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NON-PERFORMING ASSETS MANAGEMENT OF COMMERCIAL BANKS IN INDIA – A LITERATURE REVIEW

Manoj Kumar Sahoo*, Muralidhar Majhi**

Abstract *The present study analyses existing studies on various issues of Indian commercial banks related to non-performing assets (NPA). The problem of NPA is not only precarious in India, but also across the globe. In other words, NPA is like a large red balloon, a red signal for the banking system in India. The reason for the investigation is to analyse the accessible literature, to place in a nutshell the various points of view of NPAs. The article divides the existing literature into different sections, for a detailed analysis of the identification, growth and composition, determinants, financial ratios, recovery channels, financial sustainability, and other aspects of NPA management of commercial banks. The papers which have been chosen for the literature reviews are based on a systematic literature review. The research papers and articles have been selected by searching keywords in the abstracts and concluding remarks of the whole database. The systematic review process conveys and assists in the selection of appropriate articles for the study. The scope of this research will be helpful to bankers in finding new directions to analyse the management of NPAs, and academicians and researchers in conducting exploratory research. The study presents the research gaps that occur in the management of NPAs, to explain research that can bring an insight into the literature. A wide-ranging review of NPA will not only help identify the issues, but also establish effective management of NPAs.*

Keywords: *Banks, NPA, Recovery Channels, Sustainability*

INTRODUCTION

The present global financial catastrophe that is drawing the consideration of academicians and policymakers is a result of the problems arising from non-performing assets (NPA) management. Today, NPA is a cancer in the Indian banking system; NPAs are a big problem for Indian banks. Even before Indian banks meet the Basel III standards, they must fight the scourge of the NPA that threatens to strike at its heart. The industrial health life of the bank is measured by NPAs. The mounting amount of gross NPAs are contributed by the public sector banks and private sector banks; this is accrued mainly due to the non-priority sectors. The profitability of banks is decreasing due to the increase in NPAs. Therefore, to improve the profitability and competency of banks, the reach of the NPAs should be reduced to the appropriate level and be regulated. The liquidity, profitability, and solvency performance of banks are affected by the high NPA rate, which means that banks can extend large amounts of credit. Thus, the financial sustainability of the Indian banking sector requires adequate maintenance of capital. On the contrary, to keep Indian banks in line with international standards, the Basel principles should be applied with great care. Therefore, to achieve financial stability, banks must improve their recovery mechanism, the quality of assets, and have adequate provisions.

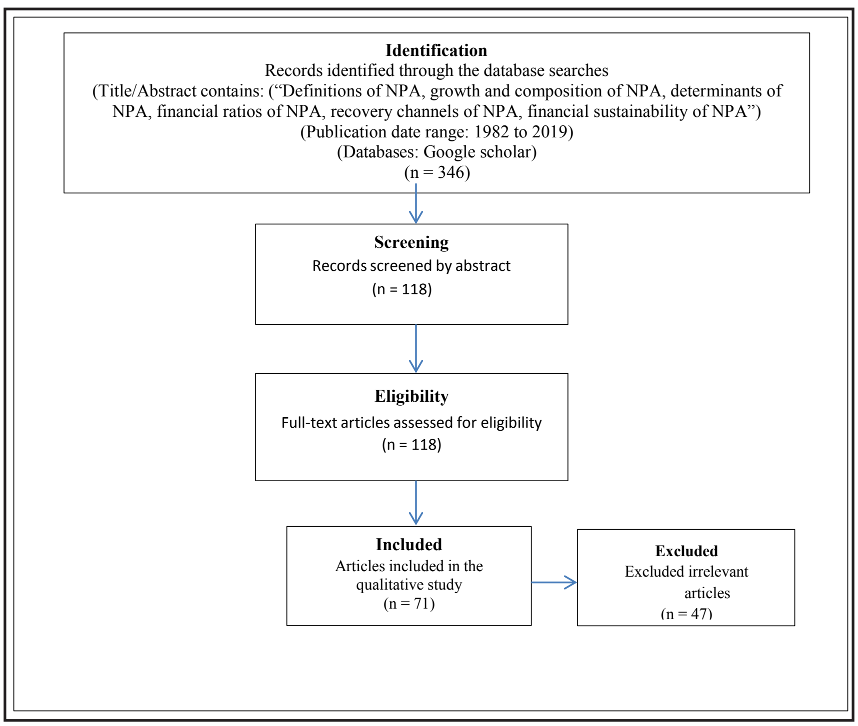
METHODOLOGY AND LITERATURE APPROACH TO THE STUDY

The basic objective of the literature review is to investigate the current piece of research, which includes articles, research papers, working papers, Ph.D. thesis, annual reports, and bulletins, for a detailed analysis of the definitions, growth and composition, determinants, financial ratios, recovery channels, financial sustainability, and other aspects of NPA management of commercial banks. The papers published from 1982 to 2019 have been selected for review. The reason behind this duration is that the concept of NPA came into force in the post-financial sector reforms introduced in 1991 with the recommendations of the Report of the Financial System Committee (Narasimham, 1991). This period has been divided into two phases – pre-financial reform and post-financial reform of 1991. Hence, studies were conducted

* Nalanda Institute of Technology, Chandaka, Bhubaneswar, Odisha, India. Email: mksahoomba@gmail.com
** Assistant Professor, School of Economics, Gangadhar Meher University, Sambalpur, Odisha, India.
Email: muralisbp1974@gmail.com

from 1982 to 2019 to review a comparative analysis of pre-development of banks in relation to NPA and post-development of the banking system in India. Additionally, India adopted the Basel norms in banking system as part of the post-financial reforms. The Basel-I accord was adopted in 1999, Basel-II in 2009, and Basel III, which was finalised to be implemented in 2019, due to some reasons, has been deferred and is yet to be implemented. Thus, a review of the literature coming under this period is anticipated to give a perfect picture of NPA and its management by Indian commercial banks. Similarly, the citation appraisal has also been done to draw conclusions from the available literature review. The papers which have been chosen for the literature reviews are based on a systematic literature review. Thus, the study comprises definitions, growth and composition, determinants influencing NPA, financial ratios, recovery channels, financial sustainability, and other aspects of NPA management of commercial banks. The research papers and articles have been selected by searching keywords in the abstracts and concluding remarks of the whole database. The systematic review process conveys and assists in the selection of appropriate articles for the study.

The keywords have been searched through Google Scholar and ResearchGate. The search first revealed a total of 356. The 356 papers were further analysed on the basis of abstracts and conclusions. After analysing the abstracts and conclusions, 118 papers are taken into consideration on the basis of NPA management of commercial banks. In the third step, a comprehensive analysis of the 118 studies was conducted to confirm the significance of the study results. As a consequence, 71 articles were prepared for the final study. The process of systematic review of literatures used in the study is shown in Fig. 1.



Source: Prepared by Authors.

Fig. 1: Steps Carried Out for the Systematic Literature Review

Identification of NPA

Arora and Ostwal (2014) revealed that NPAs are the red signals to financial institutions and commercial banks, with a comparative study and classifying the loan assets of PrSBs (private sector banks) and PSBs (public sector banks). Moreover, research reveals that private sector banks have fewer NPAs compared to public sector banks. Rayudu and Rajesh (2018) dismembered the possibility of non-performing assets and a relationship is being set up between public sector banks and private sector banks. This assessment recognises and assumes that private banks have basically improved their display in the region of non-performing assets. Fifack (2005) studied that there exists a positive cause-and-effect relationship between the advances and economic growth, real interest rate, net interest margins, real increase in rate of exchange, and interbank loans. The study concludes with the remark that the falling rate of NPA is related to the steadiness of macroeconomic variables and the growth of the economy. On the contrary, the rising rate of NPA is related to unfavourable macroeconomic variables, lesser interest rate margin, and high capital cost. Bidani (2002) highlighted the wilful defaulters, overburdened and slow system of the judiciary, slow progress of industrial and economic development, challenges faced from MNCs by local firms, indiscipline in the financial system, capital market slumps, and lack of support from banks to the lenders as the causes for the situation of the high volume of NPAs.

The above literature has not discussed the role of Basel norms in the management of NPAs, which is the most crucial part of NPA management in Indian banks.

Composition, Growth, and Trend of NPA

The main thread of literature significantly centred on the growth, trend, and composition of NPA in banks. Ghosh and Ghosh (2011) conclude that the quality of advances in PSBs has deteriorated due to aggressive lending policies by the banks. However, PSBs have been able to control NPAs with the regulatory norms of the RBI and their close monitoring. Jayakkodi and Rengarajan (2016) investigated the NPA effect on the profitability of public and private banks, which ultimately resulted in a negative impact on these currencies. Studies have shown that the problem of public sector banks is due to political turmoil and that private banks are better able to manage NPAs more efficiently. Rajeev and Mahesh (2010) examined a high volume of NPA in the priority sector compared to the non-priority sector between 2004 and 2009. The study also suggested that Joint Liability Groups (JLGs) and Self Help Groups (SHGs) could assume a significant role in the management of NPAs. Jayasree and Radhika (2011), in their comparative investigation, analysed the sector-wise NPA and revealed that new private sector banks and foreign banks have more elevated levels of NPAs than other banks. The study upheld the discoveries that NPA affects net profits. The noteworthiness of this analysis lies in the fact that there is a positive impact of RBI guidelines, prudential norms, securitisations, and reforms in the law on the asset quality of banks. Thangavelu (2014) focuses on the concept and specialised properties of NPAs in public sector, private sector, and foreign banks. The study concluded that banks now have a better understanding of the NPA crisis, and the steps taken by the govt. and the RBI have helped banks improve their NPA problem. Shiralashetu and Akash (2006) analysed sector- and bank-wise NPAs during 2003-04. The study shows that the priority sector, particularly the SSI (small-scale industry) sector contributes a major part to the growth of NPA. Finally, the study concludes with a remark that the gross NPA of the priority sector comprises 91.07% from public sector banks and 93% from private sector banks. Das and Dutta (2014) conducted a study on the growth of NPAs by utilising ANOVA to decide if there was a huge difference in the mean NPAs' rate for the period 2008-13 between banks; they did not find such a difference in the mean values. The same was found in a study by Mishra (2013), in which the NPA's position in the public sector showed that it was worse. Ibrahim (2019) investigates the trend of NPAs in three financial areas, specifically the public sector banks, private sector banks, and foreign banks, over the past decade (2007-08 to 2016-17). Finally, this study looks at the measures that need to be taken to reduce the NPA threat to banks. Singh (2016) attempted to understand the concept, trend, and status of NPAs of commercial banks of India. This study shows that the size of NPAs is relatively large in comparison to public sector banks. Poor recovery mechanisms, wilful defaulters, and bad credit practices are the key points to the growth of NPAs in banks. NPAs trim the profit and negatively impact return on investment. Both the gross NPA, as well as net NPA, increased throughout the study period. Alamelu and Chandan (2018) conducted a study with the main purpose of analysing the trends of NPAs in public sector banks, and found that a positive correlation exists between scheduled commercial banks and public sector banks, with r as 0.984. The regression analysis shows that the SBI group's NPA and other banks of national repute have a very positive impact. On the overall level of NPA of all Indian banks, Saluja and Lal (2010) examined the trend and status of NPAs in commercial banks with a five-year study of sector-wise and group-wise public sector, private sector, and foreign banks in India. Finally, the study found that NPAs not only trim down the profitability and financial health, but also the solvency position of the bank. In a similar study, Hoshino (2002) analysed the movement of the NPA trend in Japanese banks during the study period 1996 to 2001. The author investigated NPA issues within Japanese banks, both economically and financially. The author noted that the existence of the convoy system, core banking relations, and lack of information disclosures are the constitutional problems in the banking system. Wadman and Peterson (2004) investigated the trend of NPAs in Italy and Sweden. They explain how Sweden and Italy protect their NPAs in three ways: financial, market, and legal aspects. The findings highlighted the government's historic action, decisions of management, and credit culture as key factors in the spread of the NPA.

However, the above literature finds gaps in terms of composition and growth of cooperative banks and regional rural banks' (RRBs) NPA amounts, which are not discussed. Besides, this study did not address the growth of NPAs in sub-sectors like MSME, agriculture, housing, education, and so on, and the contribution of the public sector towards the growth of NPAs, whereas priority sector and non-priority sector contribution has been explained by many researchers.

Determinants and NPA

The other list of literature focuses on the determinants and the impact of NPA. The literature on this issue widely included bank-specific determinants, macroeconomic variables as major determinants, and lastly, the impact of both (macro and bank-specific determinants) on non-performing assets.

The study by Boudriga et al. (2009) is based on the concept of determinants of NPA, with a special focus on the Middle East and North Africa (MENA) countries relating to the bank-specific and institutional environment. Their study is based on a sample of 46 banks of 12 countries during 2002-2006. In addition to this, the study is based on a random-effects panel regression model at the country level that regulates cluster effects. The study finally concludes that high credit growth, loan loss provisions, and bank-specific factors are the main determinants to reduce the NPA level. Olweny and Shipho (2011) reviewed the impact of bank specific and market factors on the profitability of commercial banks in Kenya. The study used financial statement of 38 Kenyan banks for the period of 2002-08 and applied the regression analysis to evaluate the objectives. The consequences of the analysis showed that bank specific factors had a significant impact on profitability whereas anyone of the market factors had no significant impact on profitability. Abel (2011) revealed that mounting liquidity condition, presence of enormous capital, and wild loaning by the banks and credits in banks' portfolios incidentally assisted with alleviating the degree of NPA. Farhan et al. (2012) conducted an advanced primary data-driven study to know the perception of bankers (Chandran & Alamelu, 2019) regarding the determinants of NPA in the banks of Pakistan. The results showed that, for participating managers in the lending process, the exchange rate, energy crisis, unemployment, and GDP were the main reasons for NPAs. The energy problems were one of the key economic factors that exacerbated the complexity of the NPA's position during the study period. Adebolaa (2011) examined the indicators of non-performing assets in Islamic banks in Malaysia. Measuring the extent of NPA in the said country, the author utilised an ideal ratio, that is, the proportion of NPA to gross financing in Islamic banks, and the result of the analysis indicates that it establishes a long-run relationship between the said factors. Again, interest rate has a positive significant impact on NPA (Kjosevski, Petkovski & Naumovska, 2019). Research shows that the impact of the interest rate is better than the bank's efficiency. Nkusu (2011) exhibited that provisioning for unbearable advances can have any sort of impact on the bank's ability. Louzis (2010) has explored the banking and macroeconomic variables of NPAs in Greece by the application of a dynamic panel data model. The analysis revealed that NPAs can be best explained by macroeconomic factors and quality of management. Shajari and Shajari (2012) examined the relationship between bank-unequivocal and central components, budgetary markers, and macroeconomic change. In their appraisal, the authors utilised information from 1979 to 2009 and used a mixture of the decreasing structure model. The study found that association weakness is one of the immense determinants of resource quality in Iran's budgetary framework. The outcome shows that capital sufficiency and the nature of resources are affected by the exchange cycle. Crediting financing costs hurt the resource standards. Capital adequacy is affected by exchanging scale change and passing store advance charges. The turn of events and NPA degree help in lessening the proficiency of banks.

Zeng (2012) studied the NPA of banks in China with a dynamic model. There is a sharp decrease in the NPA of state-run banks, due to the formation of the asset management company (AMCs), the implementation of new policies, and so on; these are the results derived from the study. The findings of the study also highlight the need for internal control efforts for strengthening the banks. Kadanda and Raj (2018) investigated the size and growth of NPAs, and the differences between public sector banks in the management of NPAs. The dynamic panel model analysis investigated the factors of NPAs present in the public sector banks and found that the key growth determinants, such as the old NPAs, bank efficiency, capital adequacy, GDP growth rate, and interest rates, are the significant variables for the growth of NPAs in public sector banks in India.

Hence, we can conclude that some of the macroeconomic variables, like the gross domestic product (GDP), expenditure on construction, growth of income relating to per capita, forex reserves, stock market indices and resilience, gross advance, and so on, are not mentioned. Other bank-specific factors, such as aggressive lending, bad management, and the moral hazard behaviour of banks are the most important issues that a researcher can investigate. The reviews show that loan growth, financial leverage, advance to deposit ratio, and management inefficiency are micro variables that have a high contribution towards the growth of NPA contribution, which are not described in this study.

Recovery Channels and NPA

Bhuyan and Rath (2013) uncovered that the high volume of NPAs is stretching out year after year. The gross NPAs to net advances degree is in a like way reaching out in public sector banks (PSBs). Regardless, by uprightness of the private banks and new banks, it is declining. Different developments, like DRT (Debt Recovery Tribunal) and SARFAESI Act, have been affirmed by the Central Government to diminish the degree of NPAs. The NPA level of our banks is still high when compared to the general norms. The Indian banks should take care to guarantee that they offer advances to fiscally strong clients as avoidance is for every circumstance in a way that is better than fix. In a comparable report on the association of non -performing assets, Noronha (2006) focused on the need for controlling NPAs for strong cash-related structure. Utilising certified data and credit resources plan, the effect of different measures, like one-time repayment scheme, SARFAESI Act, Lok Adalats, and Debt Recovery Tribunals, were bankrupt down. The evaluation gave testimony regarding that NPAs are unavoidable in the cash related district and fitting affiliation would incite the sound headway of the monetary zone. Kakker (2005) dissected 'Part of Asset Reconstruction Company (ARC) in NPA Management'. The reviewer focused on the need for NPA the board by conveying that a raised level of NPAs really impacts the economy from alternate points of view. The appraisal was concluded by stating that ARC's with statutory / regulatory powers are likely to emerge as nodal resolution agencies coexisting with CDR mechanisms for management of NPA. To take a gander at the essentialness of non-performing resources in the Bangladeshi banking arena, Adhikary (2007) uncovered that weak execution of laws linked to the repayment of NPAs, trailed by the non-appearance of duty recuperation measures, have upset budgetary disquietude. The appraisal proposed the avoidance of the 'mushrooming issue of unpleasant credits', joined by other goal allocates to sort the NPA wreck in Bangladesh. Patel (2017) studied the stressed advances ratio at 12% and the gross NPAs (GNPA) ratio is at 9.6% as on March 2017. Essentially, 86.5% of the public sector banks are most perceivably hit in this disturbing condition, as the piece of unpleasant advances is an after-effect of the giant corporate borrowers with the supreme presentation of Rs. 5 crores or above. To resolve this issue, the government and controllers are anticipating that key parts should adjust the capital of the financial zones, and fix up recuperations from various channels to the hindrance of present expenses and devastations for the ideal end game.

The above literature does not mention legal measures, such as CIBIL (Credit Information Bureau (India) Limited), which are very important in the current system of credit management in financial institutions. Similarly, innovative measures such as honouring the honest payers, counselling the borrowers, and strong relationships between the bank and the borrower have not been considered.

Financial Ratios and NPA

Ahmad (2016) researched to determine the relationship between the two ratios of the statement of finance, that is, profitability and liquidity, of the banking sector. Relationships are measured at the quick ratio, current ratio, and networking capital. The study is based on the Standard Chartered Bank of Pakistan. The conclusion of this study shows that there is a weak positive link between profitability and liquidity. Sahoo (1999) suggested a scale of measurement ranging from A+ (excellent) to F (very poor), to check the health of the organisation, and finally, the aggregate sum of marks was considered. This formula is a very good and qualitative decision formula. This technique is not only an effective tool for NPA management, but also for improving the liquidity, profitability, solvency, and purity in the balance sheet of the organisation, to check the health status of the banks. Unfortunately, very few literature is available for this technique, like the rating of banks and branches relating to NPAs. Mishra (2003) learned in his study that the profitability of financial institutions depends mostly on the income level generated by the effective use of assets after paying the acquisition costs and other administrative costs that are involved. According to Osiegbu and Nwakanma (2008), profitability assists in policymaking and decision-making. Ibenta (2005) states that liquidity is the ability of the company to meet the short-term financial requirements. Bardia (2007) says that the performance of each business is tested by liquidity management. Valrshney (2008) studied that for the smooth functioning of the business, it is important for proper management of liquidity. Amit et al. (2005) studied that there is no relationship between liquidity and profitability. According to Bhunia (2010), the study of liquidity is important for internal and external evaluation, since there is the existence of a positive affinity of liquidity with day-to-day functions of the banks. Vishnani and Shah (2007) investigated that liquidity is usually measured at the current ratio and profitability is normally measured by return on investment. According to Walt (2009), profits can be converted into liquid assets, which is important; however, this does not mean that a company can make a profit if liquidity costs are high. In another study conducted by Marques and Braga (1995) and Vieira (2010), it was revealed that there exists a negative relationship between the two financial variables liquidity and profitability. Profitability is measured by return on investment (ROI), whereas liquidity is measured by the current ratio. Sur et al. (2001) and Bardia (2007 & 2004) found that there exists a direct relationship between liquidity and profitability. Profitability is referred to as the ability of a bank to generate more income than it costs for the capital base of the banking sector (Laltey et al., 2013). By earning sufficient liquidity, banks can fulfil their obligations even under a financial crisis and reduce the shocks of the liquidity effects (Gomes & Khan, 2011).

There are some financial indicators like gross NPA to advances ratio, asset turnover ratio, return on investment (ROI), earning per employee (EPE), earnings per share (EPS), and so on, which have an influential role in affecting the NPAs of commercial banks, and which are not reflected in the literature discussed above.

Financial Sustainability and NPA

McCullers and Schroeder (1982) used profit as a proxy measure of financial sustainability, where profit means coverage of operational expenses to earn income, as well as any cost needed to at least maintain the present position. Ganka, in 2010, used accounting profit and the related accounting measure as a measurement of financial sustainability. Shafiqual et al. (2015) observed that Bangladesh has been experiencing innumerable non-performing credits in the monetary business essentially due to fund redirection, political and Board of Directors' deterrent, political instability, responsibility of corrupted specialists, powerful banking on account of improved contention, falling in the land business, and slight noticing and non-attendance of coordination among related social events. (Mention sustainability ideas) Comparative outcomes were found in the investigation of Iezza (2010) that two degrees of maintainability – operational independence (OSS) and money-related independence (FSS) – additionally separated the FSS from the OSS. Profit for resources (ROA) and return on value (ROE) are additionally utilised as manageability estimations. Aziz et al. (2009) researched that the bank's profitability is affected by a high rate of non-performing loans. In some cases, it wears away the bank's capital, finally endangering the bank's sustainability. In addition to this, Sultana and Akter (2018) outlined the concept of financial sustainability of Bangladesh commercial banks by taking net income growth as a proxy for measuring the concerned bank's financial sustainability, and investigated the impact of various financial flashcards on financial sustainability. The study concludes with a remark that the loan growth ratio is a forecasting variable of net income growth ratio (Meher & Getaneh, 2019) and is used as a dummy measure of financial sustainability for the Bangladeshi banking sector. Pinter, Deutsh and Ottmar (2006) pointed to the role of financial institutions and highlighted the concept of technological up-gradation of banking infrastructure, development of their risk management skills, building stronger brands, and acquiring a more efficient business culture to reap the benefits of competition, which will further lead to attaining sustainable development. Kaur and Singh (2011) conclude that the volume of NPAs is the driving force for the growth and financial stability of the banking sector (Irina & Angela, 2016). In another study by Masukujjaman and Aktar (2013), importance was given to global green banking; and this strategy has been adopted by most of the banks in Bangladesh. Presently, the banks are achieving sustainability in the entire banking industry, not only in Bangladesh, but also across the globe, due to the adoption of green banking and suitable infrastructure development. A similar study was conducted by Rajesh and Dillep (2014) and focused on the concept of the role of banks in achieving sustainable economic development through green banking (Ghosh, Ghosh & Chowdhury, 2018) actions. Finally, the researcher concludes that the banks that are taking care of green banking activities should get incentives and those not concerned about this should get disincentives; this is a prerequisite for the success of green banking. Sahitya, Lalwani and Bedi (2014) explored a study to find the motives of adopting green banking by top banks and the impact of green banking on sustainable banks and the protection of the environment. Rajaraman et al. (1999) pointed out that it is impossible to improve the sustainability performance of national banks without first improving the state of law enforcement in the country's most difficult regions. Karkowska (2020) presents risk diversification as a practical foresight for measuring a bank's stability. Further, a hybrid of traditional and investment banking activities, such as trading in securities or securitisation, may be helpful in reducing the risk of commercial banks and providing a striking force for stable financing. In addition, non-traditional activities are the means to studying the performance of the banks in achieving sustainability.

The above literature has not discussed how much funds should be allocated for green banking and banking infrastructure provisions for achieving sustainability. Though non-traditional activities will lead to financial sustainability, it has some limitations, since it may not be a framework for long-term solutions.

Table 1: Reviews of Authors on Various Aspects of NPA

Sections of NPA	Authors	Research Area	No. of Citations
Identification	Arora and Ostwal (2014)	Classifying the loan assets	4
	Rayudu and Rajesh (2018)	Causes and occurrence of NPAs	
	Fifack, H. (2005)	Cause and effect relationship between the advances & NPAs	
	Bidani (2002)	Causes for the high volume of NPAs	
Composition, Growth, and Trend	Ghosh and Ghosh (2011)	Quality of advances	13
	Jayakkodi and Rengarajan (2016)	NPA effect on the profitability	
	Rajeev and Mahesh (2010)	Sector-wise NPA	
	Jayasree and Radhika (2011)	Sector-wise NPA	
	Thangavelu (2014)	Concept and specialised properties of NPAs	
	Shiralashetu and Akash (2006)	Sector- and bank-wise NPAs	
	Das and Dutta (2014)	Growth of NPAs	
	Mishra (2013)	Sector-wise NPAs	
	Ibrahim (2019)	Trend of NPAs	
	Singh (2016)	Concept, trend, and status of NPAs	
	Alamelu and Chandan (2018)	Trends of NPAs	
	Saluja and Lal (2010)	Growth and trend of NPAs	
	Hoshino (2002)	Trend of NPAs	
	Wadman and Peterson (2004)	Trend of NPAs	
Determinants	Boudriga et al. (2009)	Determinants of NPAs	10
	Olweny and Shipho (2011)	Impact of bank-unequivocal and market factors	
	Abel (2011)	Degree of NPA	
	Chandran and Alamelu (2019)	Determinants of NPA	
	Adebolaa (2011)	Indicators of NPA	
	Kjosevski, Petkovski and Naumovska (2019)	Impact on NPA	
	Nkusu (2011)	Provisioning for unbearable advances	
	Louzis (2010)	Banking and macroeconomic variables of NPAs	
	Shajari and Shajari (2012)		
	Zeng (2012)	Causes of reducing NPA	
	Kadanda and Raj (2018)	Size and growth of NPAs	
Recovery Channels	Bhuyan and Rath (2013)	DRT (Debt Recovery Tribunal) and SARFAESI Act	4
	Noronha (2006)	One-time repayment scheme, SARFAESI Act, Lok Adalats, Debt Recovery Tribunals	
	Kakker (2005)	Asset Reconstruction Company (ARC) in NPA management, corporate responsibility adjusting (CDR) instruments	
	Adhikary (2007)	Weak execution of laws for recovery	

Sections of NPA	Authors	Research Area	No. of Citations
Financial Ratios	Ahmad (2016)	Relationship between profitability and liquidity	15
	Sahoo (1999)	Measurement rating techniques to improve the liquidity, profitability, and solvency	
	Mishra (2003)	Profitability of financial institutions	
	Osiegbu and Nwakanma (2008)	Profitability assists in policymaking and decision-making	
	Ibenta (2005)	Liquidity	
	Bardia (2007)	Liquidity management	
	Valrshney (2008)	Proper management of liquidity	
	Amit et al. (2005)	Relationship between liquidity and profitability	
	Bhunia (2010)	Liquidity is important for internal and external evaluation	
	Vishnani and Shah (2007)	Liquidity is usually measured at the current ratio and profitability	
	Walt (2009)	Profits can be converted into liquid assets	
	Marques and Braga (1995) and Vieira (2010)	Negative relationship between these two financial variables like liquidity and profitability	
	Sur et al. (2001), Bardia (2007 & 2004)	Exists a direct relationship between liquidity and profitability	
	Laltey et al. (2013)	Profitability	
	Gomes and Khan (2011)	Liquidity fulfils financial crisis	
Financial Sustainability	McCullers and Schroeder (1982)	Coverage of operational expenses to earn income	14
	Ganka (2010)	Accounting profit as a measurement of financial sustainability	
	Shafiqual et al. (2015)	Causes for affecting financial sustainability	
	Aziz et al. (2009)	Bank's sustainability	
	Sultana and Akter (2018)	Net income growth as a proxy for measuring financial sustainability	
	Meher and Getaneh (2019)	Net income growth ratio as a proxy for measuring financial sustainability	
	Pinter, Deutsh and Ottmar (2006)	Bank-specific factors for attaining sustainable development	
	Kaur and Singh (2011)	Volume of NPAs is the driving force for the growth and financial stability	
	Irina and Angela (2016)	Volume of NPAs is the driving force for the growth and financial stability	
	Masukujjaman and Aktar (2013)	Global green banking	
	Rajesh and Dillep (2014)	Sustainable economic development through green banking	
	Sahitya, Lalwani and Bedi (2014)	Green banking on sustainable banks	
	Rajaraman et al. (1999)	Improving the state of law enforcement	
	Karkowska (2020)	Risk diversification as a practical foresight for measuring a bank's stability & non-traditional activities	

Research Gap

Due to the complexity of the NPA problem, various studies have been conducted on the credit risk issues in banks. However, literature on the empirical work of NPA issues in PSBs and PrSBs is inadequate. A comprehensive review of the NPA literature shows that most of the research work is done on the aggregate data of the PSBs and PrSBs, with particular focus on areas like the composition, trend, determinants, and impact of NPA on macroeconomic variables. However, empirical work on the study of individual banks' composition, growth, the trend of NPA, and application of a model to conduct an impact assessment of NPA on financial variables like liquidity, profitability, and solvency position of commercial banks, has rarely been attempted. Besides this, very few literature has been found on the financial sustainability of commercial banks. There is a gap that arises concerning wilful defaulters, corruption in the banking industry, political intrusion, and others.

Policy Implications

The profitability and financial sustainability of commercial banks are hampered by the alarming rate of NPAs in India. In comparison to many Asian economies, the current trend of NPAs is not acceptable for the welfare of the Indian scheduled commercial banks (SCBs), as there is pressure on the present level of NPAs. However, the Reserve Bank of India has started several measures to confine the volume of NPAs, and improve the liquidity, profitability, and financial sustainability of the banks, since the post-reform period. Hence, the banks may benefit from the results of this study, by analysing their present approach in managing their NPAs. Finally, the findings can be used by banking institutions, policymakers, academicians, and researchers in the performance evaluation of banks, concerning the components of various non-performing assets/loan assets. Further, researchers can use this literature in writing their thesis to give proper justification to their research on banks' NPA management in India.

Future Directions of the Research

Future research directions may be improved by including other bank performance indicators, financial indicators, and macroeconomic factors like growth, volume of GDP, accounting, emerging banking organisations, regional development, subzone strategic research (cultivation, housing, and MSME), and so on. Further, comparing cash shortages with low-paying banks, operational organisations and potential risks to managers, the current investigation could be conducted to find out the outcome of policy changes at a larger implementation level. The research can include checking the effect of macro-level policy changes, that is, the implementation of Basel III, on the banks' financial sustainability. Furthermore, concentration on NPA patterns dependent on bank gatherings and unfamiliar banks may be included by the new examiners. In the A-list banking industry, the investigation may additionally stretch to a global level with the assistance of the present study results. An audit of the different sorts of writing of this exploration assists with assessing issues, and helps the board of the NPA in the Indian financial area. With this study as the foundation, there is opportunity for additional examination in this specific subject. A comparative framework of NPAs for various economies of the globe and their NPA management approaches may also be a part of future studies.

CONCLUSION

The Indian commercial banks are facing issues and difficulties because of non-performing assets (NPAs), since they influence the sound budgetary position and execution of the banks. Further, banks should make arrangements in following Basel standards for keeping up high liquidity. Thus, the issues of NPAs must be dealt with in such a way that they ought not ruin money-related execution, and influence the image of the banks. The RBI and the Government of India have found a way to diminish the volume of NPAs of the commercial banks. The investigators have reviewed various pieces of literature available from different parts of the world in general, and India in particular. Researchers have tried to find gaps in literary analysis and proposed future research directions to find a new way to analyse the management of NPAs in commercial banks in India.

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