali and Sisugoswami (2020)	Trend and status of NPAs
	Bhaskaran et al., (2016)	Sector-wise NPA
	Mehta and Jha(2020)	Trend and status of NPAs
	Ali and Singh (2020)	Concept, trend, and status of NPAs
	Samir and Deepa (2013)	Growth of NPAs
	Us V. (2014)	Concept and specialised properties of NPAs
	Jayadev & Padma (2020)	Effect of NPAs
	Abhilash (2021)	Sector-wise NPA

	Hawaldar I. et al. (2020)	Sector- and bank-wise NPAs
	Yurttadur et al. (2019)	Trend of NPAs
	Ghosh (2005)	Trend of NPAs
	Bodla and Verma (2007)	Cause of NPAs
	Wheelock and Wilson (1995)	Bank-wise NPAs
Determinants and Reasons	Franklin Amuakwa-Mensah, Angela Boakye-Adjei (2015)	Banking and macroeconomic variables of NPAs
	Jayadev and Padma (2020)	Bank-specific and macroeconomic variable of NPAs
	Aggarwal & Aggarwal (2019)	Size and growth of NPA
	Garg (2019)	Cause of NPA
	Dhar S & Bakshi A (2015)	Bank specific factors
	Akhter N (2023)	Firm specific determinants
	Juber MD (2021)	Impact on NPAs
	Yuttadur M. et al. (2019)	Size and growth of NPAs
	Kattadiyil & Sisugoswami (2020)	Recession impact on NPAs
	Paramasivam C, Srividhya G (2017)	Impact on NPA
	Ali & Parveen, 2020	Degree of NPA
	Samir & Deepa (2013)	Indicators of NPA
Recovery Channels	Kumar et al. (2020)	DRT and SARFAESI Act
	Ali et al. (2020)	One-time repayment scheme, SARFAESI Act, Lok Adalats, Debt Recovery Tribunals
	Vivek Rajbahadur Singh (2016)	Asset Reconstruction Company (ARC) in NPA management, corporate responsibility adjusting (CDR) instruments

Conclusion

Indian commercial banks are grappling with challenges posed by non-performing assets (NPAs), as they significantly impact the financial stability and performance of these banks. Moreover, adherence to Basel standards for maintaining high liquidity is imperative for banks. Therefore, addressing NPA issues is crucial to safeguard financial performance and preserve the reputation of banks. Both the RBI and the Government of India have taken measures to mitigate the volume of NPAs in commercial banks. Researchers have conducted a comprehensive review of literature from various global and Indian sources, identifying gaps in existing analyses and suggesting future research directions to explore novel approaches for managing NPAs in Indian commercial banks.

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