SEYBOLD Report
ISSN: 1533 - 9211
https://seyboldreport.net/

A STUDY ON PROBLEMS OF NON PERFORMING ASSETS IN SELECT PUBLIC SECTOR BANKS

Richa Dixit*
richadixit07@gmail.com;
State Bank of India, Lucknow UP India

Dr. K.K.Mishra
kkmsitmbbk@gmail.com;
Sherwood College of Management, Lucknow, UP, India

Dr. M K Jha
mk_173@yahoo.com;
Indira Gandhi Institute of Cooperative Management, Lucknow

Abstract: Since the introduction of economic liberalization and financial sector reforms, banks have been under immense pressure to reduce their Non-Performing Assets (NPAs) in order to enhance their sustainability, performance, and viability. Presently, banks are making significant efforts to effectively manage their NPAs, with the objective of ensuring proper handling and swift resolution. The management and prompt resolution of NPAs have become crucial tasks for banks. The issue of NPAs in banks and financial institutions is not only a major concern for the banks themselves but also for the overall economy. NPAs can hinder the expansion of credit, thereby impeding the economic growth of the country. In this study, the authors have examined various aspects and reasons for NPAs, utilizing data from the State Bank of India for analysis.
Keywords. Non Performing Assets; NPAs, Public Sector Banks; MSME,etc.

I. INTRODUCTION

Indian banks have played a vital role in the socio-economic development of the country, being geographically widespread and serving diverse functions. They provide credit to borrowers for various purposes, such as starting a business, building a house, financing education, or funding marriages. Bank credit is often the primary source of debt financing for most customers.

For banks, profitable assets are considered to be good loans, which generate returns through interest, fees, and investments. However, the main assumed risk in lending is credit risk, which refers to the customer's inability or unwillingness to meet their loan commitments. When a loan becomes overdue and stops generating income, it is classified as a Non-Performing Asset (NPA).

The Reserve Bank of India (RBI) has categorized NPAs into three types: standard assets, doubtful assets, and loan assets. Proper management and timely resolution of NPAs are critical tasks for banks. The problem of NPAs in banks and financial institutions is a grave concern not only for the banks themselves but also for the overall economy. NPAs can hinder the expansion of credit, impeding economic growth. The RBI has acknowledged the alarming increase in

NPAs in both public and private banks, recognizing that any disruption in the flow of credit can have adverse repercussions in the economy. NPAs are a concern not only for lenders but also for the general public.
Granting credit for economic or personal obligations is a primary duty of the banking sector. Apart from raising funds through deposits and borrowings, recycling funds received back from borrowers is a major part of funding credit disbursement activities. Lending is encouraged as it facilitates the transfer of funds from the system to productive purposes, stimulating economic growth. However, lending carries the risk of credit default, where borrowers fail to repay the loan willingly or due to certain circumstances. Non-recovery of loans, along with interest, poses a significant hurdle in the credit cycle and affects a bank's profitability. While complete elimination of such losses is not possible, banks can aim to minimize them. Researchers like Berger and Young have studied the relationship between bad loans and bank efficiency.
Non-Performing Assets (NPAs) have become a significant threat to the banking industry in India over the past decade, raising concerns about the sustainability and insurability of affected banks. Despite various corrective measures implemented by the Indian government and the RBI, concrete results in resolving this issue have been elusive. Nationalized banks, followed by the SBI group and all India financial institutions, bear the brunt of this problem due to their extensive coverage of the Indian population, both domestically and overseas. The banking reforms initiated by the government and the recommendations of the Narasimhan Committee have been offset by the adverse effects of this growing threat.

II Non Performing Assets (NPAs)

A non-performing asset (NPA) refers to an asset, including a leased asset, that ceases to generate income for the bank. Initially, an asset was classified as an NPA when the interest and/or principal installment remained "past due" for a specified period. The specified period underwent phased reductions as follows:
Year ending March 31, 1993: Four Quarters
Year ending March 31, 1994: Three Quarters
Year ending March 31, 1995 onwards: Two Quarters
An amount due under any credit facility was considered "past due" if it remained unpaid for more than 30 days from the due date. However, with advancements in payment and settlement systems, the concept of "past due" was discontinued from March 31, 2001. From that date onwards, an advance would be classified as an NPA if:
i. The interest and/or principal installment remains overdue for more than 180 days for a term loan.
ii. The account remains "out of order" for more than 180 days for an overdraft/cash credit facility.
iii. The interest and/or principal installment remains overdue for two harvest seasons but does not exceed two half years in the case of an advance granted for agricultural purposes.
iv. Any amount to be received remains overdue for more than 180 days in other accounts.
In order to align with international best practices, it was decided to adopt the "90 days" overdue norm for identifying NPAs from March 31, 2004.

'Out of Order' Status

An account is considered "out of order" when the outstanding balance consistently exceeds the sanctioned limit or drawing power. Additionally, if the outstanding balance in the principal operating account is lower than the sanctioned limit, but there have been no continuous credits for six months as of the Balance Sheet date, or the credits are insufficient to cover the debited interest during that period, such accounts should also be classified as "out of order."

'Overdue'

"Overdue" refers to any amount that is not paid to the bank on the predetermined due date set by the bank.

The profitability of banks can be influenced by various factors, including non-performing loans, which can be categorized into bank-specific and macroeconomic factors. Bank-specific factors encompass non-performing advances, deposits, non-interest income, interest income, operational efficiency, and capital adequacy. These factors have been studied in research such as Harbi (2019) [30], with references provided for further reading [7, 19, 20, 25].

On the other hand, macroeconomic factors that impact profitability include GDP growth, inflation rate, and interest rate. Studies have explored the relationship between these factors and bank profitability, with references provided for additional information [11, 30, 9, 8, 29].

A. Classification of NPAs

Banks are obligated to classify Non-Performing Assets (NPAs) into three distinct categories based on two criteria: the duration for which the asset has remained non-performing and the reliability of the dues. These categories are as follows:

Sub-standard Assets: A sub-standard asset refers to an asset that has been classified as a Non-Performing Asset (NPA) for a period that is less than or equal to 18 months. In such cases, the borrower's current net worth or the market value of the security provided is insufficient to guarantee the full recovery of the dues to the banks [31, 32]. These assets are characterized by a high likelihood that the bank will incur a loss.

Doubtful Assets: A Doubtful Asset is an asset that has been classified as a Non-Performing Asset (NPA) for a period surpassing 18 months. It shares all the weaknesses associated with a sub-standard asset, but with the additional characteristic that the collection or liquidation of the asset in full, based on the currently known facts, is highly questionable and improbable [33]. Despite rigorous follow-ups and visits conducted by bank officials or recovery agents, no repayment is forthcoming. The chances of recovering the dues from such assets are extremely low.

Loss Assets: A loss asset is an asset where the bank or internal/external auditors have recognized a loss, but the entire amount has not been written off. In other words, the bank has acknowledged that the dues from the borrower cannot be fully recovered.

When classifying assets, banks should consider the degree of well-defined credit weaknesses and the extent to which the realization of dues depends on collateral security. Banks have implemented internal systems to prevent the delay or postponement of NPA identification, particularly for high-value accounts. Early-stage follow-up is initiated as soon as non-repayments occur to mitigate further risks and enhance recovery efforts.

· **Accounts with temporary deficiencies:** These should be classified based on the past recovery records.

· **Accounts regularize near about the balance sheet date:** It is crucial to handle these accounts with care and avoid subjectivity. When available data indicates inherent weakness in an account, it should be treated as a Non-Performing Asset (NPA) [37].

Under the current guidelines, asset classification is borrower-wise rather than facility-wise. This means that if a single facility provided to a borrower is classified as an NPA, other facilities extended to the same borrower should also be classified in the same manner. Even if repayments are regular in other accounts, the classification of one loan account as an NPA results in the entire loan portfolio being categorized as NPAs [33].

Advances under consortium arrangements: Classification here should be based on the recovery record of the individual member banks.

· **Accounts where there is erosion in the value of the security:** If there is a substantial difference between the realizable value of the security and the value assessed by the bank during acceptance, typically less than 50% of the assessed value, the account may be classified as a Non-Performing Asset (NPA) [38]. This indicates that the security provided by the borrower is significantly insufficient to cover the outstanding dues, further highlighting the weakness of the account.

B. Reasons of NPAs

FACTORS FOR RISE IN NPAs

The banking sector has indeed been grappling with the significant issue of increasing Non-Performing Assets (NPAs). However, the problem of NPAs is more pronounced in public sector banks (PSBs) compared to private sector banks and foreign banks. The NPAs in PSBs are experiencing growth due to a combination of external and internal factors.

External factors contributing to the rise in NPAs in PSBs can include economic downturns, industry-specific challenges, policy changes, and regulatory issues. These factors can impact the repayment capabilities of borrowers and increase the likelihood of loans turning into NPAs.

Internal factors within PSBs, such as governance issues, weak risk management practices, inadequate due diligence, and inefficient credit monitoring, can also contribute to the growing NPAs. These factors may result in the bank's inability to assess and mitigate risks effectively, leading to a higher proportion of loans turning into non-performing assets.

Addressing the issue of NPAs in public sector banks requires a comprehensive approach that involves improving governance structures, enhancing risk management practices, strengthening credit appraisal and monitoring mechanisms, and implementing robust recovery and resolution processes. Efforts are being made by regulatory bodies, such as the Reserve Bank of India, and the government to address these challenges and promote a healthier banking sector.

EXTERNAL FACTORS

· **Ineffective recovery tribunal**

The government has established a number of recovery tribunals to facilitate the recovery of loans and advances. These tribunals are tasked with resolving cases related to non-performing assets (NPAs) and facilitating the recovery process. However, there have been concerns about the negligence and ineffectiveness of some of these tribunals in carrying out their responsibilities.

When recovery tribunals fail to fulfill their duties efficiently, it can have adverse consequences for banks. Non-recovery of loans and advances impacts the bank's financial health by reducing profitability and liquidity. The inability to recover the outstanding dues from defaulting borrowers can result in a strain on the bank's balance sheet, affecting its ability to lend and meet its financial obligations.

Efficient and effective functioning of recovery tribunals is crucial for the timely resolution of NPA cases and the recovery of dues. Steps need to be taken to address any shortcomings in the performance of these tribunals, including improving their efficiency, strengthening their oversight mechanisms, and ensuring accountability. This would help mitigate the negative impact on banks and support the overall health of the banking sector.

· **Willful Defaults**

It is true that there are cases where borrowers have the ability to repay their loans but intentionally choose not to do so. Fluctuating government schemes and debt waivers for political reasons can sometimes create a moral hazard, encouraging borrowers to take advantage of such measures instead of fulfilling their repayment obligations.

It is important to identify such individuals or groups of borrowers and take appropriate measures to ensure the recovery of the funds extended to them as advances and loans. This may involve strengthening credit assessment processes, implementing robust risk management frameworks, and enhancing monitoring and follow-up mechanisms to identify intentional defaulters.

Additionally, there is a need for effective legal and regulatory frameworks that discourage deliberate default and provide timely and efficient resolution mechanisms for lenders to recover their dues. Encouraging a culture of responsible borrowing and ensuring strict enforcement of loan agreements can also deter borrowers from intentionally withdrawing funds without any intention of repayment.

The collaboration between financial institutions, regulatory bodies, and government authorities is crucial in addressing this issue and implementing measures to discourage intentional defaulting and ensure the recovery of funds. By taking proactive steps, such as implementing stricter norms and promoting financial discipline, the banking sector can minimize the impact of intentional defaults and protect the interests of lenders and the overall stability of the financial system.

· **Natural calamities**

Two significant factors are contributing to the alarming rise in NPAs of public sector banks (PSBs) in India. First, the occurrence of major natural calamities in the country creates a challenging situation for borrowers, particularly in sectors such as agriculture where dependency on rainfall is high. When farmers face crop failures or reduced production due to irregularities in rainfall, they often struggle to repay their loans. This results in PSBs making substantial provisions to compensate for these non-performing loans, ultimately leading to reduced profitability for the banks.

Second, the COVID-19 pandemic has severely impacted the banking industry, including PSBs. The economic disruptions caused by the pandemic necessitated loan rescheduling and restructuring for borrowers who were facing financial difficulties. This had an adverse effect on the asset liability management of banks, as they had to manage the increased risks associated with deferred loan repayments and potential defaults.

These factors highlight the vulnerability of PSBs to external shocks and natural calamities, which can significantly impact their asset quality and financial performance. To address these challenges, it is crucial for banks to adopt effective risk management practices, including robust credit assessment procedures, proactive monitoring of loan portfolios, and timely identification of potential defaults. Additionally, the government and regulatory authorities can play a role in providing support to affected borrowers and implementing policies that promote financial stability during times of crises.

Overall, mitigating the impact of natural calamities and unforeseen events like the COVID-19 pandemic requires a combination of prudent risk management, supportive government policies, and timely interventions to address the financial difficulties faced by borrowers and maintain the stability of PSBs·

Industrial sickness

Several factors contribute to industrial sickness, which in turn affects the banks that finance those industries. Ineffective management, inadequate resources, lack of advanced technology, and the day-to-day changing government policies can all create an unfavorable business environment for industries. This leads to a decline in their performance and ability to repay loans.

When industries suffer from such challenges, banks that have extended loans to them face difficulties in recovering their funds. The low recovery of loans directly impacts the profitability and liquidity of the banks. They may need to make provisions for non-performing assets, which further reduces their profitability and available funds for lending.

To address these issues, it is essential for banks to have robust risk management systems in place. This includes conducting thorough due diligence before extending loans, monitoring the financial health and performance of borrower industries on an ongoing basis, and implementing proactive measures to address any emerging challenges. Banks also need to adapt to changing market conditions and technological advancements to effectively support the industries they finance.

Additionally, the government plays a significant role in creating a conducive business environment by providing stable and consistent policies that encourage growth and investment. Policy predictability and stability are crucial for the long-term sustainability of industries and their ability to repay loans.

By promoting good governance, providing adequate resources and support, and embracing technological advancements, both banks and industries can work together to mitigate the risks associated with industrial sickness and ensure the sustainability of businesses while protecting the interests of lenders.

· **Lack of demand**

An important aspect of entrepreneurship in India, where some entrepreneurs may face challenges in accurately forecasting product demand, leading to an accumulation of unsold inventory. This can result in financial difficulties for the entrepreneurs, making it difficult for them to repay the borrowed funds used for their business operations.

In such situations, banks that have extended loans to these entrepreneurs may face losses. To recover the outstanding loan amount, banks often resort to selling the assets pledged as collateral by the borrowers. However, the proceeds from the sale may not be sufficient to cover the entire outstanding loan, resulting in a shortfall. This shortfall is recorded as non-performing assets (NPAs) on the bank's books.

To address this issue, it is important for both entrepreneurs and banks to exercise prudence and due diligence. Entrepreneurs should conduct thorough market research, feasibility studies, and demand assessments before starting production. They should aim for a realistic production volume that aligns with anticipated market demand.

Banks, on the other hand, should carefully assess the business plans, market potential, and financial viability of the entrepreneurs before extending loans. Proper risk assessment and credit evaluation procedures can help banks in identifying potential challenges and taking appropriate measures to mitigate risks.

Furthermore, financial literacy and awareness among entrepreneurs can play a significant role in enabling them to make informed decisions and manage their businesses more effectively. Government initiatives and support programs that promote entrepreneurship, provide mentorship, and offer financial education can contribute to reducing the instances of inventory pile-up and subsequent loan repayment difficulties.

By promoting better financial planning, risk management, and collaboration between entrepreneurs and banks, it is possible to minimize the occurrence of NPAs and create a more sustainable and conducive environment for entrepreneurship in India.

· **Change on Govt. policies**

changes in government policies and regulations can significantly impact the banking sector's operations and the rise of non-performing assets (NPAs). The handloom sector, for example, has faced challenges as many weavers' cooperative societies have become defunct due to the withdrawal of state patronage. As a result, the outstanding dues from the handloom sector have become NPAs.

Similarly, the leather industry has been affected by campaigns promoting clean rivers, which have imposed stricter regulations on the industry's operations. These changes have led to financial difficulties for businesses in the leather industry, potentially resulting in NPAs.

In such situations, it becomes important for the government and relevant stakeholders to address the challenges faced by these sectors. Implementation of rehabilitation plans, financial support, and policy interventions can help revive struggling sectors and prevent the conversion of dues into NPAs.

Additionally, banks need to closely monitor the sectors they lend to and adapt their lending policies and risk management practices accordingly. Regular assessments of borrower creditworthiness, timely identification of potential stress in sectors, and proactive measures to mitigate risks can help banks in managing NPAs effectively.

Collaboration between the government, banking sector, and industry associations is crucial in formulating policies that support the growth and sustainability of various sectors. Continuous dialogue and feedback mechanisms can ensure that policies are aligned with the needs and challenges of the industries, reducing the likelihood of NPAs due to unforeseen circumstances or policy changes.

Overall, a proactive approach from the government and banks, along with supportive policies and effective implementation of rehabilitation plans, can help mitigate the impact of external factors on the rise of NPAs and promote the stability and growth of affected sectors.

INTERNAL FACTORS

· **Defective Lending process**

The principles of safety, liquidity, and profitability have long been followed by commercial banks in their lending practices.

The principle of safety emphasizes the importance of ensuring that borrowers have the capacity and willingness to repay both the principal and interest of the loan. The borrower's capacity to pay is determined by factors such as tangible assets and their success in business. On the other hand, willingness to pay depends on the borrower's character, honesty, and reputation. Banks should exercise caution in assessing the soundness of the business or enterprise for which a loan is sought and the borrower's ability to carry it out successfully. It is essential for bankers to prioritize integrity and good character when evaluating borrowers. Ethical considerations should not be compromised, and due diligence should be exercised by bankers throughout the borrower assessment process.

By adhering to the principle of safety, banks aim to minimize the risk of default and ensure that loans are extended to borrowers who have the financial capability and moral commitment to fulfill their repayment obligations. This principle serves as a foundation for maintaining the stability and trustworthiness of the banking system and safeguarding the interests of depositors and stakeholders.

· **Inappropriate technology**

Due to inappropriate technology and management information system, market driven decisions on real time basis cannot be taken. Proper MIS and financial accounting system is not implemented in the banks, which leads to poor credit collection, thus NPA[26]. More effective credit rating agencies like CIBIL should work on a larger data base and update themselves on real time basis.

So that the customers with doubtful integrity cannot apply and seek loans from different banks at same period of time.

· **Improper swat analysis**

The improper strength, weakness, opportunity and threat analysis is another reason for rise in NPAs. While providing unsecured advances the banks depend more on the honesty, integrity, and financial soundness and credit worthiness of the borrower.[21] • Banks should consider the borrowers own capital investment. • it should collect credit information of the borrowers from a. From bankers b. Enquiry from market/segment of trade, industry, business. c. From external credit rating agencies. • Analyse the balance sheet True picture of business will be revealed on analysis of profit/loss a/c and balance sheet. • Purpose of the loan when bankers give loan, he should analyse the purpose of the loan. To ensure safety and liquidity, banks should grant loan for productive purpose only. Bank should analyze the profitability, viability, long term acceptability of the project while financing. The banks should also focus on training their staff dealing in credit wing to be well versed with the schemes and having better assessment capacity of their borrowers.

· **Poor credit appraisal system**

Poor credit appraisal is another factor for the rise in NPAs. Due to poor credit appraisal the bank gives advances to those who are not able to repay it back. Appraisal formats should be well designed covering all aspects related to the borrowers and their business.

· **Managerial deficiencies**

The banker should always select the borrower very carefully and should take tangible assets as security to safe guard its interests. When accepting securities banks should consider the 1. Marketability 2. Acceptability 3. Safety 4. Transferability.

The banker should follow the principle of diversification of risk based on the famous maxim "do not keep all the eggs in one basket"; it means that the banker should not grant advances to a few big farms only or to concentrate them in few industries or in a few cities. If a new big customer meets misfortune or certain traders or industries affected adversely, the overall position of the bank will not be affected. ·

Absence of regular industrial visit

The irregularities in spot visit also increases the NPAs. Absence of regular visit of bank officials to the customer point decreases the collection of interest and principals on the loan. The NPAs due to willful defaulters can be contained by regular visits.

· **Re loaning process**

Non remittance of recoveries to higher financing agencies and re loaning of the same have already affected the smooth operation of the credit cycle.

III Aspects and Issues of NPA

1. The level of non-performing assets (NPAs) in Indian banks is considered higher compared to other countries. This issue has gained attention from international financial institutions, and the Reserve Bank of India (RBI) has taken steps to improve transparency and disclosure related to NPAs.

2. The NPA Management Policy document of State Bank of India (SBI) aims to keep net NPAs to less than 5% of the bank's total loan assets, aligning with international standards. It emphasizes the need for concerted efforts at all levels to reduce NPAs, as outlined in the policy guidelines.

3. Vigilance over non-performing assets should begin from the first day of default. Close

ISSN: 1533 - 9211

monitoring, rigorous follow-ups, and visits to borrowers can help prevent accounts from slipping into the NPA category. In cases where prevention is not possible, various measures should be taken to remove NPAs from the branch's books.

4. NPAs have adverse effects on the branch's asset quality and profitability. Reasons for this include the inability to apply interest on NPA accounts, the need to pay interest to the central office on outstanding NPAs, costs incurred in supervising and following up on such advances (including payments to recovery agents and transportation charges), and the provisioning requirements at the bank level.

5. NPAs are classified as sub-standard, doubtful, or loss assets under the Income Recognition, Asset Classification, and Provisioning norms.

6. Once assets are classified as NPAs, the Branch Manager should take necessary steps to recover the dues to maintain the health of advances and improve branch profitability. Effective management of NPAs through planned and scientific approaches can help minimize the percentage of NPAs to total advances.

IV Analysis

To describe the performance of a public sector bank (in this study, the data from last five financial years of State Bank of India has been taken as reference) keeping in mind the NPAs, analysis on various parameters are as under:

	Total Assets				
FY	16-17	17-18	18-19	19-20	20-21
Total Assets (Crs)	1792748	2048080	2357617	2705966	3454752

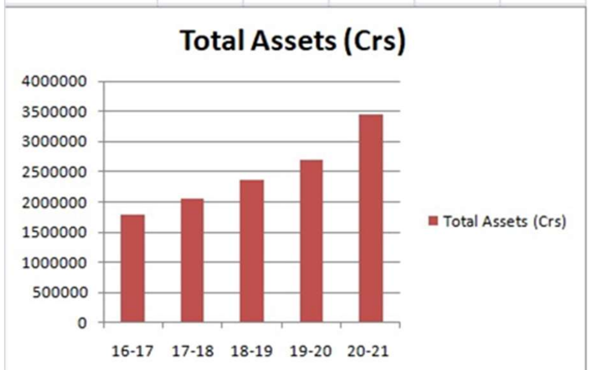

Figure 1 Total Assets of SBI in last five FY

Figure 1 show that total assets of SBI is increased in 2016-17 by 1792748 crore, in 2020-21 increased by 3454752 rs. crore. Hence assets of the SBI bank increased from last five year.

ISSN: 1533 - 9211

	Gross NPA				
FY	16-17	17-18	18-19	19-20	20-21
Gross NPA (Crs)	61605	56725	98173	177866	223427

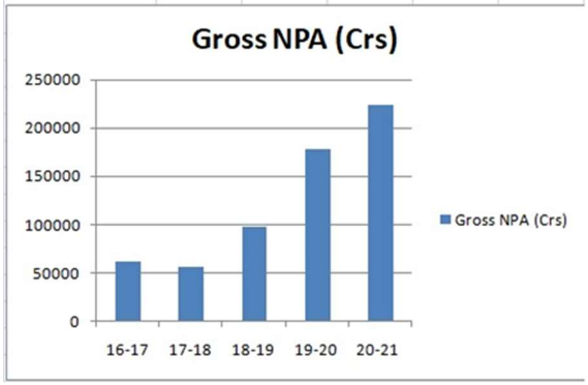

Figure 2 Gross NPA of SBI in last five FY

Figure 2 show that Non-performing assets of SBI increased from 2016-17 to 2020-21.

	Net NPA				
FY	16-17	17-18	18-19	19-20	20-21
Net NPA	31096	27591	55807	96978	110855

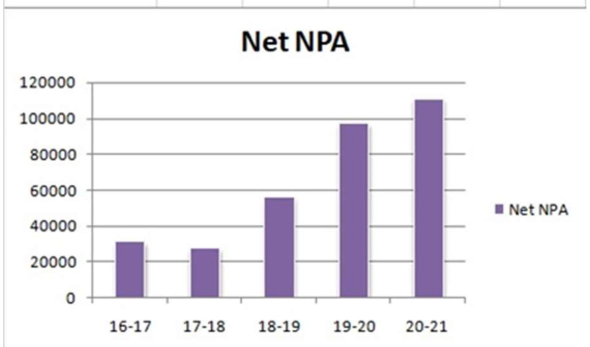

Figure 3 Net NPA of SBI in last five FY

Figure 3 show that net NPA decreased from 2016-17 to 2017-18 and increased from 18-19 to 20-21.

	Net NPA(Ratio %)				
FY	16-17	17-18	18-19	19-20	20-21
Net NPA(Ratio %)	2.57	2.12	3.81	3.71	5.73

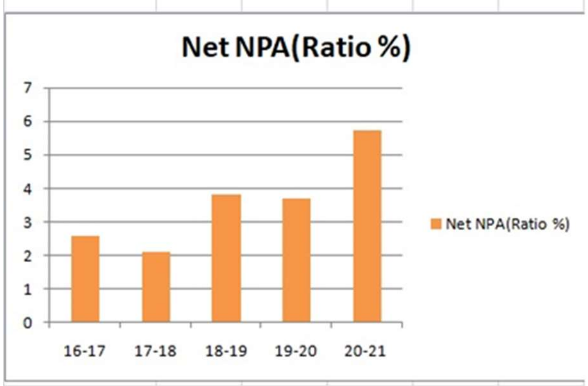

Figure 4 Net NPA (Ratio %) of SBI in last five FY

ISSN: 1533 - 9211

Figure 4 show that the net NPA (Ratio %) of SBI is decreased from 2016-17 to 2017-18 and from 2017-18 to 2018-19 increased in 2020-21.

	Provision Cover				
FY	16-17	17-18	18-19	19-20	20-21
Provision Cover	14224	17908	26984	32247	70680

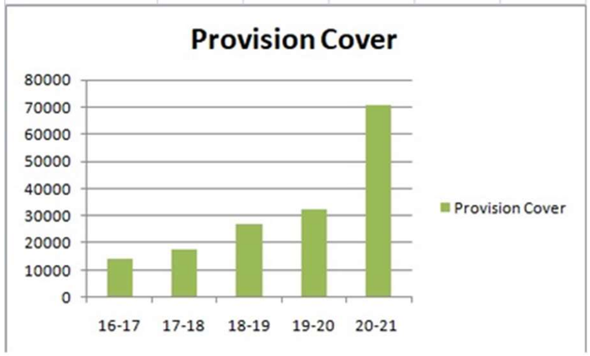

Figure 5 Provision cover for NPA of SBI in last five FY

Figure 5 show that the provision cover for NPA of SBI is increased from 2016-17 to 2020-21.

V Conclusion and Future Scope

The study concludes that NPAs in public sector banks can be attributed to various factors, including customer defaults, lack of borrower inspection, insufficient expertise, inventory imbalances, poor credit allocation, inadequate trained staff, lack of commitment to recovery, and changes in consumer preferences. The authors aim to focus on the impact of NPAs in the MSME segment on the performance factors of a selected public sector bank and propose preventive measures to reduce NPAs. Here are some recommendations and preventive measures that can be considered:

1. Strengthen Credit Appraisal Process: Enhance the credit appraisal process to ensure thorough evaluation of borrowers' financial health, repayment capacity, and market conditions. Use reliable data sources and implement comprehensive risk assessment techniques.

2. Risk-Based Pricing: Implement risk-based pricing models to ensure that interest rates and loan terms are commensurate with the borrower's credit risk profile. This encourages better risk management and discourages high-risk borrowers.

3. Timely Monitoring and Follow-up: Establish a robust system for timely monitoring of MSME loans, including regular follow-ups and proactive identification of early warning signals. Prompt action can help prevent defaults and mitigate potential NPAs.

4. Strengthen Recovery Mechanisms: Enhance the recovery mechanisms by implementing effective legal and recovery frameworks, engaging recovery agents, and exploring alternative dispute resolution mechanisms. Prompt and efficient recovery efforts can minimize the impact of NPAs.

5. Capacity Building and Training: Invest in continuous training and skill development programs for bank staff involved in MSME lending. This ensures better understanding of risk management, credit evaluation, and recovery procedures, leading to more informed decision-making.

6. Technology Adoption: Leverage technology solutions such as data analytics, artificial intelligence, and machine learning to improve credit risk assessment, early warning systems, and monitoring of MSME loans. This can aid in identifying potential NPAs and taking proactive measures to mitigate risks.

7. Sector-Specific Policies: Develop tailored policies and support mechanisms for the MSME sector, considering its unique characteristics, challenges, and financing needs. This can include promoting entrepreneurship, providing specialized financial products, and facilitating access to markets.

8. Industry Partnerships: Foster collaborations with industry associations, chambers of commerce, and other stakeholders to gain insights into market trends, challenges, and opportunities for the MSME sector. This helps in aligning lending practices and risk management strategies with industry dynamics.

9. Financial Literacy and Awareness: Conduct financial literacy programs to educate MSME borrowers about responsible borrowing, effective financial management, and loan repayment obligations. Improved financial awareness can contribute to better loan performance and reduced NPAs.

10. Policy Reforms: Advocate for policy reforms that address structural issues impacting the MSME sector, such as access to finance, regulatory compliance, ease of doing business, and infrastructure development. This can create a conducive environment for sustainable MSME growth and loan repayment capabilities.

By implementing these preventive measures, the selected public sector bank can mitigate the impact of NPAs in the MSME segment, improve performance factors, and promote a healthier lending ecosystem.

REFERENCES

[1] Al-Homaidi EA, Tabash MI, Farhan NHS, Almaqtari FA (2018) Bank-specifc and macro-economic determinants of proftability of Indian commercial banks: a panel data approach. Cogent Econ Finance 6(1):1–26

[2] Al-Jafari MK, Alchami M (2014) Determinants of bank proftability: evidence from Syria. J Appl Finance Bank 4(1):17–45

[3] Bace E (2016) Bank proftability: liquidity, capital and asset quality. J Risk Manag Financ Inst 9(4):327–331

[4] Batra S (2003) Developing the Asian markets for non-performing assetsdevelopments in India. 3rd Forum on Asian Insolvency Reform, Seoul, Korea

[5] Bawa JK, Goyal V, Mitra SK, Basu S (2019) An analysis of NPAs of Indian Banks: using a comprehensive framework of 31 fnancial ratios. IIMB Manag Rev 31(1):51–62

[6] Berger A (1995) The relationship between capital and earnings in banking. J Money Credit Bank 27(2):432–456

[7] Berger AN, DeYoung R (1997) Problem loans and cost efciency in commercial banks. J Bank Finance 21(6):849–870

[8] Bourke P (1989) Concentration and other determinants of bank proftability in Europe, North America and Australia. J Bank Finance 13(1):65–79

[9] Chowdhury MAF, Rasid MESM (2017) Determinants of performance of Islamic banks in

GCC countries: dynamic GMM approach. In: Mutum DS, Butt MM, Rashid M (eds) Advances in Islamic fnance, marketing, and management. Emerald Group Publishing Limited, Bingley, pp 49–80
[10] Cucinelli D (2015) The impact of non-performing loans on bank lending behavior: evidence from the italian banking sector. Eurasian J Bus Econ 8(16):59–71
[11] Demirguc-Kunt A, Huizinga H (1999) Determinants of commercial bank interest margins and proftability: some international evidence. World Bank Econ Rev 13(2):379–408
[12] Duraj B, Moci E (2015) Factors infuencing the bank proftability-empirical evidence from Albania. Asian Econ Financ Rev 5(3):483–494
[13] Etale LM, Ayunku PE, Etale E (2016) The impact of non-performing loans and bank performance in Nigeria. Int J Humanit Soc Sc Invent 5(4):1–5
[14] Hashem HY (2016) Determinants of Egyptian banking sector proftability: time-series analysis from 2004–2014. Int J Bus Econ Sci Appl Res 9(2):73–78
[15] Islam MdS, Nishiyama S (2016) The determinants of bank proftability: dynamic panel evidence from South Asian countries. J Appl Finance Bank 6(3):77–97
[16] Kannan R, Narain A, Ghosh S (2001) Determinants of net interest margin under regulatory requirements: an econometric study. Econ Polit Wkly 36(4):337–344
[17] Kohlscheen E, Murcia A, Contreras J (2018) Determinants of bank proftability in emerging markets. BIS Working Paper, No.686
[18] Martin D (1977) Early warning of bank failure: a logit regression approach. J Bank Finance 1(3):249–276
[19] Masood O, Ashraf M (2012) Bank-specifc and macroeconomic proftability determinants of Islamic banks: the case of diferent countries. Qual Res Financ Mark 4(2/3):255–268
[20] Menicucci E, Paolucci G (2016) Factors afecting bank proftability in Europe: an empirical investigation. Afr J Bus Manag 10(17):410–420
[21] Ongore VO, Kusa GB (2013) Determinants of fnancial performance of commercial banks in Kenya. Int J Econ Financ Issues 3(1):237–252
[22] Ozgur O, Gorus MS (2016) Determinants of deposit bank proftability: evidence from Turkey. J Appl Econ Bus Res 6(3):218–231
[23] Ozurumba BA (2016) Impact of non-performing loans on the performance of selected commercial banks in Nigeria. Res J Finance Account 7(16):95–109
[24] Reserve Bank of India (2007) Master circular on income recognition, asset classifcation, provisioning and other related matters—UCBs [RBI/2007– 2008/83 UBD.PCB.MC.No.10/09.14.000/2006–07]
[25] Saona P (2016) Intra- and extra-bank determinants of Latin American Banks' proftability. Int Rev Econ Finance 45:197–214
[26] Sensarma R, Ghosh S (2004) Net interest margin: does ownership matter? Vikalpa 29(1):41–47
[27] Singh A, Sharma AK (2016) An empirical analysis of macroeconomic and bank-specifc factors afecting liquidity of Indian banks. Future Bus J 2(1):40–53
[28] Sinha P, Sharma S (2014) Determinants of bank profts and its persistence in Indian Banks:

a study in a dynamic panel data framework. MRPA Paper No. 62776
[29] Staikouras CK, Wood GE (2004) The determinants of European bank proftability. Int Bus Econ Res J 3(6):57–68
[30] Sufan F, Habibullah MS (2010) Assessing the impact of fnancial crisis on bank performance: empirical evidence from Indonesia. ASEAN Econ Bull 27(3):245–262
[31] Torres-Reyna O (2007) Panel data analysis: fxed and random efects using stata. Princeton University. Tutorial Note available at http://dss.princeton. edu/training/ 32. Wooldridge JM (2010) Econometric analysis of cross section and panel data. MIT Press, Cambridge
[32] Finance India, September 2005 pp-957-961
[33] Charted Financial Analysis, October 2005 pp-64
[34] Charted Financial Analysis, October 2007 pp-31
[35] Charted Financial Analysis, November 2007 pp-8-9
[36] Charted Financial Analysis, August 2004 B.P. Dhaka pp-47-52
[37] Business Today, May 2006 pp-34
[38] Charted Financial Analysis, December 2005 pp-25-28
[39] RBI Bulletin, July 1999 pp-34-36
[40] RBI Bulletin, January 2004 pp-17-19
[41] Alok Majumdar, NPAs: Recovery Blues, Treasury Management (Dec. 2000) pp 46-49
[42] SBI Annual Report 2019-20, 2020-21.
[43] KOTHARI C.R Indian Financial System, VK publication ,pp-100-105