

**EFFICIENCY AND EFFECTIVENESS OF NON-
PERFORMING ASSETS MANAGEMENT PRACTICES:
AN EMPIRICAL STUDY OF MSME SECTOR IN
HARYANA**

Thesis Submitted for the Award of the Degree of

DOCTOR OF PHILOSOPHY

in

Commerce

By

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LOVELY PROFESSIONAL UNIVERSITY, PUNJAB

2024

DECLARATION

I **Pooja Rani** a student of Doctorate degree bearing Registration No.**41900546** of the Department of Commerce **Mittal School of Business** hereby declare that the work contained in the thesis entitle “**Efficiency and Effectiveness of Non-Performing Assets Management Practices: An Empirical Study of MSME Sector in Haryana**” is an original work done by me and has not plagiarized as per guidelines given vide URL www.plagiarism.org.

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Phagwara

CERTIFICATE

This is to certify that the thesis entitled “**Efficiency and Effectiveness of Non-Performing Assets Management Practices: An Empirical Study of MSME Sector in Haryana**” being submitted by **Ms. Pooja Rani**, Faculty of Department of Commerce, Mittal School of Business, Lovely Professional University, Phagwara, Jalandhar, Punjab for the award of the degree of Doctor of Philosophy, is a bonafide piece of work carried out by her under my supervision and guidance. This thesis has not been submitted in part or full to any other university of institution for the award of any degree or diploma. The thesis is fit to be considered for the award of Ph.D. Degree.

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ABSTRACT

The vast amount of non-performing assets (NPAs) is a recurrent problem and a huge barrier to developing a successful banking sector. The MSME sector of the Indian economy is experiencing a worsening problem with delinquent assets. There has hardly been any systematic evaluation of tackling the problem in the context of loans sanctioned to MSMEs. Recent years have seen an increase in bad loans to micro, small, and medium businesses. The study makes an effort to concentrate on the identification of causes for NPAs in MSMEs loans.

Further, the growing concern about NPAs from MSME sector necessitates an urgent need to develop and realize a wide-ranging approach to manage NPAs. It would undoubtedly be challenging for the banking industry given the remarkable rise in non-performing assets (NPAs) and willful Derelictions during the last five years, as well as the RBI's direction to enhance lending to priority sectors like MSME. Consequently, it prompts severe questions about the NPA management's methods. It is essential that NPA prevention occurs as soon as possible given the potential negative effects that the rising prevalence of NPAs may have. Two crucial issues must be addressed in NPA prevention policies: first, how to stop it from happening again at this magnitude? And second, how can potential NPAs that are already in existence be managed to prevent them from becoming NPAs? Instead of treating NPAs after they have occurred, the pre-emptive steps must be implemented to control them. The study identifies numerous preventive methods for NPA management in the MSME sector. The primary data collected from 316 bankers from 10 banks (5 from public and 5 from private sector) sheds light on the methods utilized to prevent NPAs in MMSEs by taking into account the viewpoint of the bankers who have had direct involvement in lending choices. Additionally, opinion regarding the effectiveness of various legal (curative) and preventive strategies has been captured on 5-point likert scale. The ranked opinion of public and private bank managers regarding their agreeableness as to the effectiveness and efficiency of the NPA Management strategy has been obtained by applying RIDIT analysis. The results show that preventative tactics are more efficient and effective in preventing NPAs than legal techniques.

Further, bankers tend to prefer out-of-court settlement methods, such as SARFAESI, rather than resorting to judicial Intricacies, such as Lok Adalats, DRTs, and IBC. The banks must take into account these findings while modifying the structural elements of their mitigation measures.

ACKNOWLEDGMENT

First and foremost, I would like to thank the Almighty God for giving me courage, motivation and zeal to accomplish my work. Without His extreme power and help I would not be able to complete my work. The journey of achieving the degree of Ph.D. led me through various knowledgeable persons and advisors who have guided and supported me in one way or the other. It was not an easy journey for me and I would not miss the opportunity to thank everybody who had come across and provided me with their knowledge and views.

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I am gratified by the efforts made by you all in this knowledgeable journey of my research work.

Pooja Rani

ABBREVIATIONS

NPA	Nonperforming Assets
MSME	Micro Small and Medium Enterprises
PSB	Public Sector Bank
PVSB	Private Sector Bank
FY	Financial Year
SSI	Small Scale Industries
SME	Small and Medium Sized Enterprises
SIDBI	Small Industries Development Bank of India
GST	Goods and Service Tax
GDP	Gross Domestic Product
TReDS	Trade Receivables Discounting System
CRILC	Credit Repository of Information on Large Credit
RBI	Reserve Bank of India
ARC	Asset Reconstruction Company
GNPA	Gross Nonperforming Assets
NNPA	Net Nonperforming Assets
SBI	State Bank of India
BOB	Bank of Baroda
PNB	Punjab National Bank
CB	Canara Bank
BOI	Bank of India

SBI	State Bank of India
BOB	Bank of Baroda
HDFC	Housing Development Finance Corporation
ICICI	Industrial Credit and Development Corporation of India
KBM	Kotak Mahindra Bank
SLBC	State Level Bankers' Committee
RIDIT	Relative to an Identified Distribution
CVR	Content Validity Ratio
KYC	Know Your Customer
AML	Anti Money Laundering
IBC	Insolvency and Bankruptcy Code
SARFAESI	Securitization and Reconstruction of Financial Assets And Enforcement of Security Interest Act
OECD	Organization for Economic Corporation & Development

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RIDIT	Relative to an Identified Distribution
CVR	Content Validity Ratio
KYC	Know Your Customer
AML	Anti Money Laundering
IBC	Insolvency and Bankruptcy Code
SARFAESI	Securitization and Reconstruction of Financial Assets And Enforcement of Security Interest Act
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CHAPTER - I

INTRODUCTION

The chapter extensively explores the challenge posed by non-performing asset (NPA) loans in the MSME (Micro, Small, and Medium Enterprises) segment, addressing nonperforming loan issues within the broader context of India and in the specific context of Haryana. It delves into the intricacies of NPA trends among MSMEs in Haryana, drawing from data spanning multiple years. This data serves as a stark reminder of the crucial need for proficient NPA management to ensure the continued growth of the MSME sector and the preservation of employment opportunities, both at the national level in India and specifically within Haryana.

1.1 Introduction

The micro, small, and medium unit zones serve as a cornerstone for economic advancement in India, performing a pivotal role especially after the agricultural sector in terms of employment generation. The MSME sector's ascension to becoming a key contributor to the economy is articulated in the MSME Policy 2020–21. This sector extends its reach even to the most far-flung areas of the nation, enriching the economic landscape. It is instrumental in creating job opportunities, fostering regional development, and bolstering infrastructural growth. However, it remains vulnerable to local and global market adversities, as Chary and Rao (2016) outlined.

Financial institutions, particularly banks, facilitate loans to MSMEs under the initiative of prime concern sector lending, as mentioned by Kumar et al. (2016). This initiative aligns with the social objective of promoting economic equilibrium. Nevertheless, the initiative encounters a snag due to the issue of nonperforming assets (NPAs) associated with MSME loans. As per the data by the Reserve Bank of India (RBI), since August 31, 2018, about 48.3% of the credit books of major scheduled commercial banks (SCBs) encompassed corporate assets, while the remaining 51.7% was distributed among MSMEs, retail clients, and other entities (RBI, 2018). A subsequent report highlighted that by the quarter ending June of the year 2019, approximately 16% of all Public Sector Bank (PSB) MSME loans turned into nonperforming loans, a rate almost tripling that of private sector banks and non-

banking financial companies (RBI, 2019). The report published by U.K. Sinha associates this with around 41% of the strained credit within the MSME unit (Live Mint, 2019). The directive from RBI aimed at augmenting lending to priority sectors like MSME, sparked solicitude over the reduction of nonperforming loans from the MSME unit on bank financial sheets, even though there seems to be a disparity in opinions on how to mitigate this concern (RBI/FIDD/2019-20/70 Master Direction FIDD. CO. Plan. BC No. 08/04.09.01/2019-20).

This issue of managing NPAs originating from MSMEs is a predominant challenge for the banking unit, affecting two public and private sector banks. Among the states, Haryana tops the list with the highest NPA rating of 50.1%, as per the recent NABARD data tracked by Assam, Tripura, Meghalaya, and Uttar Pradesh, indicating a cause for concern (NABARD Annual Report 2021). Furthermore, the Haryana State-Level Bankers' Committee reported that as of December 2018, the NPA amount under MSME advances stood at Rs 4,412 crore, which witnessed a surge of 9.1% to Rs 4,814 crore by December 2019 (State Level Bankers Committee, 2019). This scenario not only outlines the financial challenges faced by the banking sector but also reflects upon the economic hurdles within the MSME sector in Haryana and, more broadly, in India.

1.2 Gravity of the Situation in regard to MSME NPAs

MSMEs, bolstered by the proactive initiatives of the Haryana government, have become instrumental in regional growth and employment generation. Currently, Haryana is home to over 100,000 MSMEs, boasting an investment surpassing Rs. 20,000 crores and inducing employment for 10 lakh individuals across diverse sectors like metal, light, scientific instruments, textiles, and food processing. Prominent MSME hubs include Panipat, Faridabad, Ambala, Gurugram, Rohtak, Kaithal, and Panchkula. Under the auspices of the 2015 Enterprise Promotion Policy, the Haryana government aims to propel MSME growth through financial incentives, market access, technology advancement, and infrastructure development. These efforts are geared towards generating more employment, fostering regional development, and advancing infrastructure. However, the extension of loans to MSMEs by Indian banks has ushered in a wave of challenges related to non-performing assets, chiefly arising

from fund mismanagement and insufficient knowledge among MSMEs. The peril of bad debts came to the forefront during the early 1990s, and despite recurring alarms, a harmonized approach to mitigate this concern remains elusive. NPAs serve as a barometer for gauging the presentation and pecuniary fortitude of Indian banks. The metamorphosis of MSME loans into NPAs predominantly occurs when these enterprises falter in repaying both principal and interest amounts often rooted in poor self-management and ensuing financial unwellness. Navigating through the quagmire of NPAs poses a monumental challenge for the banking industry. Both public and PVSBs, now operating akin to pure commercial entities with delineated profit centers, are under the lens to augment service quality while concurrently trimming operational costs. These banks are envisioned as custodians of public funds, accountable to myriad stakeholders, including the government. The quandary of NPAs is a shared dilemma among these banks, with a discernible lack of systematic evaluation concerning the mitigation of issues associated with loans granted to MSMEs. The prevalence of bad loans within the MSME sector has seen a notable uptick recently. A 2018 study underscores a credit deficit of nearly twenty-six trillion (INR) within this unit, with micro and small sectors bearing the brunt, constituting ninety percent of this shortfall. Although MSMEs enjoyed a 17.3% share of total bank credit in March 2010, this figure shrank to 13.6% by March 2019. Firms with larger credit exposures, exceeding ₹ 25 crore, show an NPA rate of around 18%. As of June 2019, NPAs constituted 16% of all public sector bank (PSB) MSME credit, a figure nearly triple that of private sector banks and non-banking financial companies. The UK Sinha report correlates this to approximately 41% of all distressed credit within the MSME unit. Additionally, a recent report by the National Bank for Agriculture and Rural Development (NABARD) revealed that Haryana topped the list with an NPA rate of 50.1%, followed by Assam, Tripura, Meghalaya, and Uttar Pradesh, as elucidated in the Haryana State-Level Bankers' Committee report (Feb 2018). The conceptualization of priority sector lending in 1931 ushered in policy revisions and banking law amendments. This form of lending, directed by Indian banks as per governmental guidelines, is intrinsically linked to non-performing assets. The priority sector encompasses several crucial segments, including agriculture, micro, small, and medium enterprises, education, households, export businesses, social infrastructure,

and renewable energy, as delineated by the Reserve Bank of India, forming the backbone of socio-economic development. The Banking Regulation stipulates the rate of interest levied by banks on priority sectors, with Scheduled Commercial Banks typically charging 8.70% p.a. on agricultural credit, 7.30% p.a. on educational loans, and a 10% p.a. interest rate on personal loans. These banks are urged to allocate 40% of their net bank credit towards direct loans for priority sectors to cater to the financial necessities of the agricultural zone and MSMEs. The Rural Infrastructure Development Fund (RIDF) is designated to absorb funds from banks to meet their lending target of 40% to priority sectors. In extending loans to priority sectors, both regulatory and administrative authorities must ascertain and overcome the hurdles encountered by banking sectors (Gaur & Mohapatra, 2020). The Reserve Bank of India's report from August 2018 discloses that the corporate sector commands a 48.3% share in the loan book of specific scheduled commercial banks, while micro, small, and medium enterprises, households, and retail sectors hold a cumulative share of 51.7%. The narrative of borrower failure and insolvency is oftentimes intertwined with outdated technology. The ineffective handling of non-performing loans emerges as a prime factor precipitating bank failures. The majority of bankers leverage the Credit Information Bureau (India) Limited (CIBIL) Score as a remedial apparatus to govern and manage NPAs. Advocacy for liberalized Income Recognition and Asset Classification (IRAC) roles by the Reserve Bank of India aims to shield specific sectors like coal and mining, infrastructure, and textiles from macro-level impediments such as economic and global downturns (Dinesh et al., 2020).

A four-fold surge in the gross NPA of scheduled commercial banks was witnessed in March 2018 compared to March 2014, with gross NPAs peaking at \$10 trillion in March 2018. The Insolvency and Bankruptcy Code 2015 was authorized to address NPA challenges by expediting bankruptcy proceedings, particularly against willful defaulters. In a revelatory move, the Reserve Bank of India disclosed a list of 12 large defaulters who were implicated in Rs. 1.75 trillion of the overall NPAs (Mishra et al., 2021). An efficacious bankruptcy framework is indispensable for banks to navigate the vicissitudes of NPAs stemming from business failures.

1.3 Meaning of Micro, Small, and Medium Enterprises

Micro, small, and medium enterprises are the main contributors to socioeconomic development, employment generation, regional rural growth, and entrepreneurship development. The Ministry of Micro, Small, and Medium Enterprises announced a new classification of MSMEs in 2020, which categorized MSMEs as per investment and annual turnover. In the case of micro-enterprises, investment should not be more than Rs. 1 crore, and annual turnover should not be more than Rs. 5 crore. Under small units, investment should be between Rs. 1 and Rs. 10 crores, and turnover each year should be between Rs. 5 and 50 crores. If investment in plant and machinery is Rs. 20 crore and annual revenue is Rs. 100 crore, that particular unit falls under medium enterprises.

MSMEs contributed to around 29 percent of India's GDP. The Ministry of MSMEs, under the supervision of the Government of India, is providing an online marketing platform for conducting their e-commerce transactions. There are five statutory bodies named Khadi and Village Industries, the COIR Board for developing the COIR industry; the National Small Industries Corporation Limited for developing micro as well as small enterprises; the National Institution for MSMEs for promoting entrepreneurship skills, and the Mahatma Gandhi Institution for Rural Industrialization for making village economies professionally strong and encouraging research and development efforts. For accepting new technology, the central authority also allocates financial backing in the form of a budget to MSMEs of rupees 15,700 crore and rupees 3 lakh crore in security-free credit to businesses. MSMEs are big suppliers of raw materials to large industries, so direct end services are required for MSMEs. Various MSMEs till now are not technologically advanced, so subsidies for getting foreign technology should be granted by the central government to enhance their quality.

Table 1.1: Micro, Small and Medium Enterprises Classification 2020

Area of the Enterprise	Investment and Annual Turnover
Micro Enterprise	Investment should be less than 1 Crore Turnover should be less than Rs. 5 Crore
Small Enterprise	Investment should be less than Rs. 10 crore Turnover up to Rs. 50 Crore
Medium Enterprise	Investment should be less than Rs. 20 crore Turnover up to Rs. 100 Crore

Source: Ministry of Micro, Small and Medium Enterprises

1.4 An Introduction to the Profile of Haryana State

Haryana state got its separate identity on November 1, 1966. Haryana is an agricultural-based state. This state is spread over 44,212 square kilometers. The capital of Haryana and Punjab is Chandigarh. From the east side, Haryana state is covered by Uttar Pradesh; from the west side, Haryana state is covered by Punjab; from the north side, Himachal Pradesh covers Haryana; and from the south, Rajasthan and Delhi cover Haryana. Hindi, English, Punjabi, and Haryanvi languages are spoken by the people of Haryana. 75.5% of people are literate in Haryana. Haryana State is the hub and supermarket in the automobile sector. Haryana is in 3rd rank in exporting software to foreign countries and is the largest market in the field of information technology. 1.3% of the area of Haryana covers India. In the year 2019–20, Haryana state contributed 3.32 percent of the Indian GDP (gross domestic product). The Government of Haryana is providing a progressive, developing, and competitive atmosphere to the businesses of Haryana state. For the purpose of providing financial help and incentives to the MSME sector, the Haryana government launched the Industrial and Investment Policy 2011. According to the Business Reforms Action Plan 2017, the Haryana government also got the third rank in Ease of Doing Business. Haryana is the chief producer and exporter of basmati rice, software, food grains, and two- and four-wheelers such as cars and tractors. To provide

competitive advantages to MSMEs, the Enterprise Promotion Policy 2015 set up a flexible roadmap. The legal and political environment of Haryana State has become favorable for doing business very smoothly. Infrastructural development, wide market size, and a flexible economy made the manufacturing and service sectors very strong and developed. 57 percent of the area covered by the NCR has 21 national highways and railway lines attaching various states for transporting production. After 2013–14, Haryana state made progress in the three-tier sector, naming priority and non-priority sectors, with a growth rate of 6.4 % in the primary sector, 6.4% in the secondary region, and 10.8% in the service region.

Figure: 1.1 Graph of Haryana State



Source: www.msme.haryana.gov.in/snapshot-of-haryana

1.5 Different Parameters to Evaluate Haryana Standing in MSME Sector Lending

The state of Haryana, known for its vibrant industrial ecosystem and its substantial contribution to the Indian economy, presents an intriguing case for the study of micro, small, and medium enterprise (MSME) lending. The examination of MSME loan issues within this region is rooted in understanding the multifaceted dynamics of lending practices, and their repercussions on economic growth and financial stability. In pursuing an insightful analysis of Haryana's standing in MSME sector lending, it

becomes imperative to consider a variety of parameters that offer a nuanced perspective on the challenges and opportunities prevalent in the state.

Opportunity Metrics: Evaluating the scope and potential of the MSME sector in Haryana necessitates a focus on opportunity metrics, predominantly reflecting the high market size and growth. These metrics serve as indicators of the region's capability to foster a thriving MSME environment. The assessment of market size and growth trajectories not only unveils the inherent potential for economic advancement but also delineates the extent to which MSMEs can flourish and contribute to regional development.

Risk Metrics: Concurrently, a comprehensive understanding of MSME loan issues in Haryana requires an examination of risk metrics, particularly delinquency and the riskiness associated with customers residing in this geographic locale. Analyzing these metrics provides a window into the challenges posed by non-performing assets (NPAs), and the risk factors contributing to delinquency. This, in turn, can offer a roadmap for devising risk mitigation strategies and enhancing the effectiveness of lending practices.

Overall Ranking: A holistic perspective on Haryana's position in MSME sector lending is achieved through an overall ranking, synthesized from both opportunity and risk parameters. This ranking encapsulates a balanced view, enabling stakeholders to gauge the viability and attractiveness of the MSME sector in Haryana in terms of lending activities. Moreover, it sets the stage for comparison with other regions, thus contextualizing Haryana's standing on a broader canvas. In summation, a meticulous exploration of the aforementioned parameters cultivates a deeper understanding of the intricacies surrounding MSME loan issues in Haryana. This endeavor not only shines a light on the state's potential for nurturing a robust MSME sector but also unveils the hurdles to be surmounted to ensure a conducive environment for MSME sector lending. Through this lens, policymakers, financial institutions, and stakeholders at large can embark on a path of informed decision-making, aimed at optimizing the lending framework to propel the growth and sustainability of MSMEs in Haryana.

Table 1.2 Top- Ranked States for Corporate Lending Opportunity and Risk

Foundation (FY 19)	Rank 1	Rank 2	Rank 3	Rank 4	Rank 5
Market Size	Maharashtra	Tamil Nadu	Karnataka	Gujarat	U.P
Market Growth	Andhra Pradesh	Tamil Nadu	Karnataka	Kerala	Bihar
Delinquency	Gujarat	J & K	Uttarakhand	Haryana	Chattisgarh
Score Quality	Delhi	Maharashtra	Gujarat	Goa	West Bengal

Source: MSME PULSE June 2019

Table 1.2 presents information regarding the top-ranked states in various pillars related to MSME (Micro, Small, and Medium Enterprises) corporate lending opportunities and risks. This data is crucial when creating a background for a serious concern about non-performing loans in the MSME unit in Haryana. Maharashtra, Tamil Nadu, and Karnataka have the largest market sizes for MSME corporate lending opportunities. This suggests that these states might have a greater number of MSMEs, which could potentially lead to higher lending activity. It also indicates the potential for higher NPA concerns due to the larger exposure. Andhra Pradesh, Tamil Nadu, and Karnataka are experiencing significant market growth in the MSME sector. This rapid growth could indicate increased lending activity, but it might also be associated with higher risks if not managed properly, potentially leading to NPAs. Gujarat has the highest delinquency rate, followed by Jammu & Kashmir and Uttarakhand. Haryana is ranked fourth in terms of delinquency. This is a critical concern because it suggests that Haryana is experiencing a notable level of delinquency in the MSME sector, which can be indicative of a higher NPA risk. Delhi, Maharashtra, and Gujarat have the highest quality scores in terms of MSME corporate lending. This implies that these states may have better credit quality and risk management practices. However, Haryana's quality score is not mentioned in the table, but it is essential to consider this aspect when assessing the NPA risk in the state's MSME sector.

In the context of Haryana, the table highlights that, while it may not have the highest delinquency rate compared to some other states; it still ranks fourth, indicating a

notable level of financial stress in the MSME sector. This should be a serious concern for NPAs, and more investigation is needed to interpret the specific logics behind the delinquency and potential measures to mitigate NPA risks in Haryana's MSME sector.

Table 1.3 MSME Opportunity and Risk Ranking (Overall Ranking)

States	FY16	FY17	FY18	FY19
Gujarat	1	1	1	1
Andhra Pradesh	15	14	9	2
Haryana	9	10	3	3
Karnataka	2	5	6	3
Delhi	5	3	5	5
Maharashtra	4	3	4	6
Rajasthan	2	1	2	6
Tamil Nadu	6	13	12	6
Uttar Pradesh	6	11	11	9
Jammu & Kashmir	11	9	13	10
Telangana	14	18	10	11
Bihar	17	16	18	12
Madhya Pradesh	8	6	14	12
West Bengal	19	17	8	12
Chattisgarh	10	7	7	15
Kerala	12	11	14	15
Uttarakhand	17	7	17	17
Punjab	13	15	14	18
Odisha	21	21	22	19
Goa	16	18	19	20
Himachal Pradesh	23	21	21	21
Jharkhand	21	23	23	21
North East States	20	18	20	23

Source: MSME Pulse Report June 2019

Table 1.3 depicts state-wise information about MSMEs' opportunity and risk ranking from FY 2016 to FY 2019. The overall ranking of Haryana State was 9th in the financial year 2016, 10th in the financial year 2017, and 3rd in the financial years

2018 and 2019. The overall ranking of Haryana state was very strong and improved as compared to other states in the opportunity and risk rankings. In the financial year 2019, Gujarat got the 1st rank, and Andhra Pradesh got the 2nd rank in the MSME opportunity and risk ranking. In summary, these tables provide a historical perspective on how Haryana and other states have performed in terms of MSME opportunity and risk rankings over the years. The rankings can be suitable for policymakers, investors, and shareholders to assess the relative strengths and weaknesses of each state's MSME sector and make informed decisions accordingly.

Table 1.4 MSME + Business Lending to Individual (Overall Ranking)

States	FY16	FY17	FY18	FY19
Gujarat	1	1	1	1
Tamil Nadu	6	7	6	2
Rajasthan	4	4	2	3
Delhi	3	4	4	4
Karnataka	3	5	4	5
Haryana	8	10	8	6
Maharashtra	2	2	2	6
Andhra Pradesh	12	9	7	8
West Bengal	18	17	9	8
Telangana	17	15	10	10
Kerala	7	13	12	11
Uttar Pradesh	10	10	15	12
Uttarakhand	13	8	16	13
Madhya Pradesh	9	6	12	14
Punjab	10	12	17	15
Jammu & Kashmir	14	16	18	16
Himachal Pradesh	19	21	20	17
Bihar	20	20	20	18
Odisha	23	23	19	20
Jharkhand	21	22	23	21
Goa	14	17	14	22
North East States	21	19	20	23

Source: MSME PULSE June 2019

Table 1.4 provides rankings for various Indian states in terms of MSME and business lending to individuals over a four-year period (FY16 to FY19). These rankings are crucial for understanding the potential non-performing loan concerns in the MSME region of Haryana. Here's an interpretation of the table in this context: Gujarat consistently maintained the top position in MSME and business lending to individuals over the past four years. This suggests a strong and consistent performance, likely indicating lower NPA concerns in the state. Tamil Nadu shows a relatively stable performance, ranking 2nd in FY19. This indicates a favorable lending environment, potentially resulting in lower NPA concerns. Rajasthan consistently ranks well, maintaining a position within the top three states. This stability suggests a relatively lower NPA risk in the state's MSME sector. Delhi and Karnataka maintain consistent rankings within the top five, indicating a stable environment for business lending, potentially resulting in lower NPA concerns. However, it's important to note that Haryana has seen fluctuations in its ranking over the past four years, starting at 8th and gradually improving to 6th. This suggests that while Haryana's MSME sector is performing well, there may be some variations in risk levels that need monitoring. Maharashtra, despite being a strong economic state, also ranks 6th in FY19, indicating that it may face similar risk levels as Haryana. Andhra Pradesh and West Bengal both rank 8th in FY19, suggesting a moderate-risk environment for business lending. Telangana, Kerala, and Uttar Pradesh round out the top 10 in FY19, indicate a relatively moderate risk in their MSME lending environments. Chhattisgarh, Odisha, Jharkhand, and Goa have rankings that fluctuate over the years, suggesting varying risk levels in their MSME sectors. The Northeastern States consistently rank lower, indicating that this region may have a relatively higher risk of nonperforming loans in the MSME sector. In the context of Haryana, while it ranks 6th in FY19, the fluctuation in rankings over the four years suggests the need for careful monitoring of the state's MSME sector. While it doesn't indicate an immediate high NPA risk, it does highlight the importance of maintaining a robust credit risk management system to prevent any potential NPA concerns from escalating. Further analysis and action may be necessary to ensure the stability of the MSME lending environment in Haryana.

Table 1.5 Overall Credit Lending Opportunity and Risk Ranking

State	FY16	FY17	FY18	FY19
Gujarat	2	1	1	1
Tamil Nadu	5	10	5	2
Karnataka	2	6	10	3
Kerala	9	3	3	4
Haryana	4	8	8	5
Andhra Pradesh	17	16	2	6
Telangana	16	18	13	7
Delhi	6	5	12	8
Maharashtra	1	2	1	9
Rajasthan	7	4	7	10
West Bengal	20	19	8	10
Uttarakhand	12	7	16	12
Goa	19	12	15	13
Bihar	17	22	22	14
Himachal Pradesh	14	21	19	15
Uttar Pradesh	11	10	13	15
Madhya Pradesh	15	16	10	17
Punjab	7	14	20	18
Chattisgarh	13	14	5	19
Jammu & Kashmir	9	13	18	20
Odisha	22	23	21	20
North East States	22	9	17	22
Jharkhand	22	20	22	23

Source: MSME PULSE June 2019

Table 1.5 provides rankings for various Indian states in terms of overall credit lending opportunity and risk over four years (FY16 to FY19). Gujarat consistently maintains a strong position as one of the top states in overall credit lending opportunity and risk. This suggests that Gujarat's MSME sector is relatively stable and presents a lower overall risk of NPAs. Tamil Nadu has shown variation in rankings over the years but consistently ranks within the top 10 states. This indicates that, while there may be some fluctuations, the state generally offers favorable conditions for credit lending to MSMEs. Karnataka has a relatively stable ranking within the top 10, indicating a moderate-risk environment for credit lending to MSMEs. Kerala ranks 4th in FY19, indicating that it offers favorable credit lending conditions. It's important to note that it has experienced fluctuations in its ranking over the years. It suggests that Haryana's overall credit lending environment for MSMEs is relatively stable and presents a lower overall risk. However, like Kerala, Haryana has experienced fluctuations in its ranking over the years, which warrants careful monitoring. Andhra Pradesh has seen significant improvements in its ranking over the years, moving from 17th in FY16 to 6th in FY19. This indicates substantial growth and reduced risk in its MSME lending environment. Telangana, Delhi, and Maharashtra also maintain relatively stable positions within the top 10, suggesting a favorable credit lending environment. Rajasthan and West Bengal rank 10th in FY19, indicating a moderate level of risk in their MSME credit lending environments. States like Uttarakhand, Goa, Bihar, Himachal Pradesh, and Uttar Pradesh have rankings that fall in the middle or lower-middle range, suggesting varying levels of risk in their MSME lending environments. Madhya Pradesh, Punjab, Chhattisgarh, Jammu & Kashmir, Odisha, the North East States, and Jharkhand have rankings that fluctuate over the years, indicating fluctuations in their MSME lending environments. In the context of Haryana, the 5th rank in FY19 suggests a relatively favorable overall credit lending environment for MSMEs. However, the fluctuations in rankings over the years indicate the importance of continuous monitoring and risk management to ensure that the state's MSME sector remains stable and experiences minimal NPAs. The table provides valuable insights into the relative risk levels across Indian states, aiding in the assessment of potential NPA concerns in Haryana's MSME sector.

1.6 Brief Description of District-Wise MSMEs in Haryana

In Haryana, MSMEs are playing a significant role in providing employment opportunities, rural and regional development, and economic growth. Traditional clusters like scientific apparatuses, plywood, and light engineering, rural clusters like the footwear sector, dairy sectors, and thrust clusters such as the food processing sector and textile sectors are covered under the enterprise's promotion policy in 2015. In Haryana, more than one lakh units with an investment of Rs. 20, 000 crore are employing more than ten lakh people in the fields of the automobile industry, food industry, textile industry, and metal industry. Major medium units are situated in Panipat, Faridabad, and Gurugram, and large numbers of micro and small units are situated in Ambala, Karnal, Kaithal, etc. In 2015, the State of Haryana Government launched a new enterprise promotion policy to provide a liberal and supportive environment for MSMEs. Under the industrial infrastructural upgrade scheme, the Haryana government has adopted a cluster development approach for the development of the MSME sector. These clusters will help the regional industry and will support the progress of ancillary units. The government provides all sorts of common facilities like product development, quality marking, lab testing, technological advice, R & D facilities, etc. Many clusters have been developed in Haryana, like Saha and Rai Food Park, Bahadurgarh's Footwear Park, Barhi's Textile Park, Karnal's Agricultural Implements Park, Kundli's Electronics Hardware Technology Park, IT Parks at Panchkula, Rai and IMT Manesar, the handloom industry in Panipat, the scientific apparatus industry in Ambala, the metal industry at Jagadhri, the pharmaceutical industry at Sonapat/Mewat, the printing and publishing industry at Rai, the light engineering goods industry at Faridabad, the petrochemical hub at Panipat, the marble and stone cutting, polishing, and finishing industry at Roz-Ka-Meo, and the auto parts industry in Gurugram. These clusters facilitate the growth and competitiveness of the MSME sector and meet their common needs in the areas of R&D, technology upgrade support, standardization of products, quality testing, brand promotion, and other marketing efforts, etc. Haryana has a strong infrastructural base, having four dominant national highways, i.e., NH-1 (Delhi-Ambala-Amritsar), NH-2 (Delhi-Faridabad-Agra), NH-8 (Delhi-Gurugram-Jaipur), and NH-10 (Delhi-Rohtak-Hisar-Sirsa), which pass through the state. Leading

railway lines also pass through the states. Indira Gandhi International Airport is near Gurugram. It provides easy global connectivity, which facilitates industrialization. Haryana State Industrial and Infrastructural Development Corporation ensures a regular supply of developed industrial land to entrepreneurs. Haryana has developed the Kundli-Manesar-Palwal expressway and the Delhi-Mumbai Industrial Corridor to strengthen its infrastructural base, which is the basic requirement for repaid industrialization.

Table 1.6: List of MSMEs Covered Under Identified Clusters in Haryana State

Name of District	Name of Clusters	MSMEs covered under Clusters	Identified Clusters
Ambala	General Engineering Cluster	1450	5
	Electronics Cluster	100	
	Kitchen Appliances Cluster	150	
	Glass Cluster	200	
	Scientific Instruments Cluster	800	
Bhiwani and Charkhi Dadri	Fitness & Surgical Equipments Cluster	80	2
	Plastic Multi Product Cluster	63	
Fatehabad	Agricultural Implements Cluster	200	1
Faridabad	Textile and Apparel Cluster	1000	7
	Machinery & Equipment Cluster	1068	
	Electroplating Cluster	250	
	Auto Components Cluster	4200	
	Packaging Industries Cluster	197	
	Bright Steel and Wire Drawing	373	
	Ayurvedic Medicine	120	
Gurugram	General Engineering Cluster	2065	4
	Textile & Apparel Cluster	650	
	Leather and Leather Products Cluster	550	
	Auto & Auto Components Cluster	1000	

Hisar	Textile &Apparel Cluster	150	2
	Metal Fabrication Cluster	96	
Jhajjar	Leather & Footwear Cluster	228	2
	Engineering Cluster	92	
Jind	Food Processing Cluster	703	2
	Wooden Furniture Cluster	616	
Kaithal	Rice Cluster	150	2
	Foundry Cluster	50	
Karnal	Food Processing Cluster	1140	5
	Pharmaceutical Cluster	100	
	Printing &Packaging Cluster	250	
	Agriculture &Implements Cluster	200	
	Chemical & Chemical Products Cluster	127	
Kurukshtra	Food Processing Cluster	635	2
	Agriculture Implements Cluster	100	
Mahendragarh	Food Processing Cluster	117	1
Nuh	Auto Components Cluster	50	1
Palwal	Auto Components Cluster	152	1
Panchkula	Auto Components Cluster	400	1
Panipat	Home Furnishing Cluster	12000	4
	Handloom & Textile Cluster	10000	
	Textile Machinery Cluster	250	
	Foundry Cluster	150	
Rewari	Engineering Cluster	650	2
	Fabrication Cluster	94	
Rohtak	General Engineering Cluster	550	2
	Fasteners Cluster	800	

Sirsa	General Engineering Cluster	350	3
	Wood & Wood Products Cluster	140	
	Textile & Apparel Cluster	100	
Sonapat	Textile & Allied Products Cluster	276	4
	Food Processing & Allied Products Cluster	567	
	Engineering Cluster	273	
	Printing & Packaging Cluster	119	
Yamunanagar	Engineering Cluster	474	3
	Wood & Wood Product Cluster	647	
	Metal Utensil Cluster	350	
	Total		56

Source: Directorate of MSME, Haryana

Table 1.6 provides a meticulous breakdown of the MSME sector across various districts of Haryana, categorized into distinct industrial clusters. With a total of 56 identified clusters spanning 21 districts, the table showcases a robust and diverse MSME presence in the state. It delineates the specific industrial domains each cluster belongs to, such as general engineering, textiles and apparel, food processing, and auto components, among others. This detailed categorization underscores the breadth and diversity of the MSME sector in Haryana, highlighting its significance as a vital part of the state's economy. Furthermore, the table sets the stage for understanding the regional spread and industrial variety, which are critical for comprehending the landscape in which NPA loans are being analyzed.

Table 1.7 District-wise Profile in the context of Micro, Small and Medium Enterprises

Districts	Total Number	New MSME	Specialization	Total Employment	New Employment (Last 3 Years)	Total Investment (In Rs.)	New Investment	Total Exports	No. of Large	Existing Clusters
Ambala	2,244	705	Scientific Instrument and Kitchen Appliance	17,636	3,582	57,227	11,658	15,960	7	4 Mini Clusters
Faridabad	7,634	2,917	Auto Component Industry	1,27,952	30,252	4,04,576	1,02,311	4,17,536	81	5 Mini Clusters
Gurugram	7,115	2,461	Garments & Auto Components Industry	1,56,624	22,484	4,20,879	67,655	6,23,187	47	3 Mini Clusters
Kaithal	529	107	Rice Production	4,294	575	27,816	3,683	73,515	0	2 Mini Cluster
Karnal	3,010	1,274	Rice Exports	26,424	7,462	1,47,575	44,625	8,47,618	9	2 Mini Clusters 6 MSE-CDP Cluster
Kurukshetra	1,647	697	Rice Production	9,725	3,605	43,129	14,765	53,954	1	1MiniCluster

Districts	Total Number	New MSME	Specialization	Total Employment	New Employment (Last 3 Years)	Total Investment (In Rs.)	New Investment	Total Exports	No. of Large	Existing Clusters
Panchkula	1,230	521	Auto Components Industry	13,302	3,557	54,917	15,462	39,042	81	DSR Prepared for 1 Mini Cluster
Panipat	5,367	1,392	Textile & Handloom Industry	52,851	9,332	2,12,959	25,027	8,97,102	26	1 Mini Cluster 1MSE-CDP Cluster
Rohtak	2,322	1,319	Fasteners Industry	23,076	5,150	87,878	20,479	33,173	30	1 Mini Cluster
Yamunagar	2,568	861	Plywood & Utensils Industry	31,508	7,902	1,09,550	35,377	38,076	9	3MSE-CDP Clusters

Source: District Industries' Profiles, Haryana 2019

Table 1.7 portrays a district-wise profile relating to the micro, small, and medium units across various districts in Haryana as of 2019. The various metrics provided include the total number of MSMEs, new MSMEs, specialization of the MSME sector in the respective district, total employment, and new employment in the last three years, total investment, new investment, total exports, number of large enterprises, and the existing clusters within each district. The table brings out the distinct industrial character of each district, highlighting the particular sectors they specialize in and the employment and economic prospects they contribute to.

Ambala district stands out for its specialization in the scientific instrument and kitchen appliance sectors. The table lists a total of 224 existing MSMEs with 705 new additions, employing a total of 17,636 individuals. Over the last three years, the district has witnessed a rise in employment, adding 3,582 new jobs. The total investment stands at Rs. 57.22 crore, with Rs. 11.658 crore being invested recently, contributing to a total export of Rs. 15,960 crore. The district hosts 7 large enterprises and 4 mini clusters, which point towards a diversified industrial environment.

Faridabad district is renowned for its auto component industry, with a total of 7,634 MSMEs and 2,917 new establishments. The total employment generated is remarkable, standing at 1,27,952 with 30,252 new employees over the last three years. The investment scenario is also robust, with a total investment of Rs. 4,04,576 crore and Rs. 1,02,316 crore as new investments, leading to a hefty export figure of Rs. 4,17,536 crore. With 81 large enterprises and 5 mini clusters, Faridabad showcases a thriving industrial ecosystem.

The district of Gurugram is recognized for its garment and auto component industry, hosting 7,115 MSMEs along with 2,461 new ones. Employment is robust, with a total of 1,56,624 individuals employed and 22,484 new jobs created in the last three years. The total investment in the district is Rs. 4,20,879 crore, with Rs. 67,655 crore being new investments. Exports from the district total Rs. 6,23,187 crore. Gurugram has 47 large enterprises and 3 Mini Clusters, indicating a strong industrial base and diversified economy.

Kaithal's industrial landscape is dominated by rice production, with a total of 529 MSMEs and 107 new additions. The employment figures stand at 4,294 with 575 new jobs created over the last three years. The district has seen a total investment of Rs. 27,816 crore, with Rs. 3,683 crore as a new investment, contributing to a total export figure of Rs. 73,515 crore. Although there are no large enterprises listed, the district

has 2 mini clusters, indicating a focus on collaborative and clustered industrial growth.

Karnal district is known for its rice exports, boasting 3,010 MSMEs with 1,274 new establishments. The employment scenario is promising, with a total of 26,424 individuals employed and 7,462 new jobs over the last three years. The investment figures are strong, with a total of Rs. 1,47,575 crores and Rs. 44,625 crores as new investments, generating a total export figure of Rs. 8,47,618 crores. Karnal hosts 9 large enterprises and 6 MSE-CDP clusters, portraying a diversified and strong industrial infrastructure.

Kurukshetra has a total of 1,647 MSMEs, with 697 new ones. Employment in the district totals 9,725 with 3,605 new jobs in the last three years. The total investment in the district is Rs. 43,129 crore, with Rs. 14,765 crore as new investment. The district has made exports totaling Rs. 53,954 crore. Kurukshetra has 1 large enterprise and 1 Mini Cluster, indicating a growing yet concentrated industrial ecosystem.

Panchkula district's industrial sector is driven by the auto-components industry, with 1,230 MSMEs and 521 new additions. The district employs a total of 13,302 individuals, with 3,557 new jobs created over the last three years. The investment scenario is robust, with a total of Rs. 54,917 crore and Rs. 15,462 crore as new investments, leading to total exports of Rs. 39,042 crore. With 81 large enterprises and a DSR prepared for 1 mini cluster, the district portrays a thriving and well-structured industrial environment.

Panipat district, known for its Textile and Handloom Industry, houses 5,367 MSMEs with 1,392 new establishments. The employment figure stands at 52,851 with 9,332 new jobs over the last three years. The total investment is Rs. 2,12,959 Crores with Rs. 25,027 Crores as new investment, resulting in a total export figure of Rs. 8,97,102 Crores. Panipat hosts 26 large enterprises, 1 Mini-Cluster, and 1 MSE-CDP Cluster, indicating a highly diversified and strong industrial base.

Rohtak district is recognized for its fastener industry, with a total of 2,322 MSMEs and 1,319 new ones. The district employs 23,076 individuals, with 5,150 new jobs created in the last three years. The total investment in the district is Rs. 87,878 crore, with Rs. 20,479 crore as new investment, generating a total export figure of Rs. 33,173 crore. Rohtak has 30 large enterprises and 1 mini cluster, showcasing substantial industrial infrastructure and potential for further growth.

Lastly, Yamunanagar district is known for its plywood and utensil industry, boasting

2,568 MSMEs and 861 new establishments. The employment scenario is solid, with 31,508 individuals employed and 7,902 new jobs over the last three years. The total investment is Rs. 1,09,550 crores, with Rs. 35,377 crores as new investments, contributing to a total export figure of Rs. 38,076 crores. The district hosts 9 large enterprises and 3 MSE-CDP clusters, indicating a diversified and thriving industrial landscape.

The district-wise profiling provided in Table 1.7 serves as a comprehensive lens through which the varied industrial landscape and the consequential economic implications within Haryana can be discerned. This thorough breakdown can serve as a foundational reference for further analysis and discussions surrounding the MSME NPA loans within the Haryana districts, providing a well-rounded context for readers and stakeholders involved in the study.

Figure 1.2 State Wise Distribution of Number of MSMEs

State/UT	Estimated number of enterprises (Number in lakh)			
	Micro	Small	Medium	MSME
(2)	(19)	(20)	(21)	(22)
Andhra Pradesh	33.74	0.13	0.00	33.87
Arunachal Pradesh	0.22	0.00	0.00	0.23
Assam	12.10	0.04	0.00	12.14
Bihar	34.41	0.04	0.00	34.46
Chhattisgarh	8.45	0.03	0.00	8.48
Delhi	9.25	0.11	0.00	9.36
Goa	0.70	0.00	0.00	0.70
Gujarat	32.67	0.50	0.00	33.16
Haryana	9.53	0.17	0.00	9.70
Himachal Pradesh	3.86	0.06	0.00	3.92
Jammu & Kashmir	7.06	0.03	0.00	7.09
Jharkhand	15.78	0.10	0.00	15.88
Karnataka	38.25	0.09	0.00	38.34
Kerala	23.58	0.21	0.00	23.79
Madhya Pradesh	26.42	0.31	0.01	26.74
Maharashtra	47.60	0.17	0.00	47.78
Manipur	1.80	0.00	0.00	1.80
Meghalaya	1.12	0.00	0.00	1.12
Mizoram	0.35	0.00	0.00	0.35
Nagaland	0.91	0.00	0.00	0.91
Odisha	19.80	0.04	0.00	19.84
Punjab	14.56	0.09	0.00	14.65
Rajasthan	26.66	0.20	0.01	26.87
Sikkim	0.26	0.00	0.00	0.26
Tamil Nadu	49.27	0.21	0.00	49.48
Telangana	25.94	0.10	0.01	26.05
Tripura	2.10	0.01	0.00	2.11
Uttar Pradesh	89.64	0.36	0.00	89.99
Uttarakhand	4.14	0.02	0.00	4.17
West Bengal	88.41	0.26	0.01	88.67
A & N Islands	0.19	0.00	0.00	0.19
Chandigarh	0.56	0.00	0.00	0.56
Dadra & Nagar Haveli	0.15	0.01	0.00	0.16
Daman & Diu	0.08	0.00	0.00	0.08
Lakshadweep	0.02	0.00	0.00	0.02
Puducherry	0.96	0.00	0.00	0.96
ALL	630.52	3.31	0.05	633.88

Source: (MSME Annual Report 2021-22)

Figure 1.2 states that in Haryana, as per the information from the MSME annual report, a total of 9.70 lakh units are working as micro, small, and medium units.

1.7 Contribution of the Government to the MSME Sector

Various schemes, facilities, and programs have been launched by the Haryana government for the growth of MSMEs. The young generation having graduated and post-graduate degrees need not pay taxes while starting new businesses with annual returns of Rs. 3 crore and a maximum period of three years. The Haryana government promised to give rebates as electricity tariffs to specific MSME units. The Haryana government is also promoting model townships and estate facilities at the industrial level to improve SMEs. Entrepreneurship Development Institutes have been developed to provide management skills and training to small entrepreneurs and women entrepreneurs to improve their capabilities and productivity. Directions have been given to banks to provide at least 60% of their total advances to MSMEs for further growth. To encourage the production of the standard product and to improve the quality of production, the Quality Certification Scheme has been announced by the government. The Technology Development Fund has been set up to provide knowledge of technology upgrades to small units through the mutual contribution of the state and central government. SSI associations are now capable of getting financial assistance for 50% of the total cost of start-up testing labs after examining their proposal. Banks and financial institutions are providing a credit of Rs. 1 crore without collateral securities to MSMEs under the Credit Guarantee Scheme. Commercial banks and state financial corporations are providing a capital support of 12% on the loan of Rs. 1 crore to SSI for their technological improvement under the capital subsidy program. Rural Industries Services Centers are now opened to provide infrastructural facilities to MSEs by the Khadi and Village Industries Commission. In Haryana, SIDBI runs an SME Fund to give financial assistance to SSI units.

The rate of interest is 2%, which is less than the actual interest rate charged by SIDBI. The online portal has been opened to perform businesses online, and the government has encouraged MSMEs to adopt the barcoding system by providing 75% of their annual expenses for the first three years. Small and medium enterprises having a turnover of Rs. 20 lakh are exempt from GST registration, and SME units having a

turnover of Rs. 2 crore will be subject to GST at a concessional rate. To promote entrepreneurship under MSMEs, a toll-free number, 1800-180-6763, has been given to businessmen to communicate knowledge about procedural formalities while starting a new business under the Rajiv Gandhi Udyami Mitra Yojana. SMEs whose annual turnover is up to 1 crore are eligible for compulsory audit, and service units whose annual turnover is up to 50 lakhs are eligible for compulsory audit under the public procurement policy. MSMEs can sell 20% of their production to public sector units.

Enterprises Promotion Policy 2015 was launched by the government of Haryana to develop an industrial concept in Haryana under the 'Make in Haryana' program based on the model of 'Make in India' launched by the Prime Minister of India. In India, Haryana state presented itself as a vibrant and industrialization-based state among all states. In Haryana, 1,00,000 micro, small, medium, and large units are working. These micro, small, medium, and large units produce scientific instruments, electrical grinders, tractors, automobile parts, cranes, footwear, sanitary ware, etc.

The government of India is also giving contributions through the Kundli-Manesar-Palwal Expressway, the Amritsar-Kolkata Industrial Corridor, and the Delhi-Mumbai Industrial Corridor, which connects different states through transportation facilities for the grooming of the industrial sector. Industrial parks, industrial hubs, industrial estates, and information technology parks are also developing to promote industrialization. Incentives have been given to entrepreneurs in Haryana for the growth of industrialization and for maintaining a stable position in the industrial sector as compared to other states under the Industrial and Investment Policy, 2011, and Enterprises Promotion Policy, 2015. The Haryana government is providing strong infrastructure facilities to connect different states through national highways. NH-1 covers Delhi-Ambala-Amritsar NH-2 covers Delhi-Faridabad-Agra, NH-8 covers Delhi-Gurugram, and Jaipur, and NH-10 covers Delhi-Rohtak-Hisar-Sirsa. Roadways, airways, and railway facilities are strong in Haryana state to connect different states to do domestic and international businesses. The airport named Indira Gandhi International Airport is near Gurugram. Entrepreneurs can develop land for industrial purposes through the Haryana State Industrial and Infrastructure

Developmental Corporation.

All national highways are connected with Delhi, the national capital of India, to provide benefits to the Haryana economy. More than 50% of the area is covered under the national capital region, which covers Gurugram, Sonapat, Panipat, Rohtak, Rewari, and Faridabad; IMT at Manesar; the growth center at Bawal; industrial estates at Kundli, Faridabad, and Yamunanagar, Udyog Vihar at Gurugram; food parks at Saha (Ambala) and Rai; footwear parks at Bahadurgarh; textile parks at Barhi, agricultural implementation parks at Karnal, electronic hardware technology parks at Kundli; IT parks at Gurugram and Panchkula. The Industrial and Investment Policy 2011 and the new Enterprises Promotion Policy 2015 have been announced by the government of Haryana to attract MNCs and accelerate industrialization.

The Foreign Investment Promotion Board has been set up by the Haryana government to invite domestic and foreign investors to invest in the Haryana industrial sector. Indian Institute of Management at Rohtak, National Institute of Technology at Kurukshetra, Central Institute of Plastic, Engineering, and Technology, National Institute of Food Technology, Footwear Design and Development Institute, Institute of Corporate Affairs, National Institute of Fashion Technology, National Institute of Design, Engineering Colleges, and Management Institutes. Polytechnics and industrial training institutes have been set up in Haryana to provide knowledge of technical skills and professional skills. In Sonapat district, Rajiv Gandhi Education City has been set up to attract foreign universities to open better centers in Haryana. In Haryana, 8 special economic zones were notified, 28 special economic zones received in-principal approval, and 29 special economic zones received formal approval. In 2006, an agreement was made with the government of Haryana to open a special economic zone in Jhajjar and Gurugram named Special Purpose Vehicles Reliance Haryana.

The e-government system has been developed to collect and manage the information of entrepreneurs and to provide speedy services. For this purpose, the technical department of HSIIDC is performing well in fulfilling procedural formalities while starting up new businesses. E-biz projects are run by the Department of Industries and Commerce to provide interest-based information and services from the government to

business units. To promote MSMEs, the Haryana government is implementing a cluster development approach for infrastructural upgradation. Common and regular facilities such as lab testing, product development, quality certification, technological advice, and R&D facilities are provided by the Haryana government.

Table 1.8 Priority Sector Advances in Haryana State (2016-2023)

% age of Advances to Micro Enterprises to Total Advances

Name of Bank	March 2016	March 2017	March 2018	March 2020	March 2021	March 2022	March 2023
BOB	19%	15%	20%	19%	28.91%	18%	7%
BOI	14%	15%	16%	9%	15.23%	12%	15%
CB	17%	18%	19%	17%	13.43%	16%	15%
PNB	7%	7%	9%	8%	8.23%	9%	6%
SBI	5%	5%	18%	11%	6.77%	2%	2%
Axis Bank	8%	11%	13%	11%	7.64%	12%	15%
HDFC Bank	9%	10%	9%	11%	4.73%	10%	16%
ICICI Bank	6%	7%	61%	61%	12.94%	12%	10%
KMB	9%	6%	8%	6%	7.64%	14%	18%
Yes Bank	8%	13%	12%	14%	9.84%	21%	21%

Source: State Level Bankers Committee, Haryana (www.slbcharyana.org.in)

Table 1.8 delivers evidence about the proportion of priority sector advances (PSAs) allocated to microenterprises as a fragment of total advances for numerous banks in Haryana from 2016 to 2023. The information for the year 2019 was not provided by the State Level Bankers Committee, Haryana. Bank of Baroda consistently allocated a momentous slice of its total loans to microenterprises, fluctuating from 15% to 28.91% over the years. In March 2023, the Bank of Baroda billed 7% of its total loans to Micro Enterprises. The Bank of India's distribution to microenterprises ranged from 14% to 16% between 2016 and 2018. However, in March 2019, there was a reduction to 9%, which increased to 15% in March 2023. Canara Bank reliably owed a noteworthy share of its loans to Micro Enterprises, with fractions fluctuating from 17% to 19%. In March 2023, Canara Bank allocated 15% of its total loans to

microenterprises. Punjab National Bank's allocation to microenterprises fluctuated from 7% to 9% over the years. In March 2023, Punjab National Bank allocated 6% of its total loans to microenterprises. SBI had a lower distribution to microenterprises, with percentages ranging from 5% to 18%. In March 2023, SBI allocated 2% of its total advances to microinitiatives. Axis Bank's allocation to microenterprises ranged from 8% to 13%. In March 2023, Axis Bank allocated 15% of its total advances to microenterprises. HDFC Bank maintained an inferior distribution to Micro Enterprises, with percentages ranging from 4.73% to 11%. In March 2023, HDFC Bank allocated 16% of its total advances to microenterprises. ICICI Bank had an important shift in its distribution, with a percentage of 61% in March 2018 and March 2022, representing a major focus on microenterprises in those years. Kotak Mahindra Bank's distribution to microenterprises ranged from 6% to 9%. In March 2023, Kotak Mahindra Bank owed 18% of its total advances to Micro Enterprises. Yes Bank had variations in its distribution, reaching from 8% to 14%. In March 2023, Yes Bank owed 21% of its total advances to Micro Enterprises. These percentages reflect the bank's commitment to supporting microenterprises within the priority segment in Haryana. The variations over the years may be influenced by changing urgencies, economic circumstances, and controlling necessities. The data displays that numerous banks have recognized the importance of microenterprises in their lending plans. Different banks have different levels of priority sector advances (PSAs) to microenterprises as a fraction of total advances. For instance, in March 2023, the Bank of Baroda allocated 7% of its total advances to microenterprises, while HDFC Bank allocated 16%, indicating that HDFC Bank has a comparatively advanced emphasis on microenterprises within the priority sector. The data shows changing fractions over the years for most banks. For example, Axis Bank increased its allocation to microenterprises from 8% in March 2016 to 13% in March 2018 before stabilizing at 15% in March 2023. Some banks, such as ICICI Bank, have had a major shift in their allocation to microenterprises over the years. It increased from 6% in March 2016 to a significant 61% in March 2018 and continued at the same level in March 2022. This suggests a significant alteration in strategy or priorities for that bank. The data reflects the importance of microenterprises within the priority sector, as banks allocate a considerable portion of their advances to upkeep these small

businesses. The fluctuations in percentages might also be influenced by regulatory necessities and rules related to priority sector lending set by the Reserve Bank of India (RBI). Banks are obligated to assign a certain percentage of their advances to the priority sector, which comprises microenterprises. Each bank seems to have a distinct approach to priority sector lending and its allocation to microenterprises, which can depend on their business strategy, market focus, and customer base. The data is sourced from the State Level Bankers' Committee (SLBC) in Haryana, reflecting the collaboration among banks to address banking and credit-related subjects in the state. The data provides insights into how different banks in Haryana allocate their advances to microenterprises as an element of their priority sector lending, emphasizing the role of banks in supporting and endorsing MSMEs in the state.

Table 1.9 Comparative Position of Flow of Credit to MSMEs in Haryana

Particulars	March 2015	March 2016	March 2017	March 2018	March 2019	March 2020	March 2021	March 2022	March 2023
	Amt.	Amt.	Amt.	Amt.	Amt.	Amt.	Amt.	Amt.	Amt.
Micro Enterprises	15179	17184	18441	23296	24177	24088	25298	31471	41317
Small Enterprises	20764	20361	20721	24155	26125	24363	22669	31834	33397
Micro & Small Enterprises (MSEs)	35943	37545	39161	47451	50302	48451	47967	63305	74714
Share of ME Adv. Out of MSEs	42%	46%	(47%)	(49%)	(48%)	50%	53%	50%	57%
Medium Enterprises (MEs)	10235	10648	10692	13018	16848	20076	22267	31765	42280
MSMEs	46178	48193	49854	60469	67150	68527	70234	95070	116994

Source: State Level Bankers' Committee, Haryana

Table 1.9 displays the movement of credit to micro, small, and medium units in Haryana from March 2015 to March 2023. The data discloses that the total credit flow to MSMEs in Haryana has progressively augmented over the years, from 46,178 crore in March 2015 to 1,16,994 crore in March 2023. This specifies a noteworthy development in credit access for MSMEs in the state. The credit movement to MSMEs consists of three groupings: microenterprises (MEs), small enterprises (SEs), and medium enterprises (MEs). Microenterprises have constantly received the largest share of credit among the three groups, encompassing around 42% to 53% of the total MSME credit over the years. Small enterprises also receive a considerable slice of credit, though their share has varied from 47% to 50%. Medium enterprises, while getting the smallest share, have revealed substantial development, with their share growing from 49% in 2018 to 50% in 2022. The credit movement to MSMEs and distinct categories has generally revealed a rising trend, reflecting attention to supporting small and medium-sized businesses in Haryana. The growing movement of credit to MSMEs is constructive for the progress and improvement of this sector in Haryana's economy. Access to credit is crucial for MSMEs to invest in their trades, enlarge processes, generate jobs, and contribute to trade and industry growth. There is a synchronized effort among banks and financial institutions in the state to enable credit movement to MSMEs. The statistics highlight the position of strategies and creative activities expected to encourage MSMEs in Haryana, as shown by the continued progress in credit flow. While the credit movement has generally increased, it's important to monitor the impact on MSMEs' growth and address any tests they may face in accessing and utilizing credit efficiently. The data designates a positive trend in credit flow to MSMEs in Haryana, which can add to their expansion and the overall commercial growth of the state. Sustained support, monitoring, and strategy adjustments can further enhance the role of MSMEs in Haryana's economy.

1.8 Sources of MSMEs Funding

Table 1.10 Requirement, Nature and Sources of Funds

S. No.	Requirement and Nature of Funds	Sources of Funds
1	Working Capital Loan	Personal Funds/Savings Money borrowed from friends Public Sector Banks Family Wealth Moneylenders Private Sector Banks Cooperative Banks
2	Collateral Financing	Public Sector Banks Cooperative Banks
3	Short-term Loan	Moneylenders Private Sector Banks Cooperative Banks
4	Overdraft	Public Sector Banks Private Sector Banks Cooperative Banks Personal Funds/Savings
5	Long-term Loan	Money lenders Public Sector Banks Private Sector Banks Cooperative Banks Small Industries Development Bank of India Personal Funds/Savings

Source: Asian Development Bank Institute, (July 2016)

Table 1.10 delineates various financial requirements and the corresponding sources of funds accessible to businesses. It underscores the critical role both public and private sector banks play in funding micro, small, and medium units. Public sector banks are cited as a source in all five categories of financial requirements, showcasing their broad spectrum of financial solutions for MSMEs. They cater to a wide range of needs, including working asset loans, collateral financing, short-term loans, overdraft facilities, and long-term loans. Their versatility manifests a robust financial support system for MSMEs, facilitating different facets of operational and developmental

financing. Furthermore, private sector banks also exhibit a strong presence in four out of five categories, indicating their significant involvement in the MSME sector. They provide short-term loans, overdraft facilities, and long-term loans, echoing a well-rounded approach to addressing the various financial needs of MSMEs. Additionally, cooperative banks and other sources like personal funds or money from moneylenders also contribute to the financial ecosystem surrounding MSMEs, yet the pervasive and recurring mention of public and private sector banks emphasizes their cardinal role in sustaining and propelling the MSME sector. This wide array of financing options from formal banking institutions not only underscores their essential role in MSME funding but also highlights the potential avenues for policy interventions to further bolster the MSME sector. By improving accessibility and reducing the cost of borrowing from these banks, there could be a substantial positive impact on the MSME sector, driving economic growth and employment in the region.

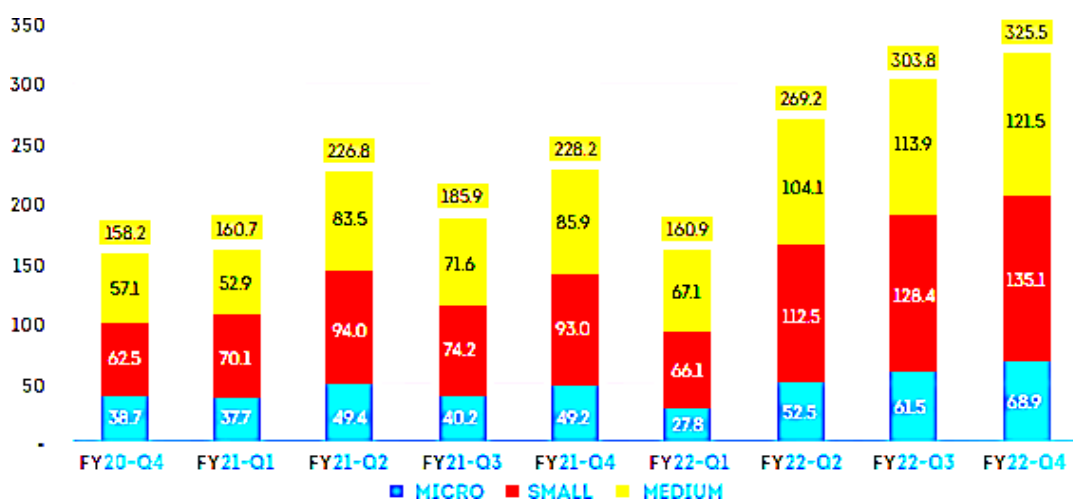


Figure 1.3 Credit Supply to MSMEs

Source: MSME Pulse-August 2022

Fig. 1.3 shows that in FY 22-04, MSME credit supply for all three MSME groups doubled in growth. In FY 21 and FY 22, respectively, total disbursements amounted to Rs. 8,00 trillion crore and Rs. 10,6 trillion crore. From FY 21 to FY 22, the micro, small, and medium segment expenditure enlarged year over year by 19%, 33%, and 38%, subsequently.

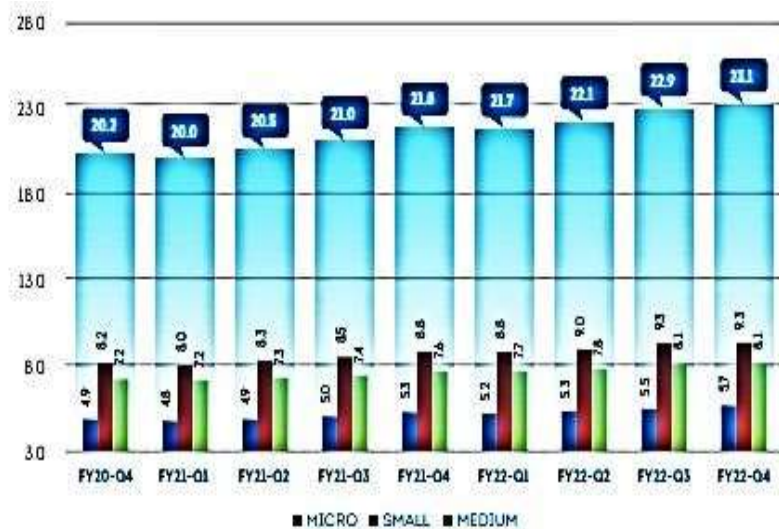


Figure 1.4 Credit Growth & Performance

Source: MSME Pulse-August 2022

Fig.1.4 shows that as of March 22, FY 22-Q4, the MSME segment's credit exposure was \$ 23.12 billion, showing a 6.3% YOY growth rate. All of the MSME lending sub-segments have shown loan growth. Outstanding debts have grown year over year for:

Public Sector Banks: 6% (8.5 to 9.0 Lakh Crore)

Private Sector Banks: 13% (8.3 to 9.4 Lakh Crore)

Non- Banking Financial Companies: 7% (2.5 to 2.7 Lakh Crore)

1.9 Non Performing Assets

The Reserve Bank of India defines a non-performing loan as one that no longer generates revenue for the bank. In other words, an asset turns into an NPA if interest or installments of principal detritus are pending and unpaid for beyond 90 days. All term loans, cash credits, overdrafts, and bills purchased and discounted fall under the categories of performing and nonperforming loans (according to 90-day overdue norms). The guidelines also apply to all other assets to determine the NPA. Income from non-performing loans is not identified on an accrual basis but should be treated as income only when earned. The banks are required to segregate the loan sets into four divisions to reach the amount of the provision to be made against them:

Standard Assets: - These assets are not NPA.

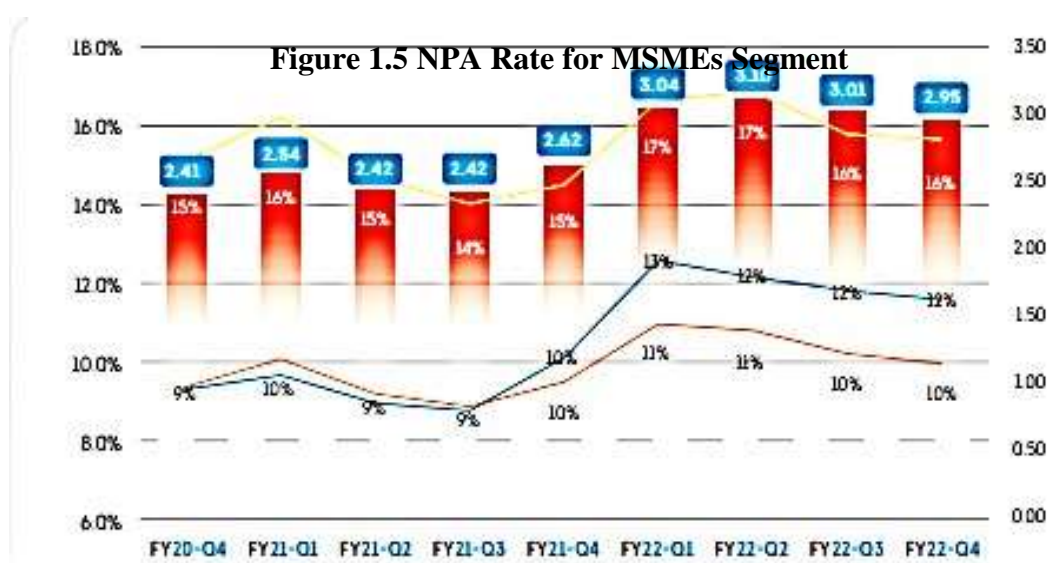
Sub-Standard Assets:-These assets have been categorized as NPA for no more than 12 months

Doubtful Assets: These assets are those which have remained NPA for a period exceeding 12 months

Loss Assets: This is an asset where a loss has been identified by the bank or auditors but the amount has not been written off.

After classifying the advance as above, provision has to be made on the following basis:

Classification of Assets	Rate of Provision
Standard Assets	40%
Sub-Standard Assets	20%
Doubtful Assets	
For an unsecured portion of the advance	100%
For the secured portion of the advance	
If they are considered doubtful for up to one year	20%
If they are considered doubtful up for to one year to three years	30%
If they are considered doubtful for more than three years	100%
Loss Assets	100 %



Source: MSME Pulse-August 2022

Figure 1.5 states that overall MSME NPAs are 12.8% as of March 22 (FY22-Q4). Nonperforming loans in the MSME unit have been in an upturn since March 21 (FY 21-Q4). Till FY 21-Q3, the micro segment had a lower NPA rate than the small segment, however, this tendency has now flipped, showing NPAs are more from the micro-segment.



Figure 1.6 NPA Rate by Lender Type

Source: MSME Pulse-August 2022

The non-performing assets (NPA) within private banks have maintained a consistent level since the third quarter of the financial year 2021. Conversely, there's been an uptick in NPAs witnessed in public sector undertaking (PSU) banks and non-banking financial companies (NBFC) post the third quarter of the financial year 2021. The trajectory of NPAs within NBFCs has been on a gradual ascent for the past two years, showcasing a steady growth pattern.

1.10 Trends of Gross and Net NPAs of Scheduled Commercial Banks in India

In India, there are 12 PSBs, 22 PVSBS, and 44 foreign banks under scheduled commercial banks. These banks are suffering from the problem of high NPAs. The descriptions of Gross NPAs and Net NPAs during 2014–22 are as follows:

Table 1.11 Trends of Gross & Net NPAs Scheduled Commercial Banks in India

Years	Non-Performing Loans					
	Gross NPAs			Net NPAs		
	Amount (Crores)	% of Gross Advances	% of Total Assets	Amount (Crores)	% of Net Advances	% of Net Assets
2014-15	323335	4.3	2.7	175841	2.4	1.5
2015-16	611947	7.5	4.7	349814	4.4	2.7
2016-17	791791	9.3	5.6	433121	5.3	3.1
2017-18	1039679	11.2	6.8	520838	6	3.4
2018-19	936474	9.1	5.6	355076	3.7	2.1
2019-20	899803	8.2	5	289370	2.8	1.6
2020-21	835138	7.3	4.3	258050	2.4	1.3
2021-22	743653	5.8	3.4	204226	1.7	0.9

Source: - Hand book of Statistics of the Indian Economy www.rbi.org.in

Table 1.11 delivers a complete impression of the drifts in gross NPAs and net NPAs in scheduled commercial banks in India over eight years. It offers an understanding of the number of credits that have developed non-performing through the stated years. This column specifies the percentage of gross NPAs regarding the total gross advances delivered by scheduled commercial banks. It displays the number of loans that have worsened in value compared to the total loan portfolio. This column expresses gross NPAs as a percentage of the total assets held by scheduled commercial banks. Net NPAs signify the absolute worth of NPAs after accounting for provisions and write-offs. This figure echoes the actual fiscal burden of NPAs on the banking sector. Net NPAs, as a percentage of net advances, provide an understanding of the proportion of loans that are non-performing after accounting for provisions. It indicates the adjusted risk level in the loan portfolio. This column exemplifies net NPAs as a percentage of the total net assets of scheduled commercial banks, giving a suggestion of the consequences of NPAs on the bank's overall asset base. The table discloses that gross

NPAs in the Indian banking sector experienced fluctuations during the analyzed period. The percentage of gross NPAs expended increased from 4.3% in 2014–15 to 11.2% in 2017–18 before lessening to 5.8% in 2021–22. This trend echoes the trials faced by the banking sector in handling non-performing loans. Net NPAs, which factor in provisions, exhibited similar fluctuations. They peaked at 6% of net advances in 2017–18 and reduced to 1.7% in 2021–22. This proposes that while provisions were prepared to mitigate the impact of NPAs, they still predisposed the banks' financial stability. The tendencies in gross and net NPAs within the Indian banking sector have wider financial institutions. High NPAs can lead to traditional loaning practices, possibly restraining access to credit for numerous parts of the economy. Competent management of NPAs is essential for supporting a fit banking sector and safeguarding the continued obtainability of credit for businesses and individuals. Policymakers must carefully screen NPA trends and implement actions to diminish their influence on the banking structure and the broader economy.

Table 1.12: Trends of Gross NPAs and Net NPAs of PSBs in India

Years	Non-Performing Loans					
	Gross NPAs			Net NPAs		
	Amount (Crores)	% of Gross Advances	% of Total Assets	Amount (Crores)	% of Net Advances	% of Net Assets
2014-15	278468	5	3.2	159951	2.9	1.8
2015-16	539956	9.3	5.9	320376	5.7	3.5
2016-17	684732	11.7	7	383089	6.9	3.9
2017-18	895601	14.6	8.9	454473	8	4.5
2018-19	739541	11.6	7.3	285123	4.8	2.8
2019-20	678317	10.3	6.3	230918	3.7	2.1
2020-21	616616	9.1	5.3	196451	3.1	1.7
2021-22	542174	7.3	4.3	154745	2.2	1.2

Source: -Handbook of Statistics of the Indian Economy www.rbi.org.in

Table 1.12 offers an all-inclusive summary of the trends in gross non-performing assets (NPAs) and net NPAs of public sector banks (PSBs) in India over an eight-year period. It offers insight into the extent of loans that have become non-performing during the specified years. Another column designates the percentage of gross NPAs in the total gross advances made by public sector banks. It shows the proportion of loans that have deteriorated in quality compared to the total loan portfolio. Gross NPAs as a percentage of the total assets held by public sector banks highlight the influence of NPAs on the overall monetary health of these banks. Net NPAs signify the absolute value of NPAs after accounting for provisions and write-offs. This figure mirrors the real fiscal load of NPAs on the public banking sector. Net NPAs, as a percentage of net advances, afford an appreciation of the proportion of loans that are non-performing after accounting for provisions. It indicates the adjusted risk level in the loan portfolio. This column illustrates net NPAs as a percentage of the total net assets of public sector banks, giving an indication of the influence of NPAs on the bank's overall asset base. The table discloses that gross NPAs in the public sector banking sector experienced oscillations during the analyzed period. The percentage of gross NPAs expended increased from 5% in 2014–15 to a top of 14.6% in 2017–18, before lessening to 7.3% in 2021–22. This trend reflects the challenges faced by public sector banks in managing non-performing loans. Net NPAs, which factor in provisions, exhibited similar vacillations. They peaked at 8% of net advances in 2017–18 and reduced to 2.2% in 2021–22. This proposes that while provisions were made to cushion the effect of NPAs, they still influenced the financial steadiness of public sector banks. The trends in gross NPAs and net NPAs within the public sector banking sector have wider financial implications. High NPAs can lead to conservative lending practices, potentially limiting access to credit for various sectors of the economy. Effective organization of NPAs is essential for sustaining a healthy public part of the banking sector and safeguarding the continued availability of credit to businesses and individuals. Legislators must closely monitor NPA trends and implement measures to minimize their impact on the banking system and the wider economy.

Table 1.13 Trends of Gross NPAs and Net NPAs of PVSBs in India

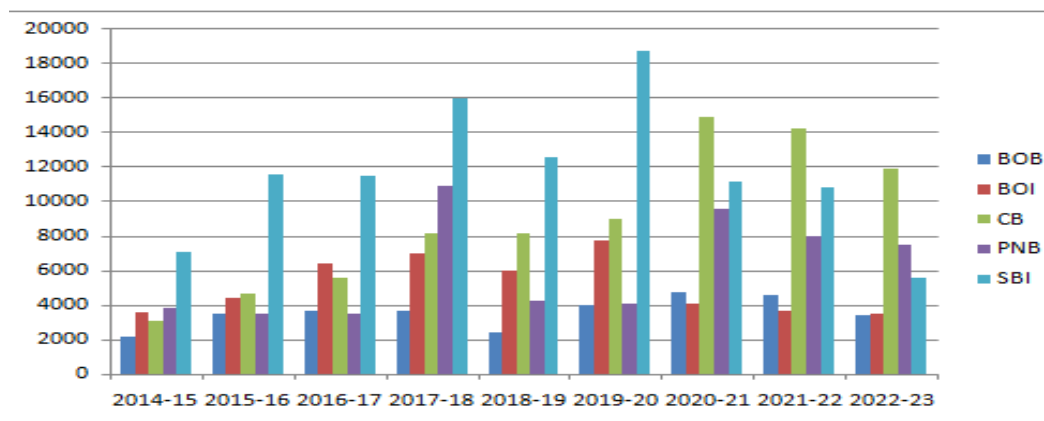
Years	Non-Performing Loans					
	Gross NPAs			Net NPAs		
	Amount (Crores)	% of Gross Advances	% of Total Assets	Amount (Crores)	% of Net Advances	% of Net Assets
2014-15	34106	2.1	1.3	14128	0.9	0.5
2015-16	56186	2.8	1.8	26677	1.4	0.8
2016-17	93209	4.1	2.6	47780	2.2	1.3
2017-18	129335	4.7	3	64380	2.4	1.5
2018-19	183604	5.3	3.5	67309	2	1.3
2019-20	209568	5.5	3.6	55683	1.5	1
2020-21	197508	4.9	3.1	55377	1.4	0.9
2021-22	180782	3.8	2.5	43733	1.0	0.6

Source:- *Hand book of Statistics of the Indian Economy* www.rbi.org.in

Table 1.13 presents the statistics about the trends of gross non-performing loans and net non-performing assets (in amount), % of gross advances and net advances, % of gross NPAs, and net NPAs of total assets of private sector banks in India from the years 2014–15 to 2021–22. During the years 2021–22, the total amount of gross NPAs under private sector banks was 180782 crore, and the net NPAs were Rs. 43733 crore. % of gross advances was 3.8% and % of net advances was 1.0%, the gross NPAs were 2.5% of total assets, and the net NPAs were 0.6% of total assets of private sector banks. This means that PSBs have been able to recuperate or write off a portion of their bad loans, but the complications of non-performing loans are a worry. Increasing NPAs are a symbol of fiscal pressure in the banking sector and can have negative implications for the stability of banks and the overall economy. The increase in NPAs could be due to several factors, including economic slumps, corporate defaults, and a lack of credit risk management. Both the Reserve Bank of India (RBI) and the central authority have implemented various actions and arrangements to address the subject of NPAs, including the Insolvency and Bankruptcy Code (IBC) and rearrangement schemes. It's vital for banks and regulators to keep checking and treating NPAs effectively to continue the well-being of the banking subdivision. In

inference, the data indicates a concerning trend of rising NPAs in PSBs in India over the years. Addressing the issue of NPAs is crucial for the financial stability of banks and the overall economy. The efficiency of measures taken to cope with and decrease NPAs will be vital in the coming years.

Figure 1.7: Gross NPAs of Selected PSBs in MSME Industry in India
(Amount in Crore)



Source: Annual Reports of Banks (2015-23)

Table 1.14: Gross NPAs of selected PSBs in Industry (MSMEs) in India

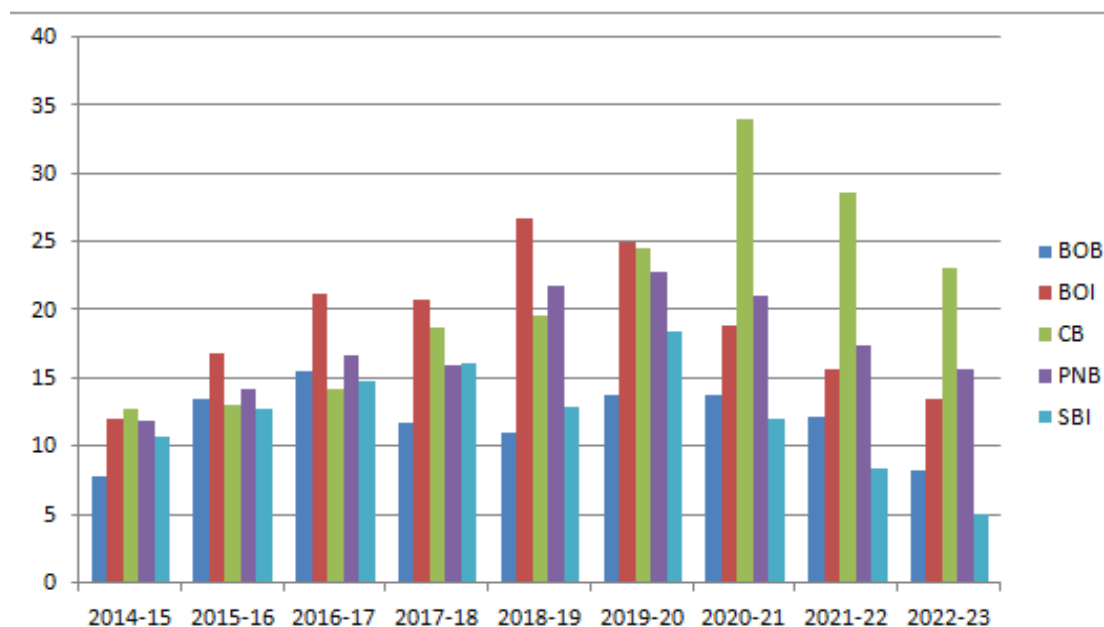
Banks	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
BOB	2152.14	3508.47	3656.07	3682.7	2397.2	4025.52	4751.14	4587.79	3410.54
BOI	3621.81	4431.3	6454.19	7026.97	6027.73	7769.97	4096.13	3651.66	3459
CB	3047.58	4663.07	5557.95	8129.36	8192.82	9011.28	14929	14253	11895
PNB	3801.48	3465.81	3482.64	10951.1	4247.54	4065.17	9544.18	8005.11	7483.81
SBI	7087.13	11602.3	11536	16020.8	12545.6	18738.9	11207	10832.2	5550.08

Source: (Annual Reports of Banks 2014-23)

Table 1.14 and Figure 1.7 display the gross non-performing assets (NPAs) of selected public sector banks (PSBs) in India within the micro, small, and medium enterprises (MSMEs) industry across diverse financial years from 2014–15 to 2022–23. Gross NPAs are loans where the borrower has defaulted on payments or where the loan has

become strained due to other issues. Most banks show an upsurge in gross NPAs over the period, with some years displaying considerable jumps. For example, Punjab National Bank shows a notable surge in NPAs in the years 2017–18. Canara Bank also displays an important increment in 2022–23. Different banks display different trends. For instance, the State Bank of India (SBI) and Canara Bank have comparatively great NPAs in most of the years compared to others. Bank of Baroda and Bank of India displayed some decrease in NPAs in the later years of the dataset (2022–23 for the Bank of India and 2018–19 for the Bank of Baroda). Amongst these designated banks, the State Bank of India has the highest gross NPAs in numerous years, particularly in 2019–20. Contrariwise, Bank of Baroda normally has lower NPAs compared to others, with the lowest being in 2018–19. Some banks show a decline in NPAs in the later years, indicating some level of retrieval or healthier organization of bad loans. For instance, the Bank of India and Punjab National Bank displayed condensed NPAs in 2021–22 compared to preceding years. Deprived of a supplementary setting, it's hard to decide the reasons behind these tendencies. However, pecuniary proceedings, governing changes, and the operating efficacy of the banks could be issues affecting the level of NPAs. High levels of NPAs could pose pressure on the MSME segment, which may have faced difficulties in servicing loans due to various economic conditions. There is a clear variation in the gross NPA figures among different banks which could be due to differences in lending practices, risk management, and recovery efforts among these banks. This analysis provides a basic understanding of the gross NPA trends among these selected public sector banks within the MSME sector over the mentioned years. Further analysis could be performed with more data and context to understand the fundamental reasons for these trends and their implications on the banking segment and MSME industry in India.

Figure 1.8: Percentage of Gross NPAs to Total Advances in MSME Industry of Selected PSBs in India



Source: (Annual Reports of Banks 2015-23)

Table 1.15 Percentages of Gross NPAs to Total Advances of Selected PSBs in MSMEs in India

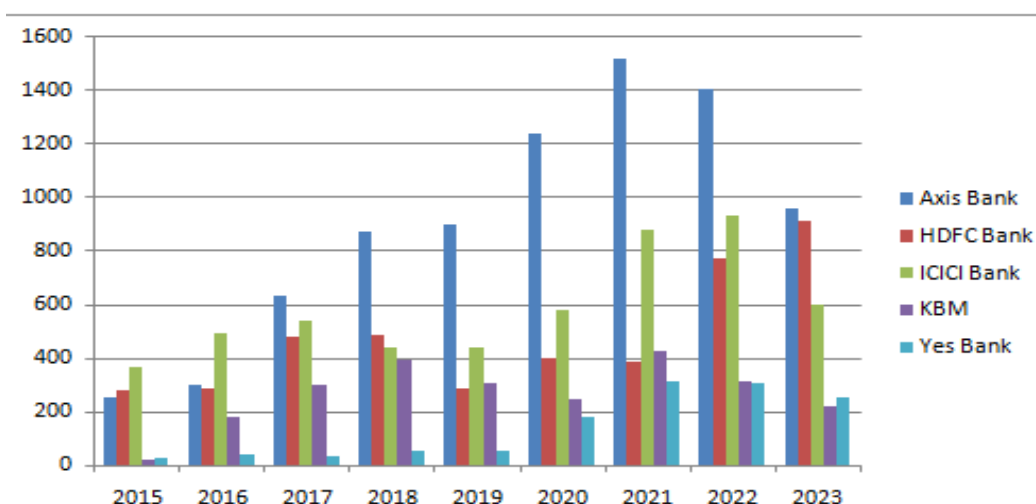
Banks	March 2015	March 2016	March 2017	March 2018	March 2019	March 2020	March 2021	March 2022	March 2023
BOB	7.84	13.51	15.51	11.78	11.12	13.76	13.77	12.23	8.29
BOI	12.09	16.87	21.25	20.79	26.72	24.98	18.9	15.66	13.58
CB	12.74	13.16	14.19	18.83	19.6	24.6	33.98	28.62	23.19
PNB	11.97	14.31	16.71	16.02	21.77	22.83	21.03	17.41	15.74
SBI	10.79	12.73	14.78	16.12	12.92	18.54	12.05	8.46	5.09

Source: (Annual Reports of Banks 2015-23)

Figure 1.8 and Table 1.15 exemplify the volume of gross non-performing assets (NPAs) to total advances prepared by selected public sector banks (PSBs) in the micro, small, and medium enterprises (MSMEs) sector in India across the fiscal years 2014–15 to 2022–23. There's been a normally swelling trend in the volume of gross

NPAs to total advances over the years, representing a rising subject with loan reimbursements within the MSME sector through most banks. Every bank has its course, with Canara Bank presenting a considerable increase in the ratio, topping 23.19% in 2022–23. The Bank of India also displays a rising trend till 2018-19, peaking at 26.72%, and then decaying in the following years. The State Bank of India (SBI) displayed a reduction in this ratio in the last two years (2021–22 and 2022-23), representing a possible development in loan presentation or recovery struggles. The year 2022–23 appears to have been chiefly demanding for Canara Bank, with the highest ratio of gross NPAs to total advances among the selected banks. This could be due to the financial impacts of the COVID-19 pandemic. There are symbols of improvement in 2021–22 with all banks, except Canara Bank, showing a reduction in this ratio compared to the previous year. This could be attributed to better economic conditions, improved recovery efforts, or other strategic measures taken by the banks. Over the period, Canara Bank and Bank of India have generally higher percentages related to other banks, indicating either higher risk exposure or perhaps less operative risk management practices in the MSME sector. On the other hand, the State Bank of India and the Bank of Baroda usually have lower percentages, possibly indicating better risk management or recovery practices. Extraordinary percentages of gross NPAs to total advances indicate increased risk and potentially noteworthy financial pressure in the MSME sector, which is a critical segment of the Indian economy. The trends could also reflect the persuasiveness of the risk management and recovery protocols of these banks. Economic conditions and regulatory variations could have significantly influenced these trends. For example, economic go-slows, variations in NPA acknowledgement norms, or the influence of the COVID-19 pandemic might have added to the observed patterns. This table provides a valuable vision of the relative health of the MSME sector and the lending practices of these selected PSBs. Further in-depth analysis could provide more context and understanding of the fundamental reasons and insinuations of these tendencies.

Figure 1.9 Gross NPAs of Selected PVSBs in MSME Industry in India



Source: Annual Reports of Banks (2015-23)

Table 1.16: Gross NPAs of Selected PVSBs in MSMEs in India

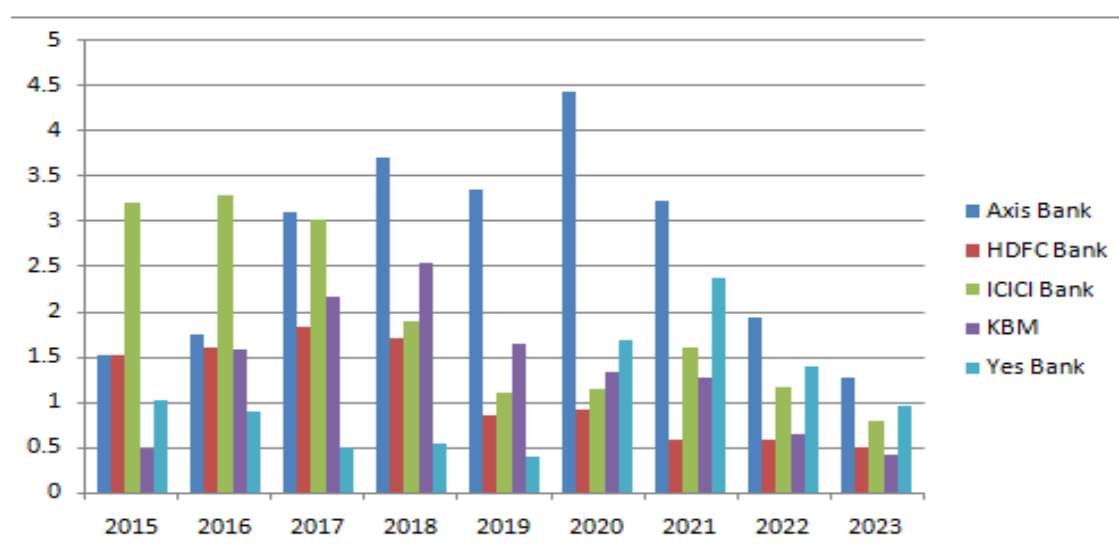
Banks	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Axis Bank	256.3	302.01	630.46	870.49	901.97	1237.85	1517.01	1404.72	960.83
HDFC Bank	280	289.9	480.79	483.71	289.74	399.22	384.89	772.65	916.08
ICICI Bank	366.03	490.05	541.78	438.73	438.63	578.21	880.17	930.01	599.12
KBM	22.04	178.24	299.31	396.59	305.55	245.13	424.24	312.78	221.74
Yes Bank	27.9	36.9	30.58	55.92	52.48	177.34	310.15	303.9	251.9

Source: (Annual Reports of Banks 2015-23)

The given table 1.16 and Figure 1.9 represent the gross non-performing assets (NPAs) of selected private sector banks (PVSBs) within the micro, small, and medium enterprises (MSMEs) sector in India, over the fiscal years 2014–15 to 2022–23. Overall, there's a noticeable upward trend in the gross NPAs over the years for most of the banks, indicating an increase in the number of bad loans or stressed assets within the MSME sector. The upward trend might signify deteriorating asset quality or possibly an increase in lending to riskier profiles within the MSME sector. Axis Bank shows a consistent increase in NPAs over time, peaking in 2020–21 before a slight reduction in 2021–22. HDFC Bank sees a spike in NPAs in 2022–23. ICICI Bank also exhibits a growing trend in NPAs, particularly between 2019–20 and 2021–22. KBM and Yes Bank have fluctuations in their NPAs, although Yes Bank shows a sharp rise between 2018–19 and 2020–21. Among these banks, Axis Bank has the highest gross NPAs within the MSME sector in most of the years, especially

from 2017–18 onwards. HDFC Bank and ICICI Bank also have significant NPAs, though less compared to Axis Bank. KBM and Yes Bank have the lowest gross NPAs among the listed banks, but Yes Bank has seen a notable increase in later years. The surge in NPAs across most banks in the later years might be reflective of economic conditions, potentially the effect of the COVID-19 pandemic, which might have strained the repayment capacities of MSMEs. When compared, Axis Bank, ICICI Bank, and HDFC Bank have higher gross NPAs within the MSME sector than KBM and Yes Bank. It might reflect different risk management strategies, lending practices, or the different scales and geographic or sectoral exposures of these banks. The year 2020–21, in particular, shows a sharp rise in NPAs for several banks (Axis Bank, ICICI Bank, KBM, and Yes Bank), possibly due to the financial stress induced by the pandemic. Some banks, like Axis Bank, KBM, Yes Bank, and ICICI Bank, show a slight decrease in NPAs in 2022–23, which might indicate initial signs of recovery or effective resolution of stressed assets. This analysis provides a structured overview of how gross NPAs have evolved over the years in the MSME sector for these selected private-sector banks. It might require further detailed investigation and more data to understand the underlying causes of these trends and draw more concrete conclusions regarding the economic soundness of the MSME sector and the efficacy of the risk management practices of these banks.

Figure 1.10 Percentages of Gross NPAs to Gross Advances in MSME Industry of Selected PVSBS in India



Source: Annual Reports of Banks (2015-23)

Table 1.17 Percentages of Gross NPAs to Gross Advances in MSME Industry of Selected PVSBS in India

Banks	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Axis Bank	1.53	1.75	3.11	3.7	3.36	4.43	3.22	1.93	1.28
HDFC Bank	1.52	1.61	1.83	1.7	0.86	0.92	0.58	0.59	0.51
ICICI Bank	3.2	3.29	3.03	1.9	1.1	1.14	1.61	1.17	0.79
KBM	0.48	1.59	2.16	2.55	1.64	1.33	1.27	0.65	0.41
Yes Bank	1.03	0.9	0.51	0.55	0.4	1.69	2.38	1.39	0.95

Source: (Annual Reports of Banks 2015-23)

Table 1.17 and Figure 1.10 represent the percentage of gross non-performing assets (NPAs) to gross advances of selected private sector banks (PVSBS) in the MSME sector in India from 2014–15 to 2022–23. This ratio provides insight into the quality of the loan portfolio of these banks within the MSME sector over time. There have been fluctuations observed over the period in the ratio of gross NPAs to gross advances across the banks. This fluctuation may indicate varying levels of asset quality and risk management effectiveness over the years. A notable increase in the ratio is observed until 2019–20, peaking at 4.43%, which then declines in the subsequent years, possibly indicating an improvement in asset quality or recovery efforts. The ratio is relatively stable and lower compared to other banks, indicating better asset quality or risk management practices. There was a noticeable decrease in 2018–19, and the ratio remains low in the following years. The ratio declined from 3.2% in 2014–15 to 0.79% in 2022–23, indicating an improvement in asset quality over time. The ratio increases initially until 2017–18, followed by a gradual decline, possibly suggesting improved risk management or asset quality in recent years. The ratio fluctuates over the years, with a significant increase observed in 2019–20 and 2020–21, indicating a possible deterioration in asset quality during these years. HDFC Bank consistently maintains a lower ratio compared to other banks, which could be indicative of better risk management or lower exposure to risky profiles within the MSME sector. Axis Bank and ICICI Bank have higher ratios at the beginning of the period; however, they show a declining trend, especially in the later years. Economic conditions, regulatory changes, and other external factors might have influenced the trend in NPAs over the years. For instance, the financial stress induced by the COVID-19 pandemic might

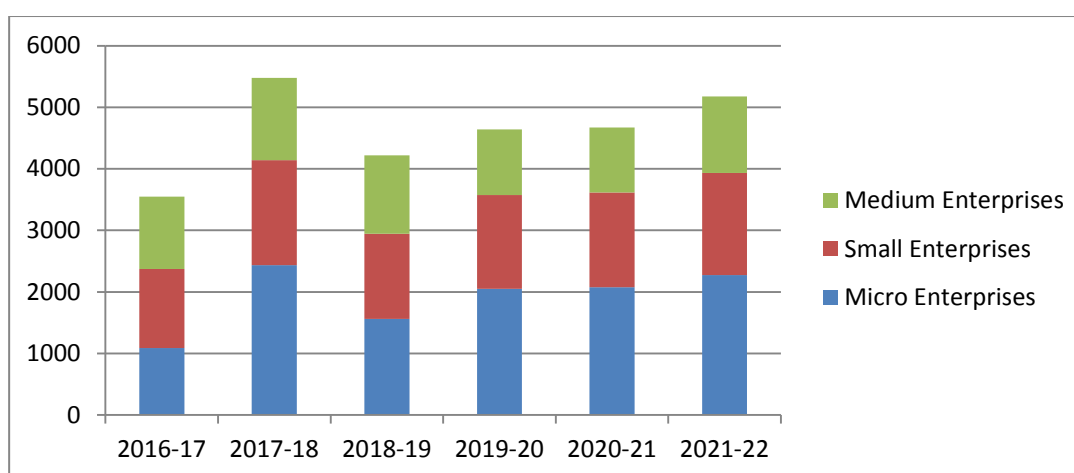
have contributed to the increase in NPAs for some banks in 2020–21. A minimum ratio of gross NPAs to gross advances generally demonstrates better asset quality and effective risk management practices. Conversely, a higher ratio indicates potential concerns regarding asset quality within the MSME sector. The declining trend in the ratio for some banks in recent years could be indicative of successful recovery efforts, improved risk management, or a possibly recovering MSME sector. In summary, this table sheds light on the evolving asset quality and risk profiles of these selected private sector banks within the MSME sector over the years mentioned. It is essential to consider external economic and regulatory factors for a more comprehensive understanding of the trends observed in this data.

Table 1.18 Bifurcations of NPAs under MSMEs Advances in Haryana

Enterprises	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Micro Enterprises	1087	2435	1563	2052	2077	2273
Small Enterprises	1284	1706	1381	1523	1540	1662
Medium Enterprises	1178	1339	1273	1063	1053	1243
Total	3549	5480	4217	4638	4670	5179

Source: State Level Bankers Committee, Haryana (www.slbcharyana.org.in)

Figure 1.11: Bifurcation of NPAs under MSMEs Advances in Haryana

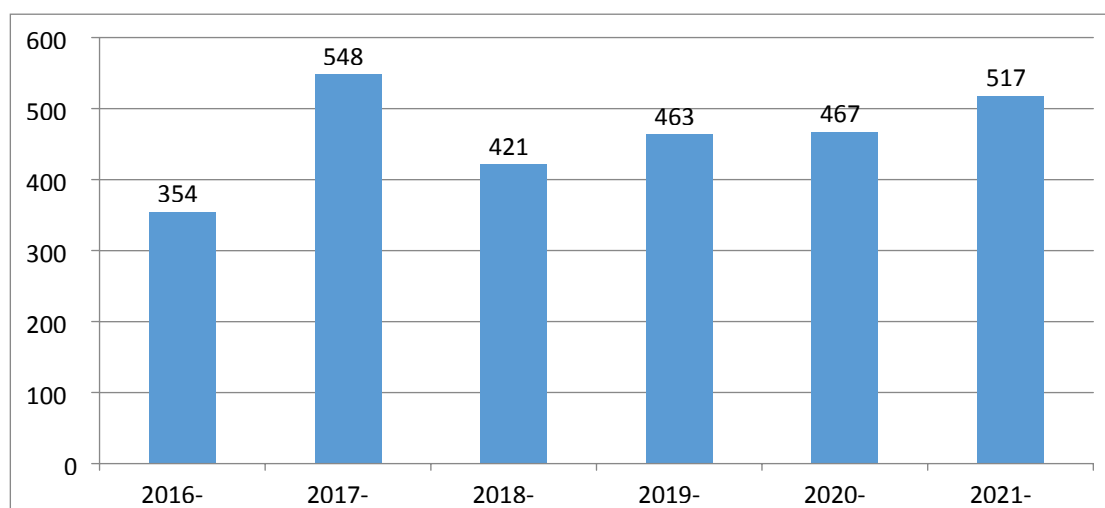


Source: State Level Bankers Committee, Haryana (www.slbcharyana.org.in)

Table 1.18 and Figure 1.11 explains the statistics about the bifurcation of nonperforming assets under MSMEs advances in Haryana state from 2016–17 to 2021–22. In the year 2021–22, microenterprises are paying contributions in NPAs under MSMEs advances in Haryana of Rs 2273 crore, small enterprises are paying

contributions in NPAs under MSMEs advances in Haryana of Rs 1662 crore, and medium enterprises are paying contributions in NPAs under MSMEs advances in Haryana of Rs 1243 crore. The contribution of microenterprises was higher in NPAs as compared to small and medium enterprises. This suggests that steps may have been taken to improve the asset quality and recovery of loans. Medium enterprises also experienced fluctuations in NPAs but generally showed a deteriorating tendency in their current existence. The data highlights the importance of monitoring and managing NPAs in the MSME sector, which is vital for economic growth and employment generation in Haryana. While the decline in NPAs is a positive sign, continuous efforts are needed to support MSMEs and ensure their financial health, especially in stimulating financial surroundings. The data source is the State Level Bankers Committee (SLBC) in Haryana, which plays a vital role in organizing banking activities and financial inclusion data in the state. This data is valued for measuring the presentations and tests faced by MSMEs in Haryana.

Figure 1.12: Total NPAs under MSMEs Advances in Haryana



Source: State Level Bankers Committee, Haryana (www.slbcharyana.org.in)

The database of the State Level Bankers Committee, Haryana, in Figure 1.12 shows the total non-performing assets generated under micro, small, and medium venture advances from 2016–2017 to 2021–2022. Total Non-performing Assets generated under Micro, Small, and Medium venture advances were found with an increment of Rs. 1630 crore from 2016–17 to 2021–22.

Table1.19: Composition of NPAs of MSMEs in Selected PSBs in Haryana

Year	Bank Name	Micro Enterprises		Small Enterprises		Medium Enterprises		Total
		Amount	%	Amount	%	Amount	%	
March 2022	Bank of Baroda	85	42	59	29	57	28	202
	Bank of India	102	35	170	58	19	6.5	291
	Canara Bank	312	36	204	24	343	40	859
	Punjab National Bank	845	46	552	30	452	25	1849
	State Bank of India	170	41	98	24	145	35	414
March 2021	Bank of Baroda	98	45	67	31	52	24	217
	Bank of India	134	52	125	48	0	0	260
	Canara Bank	119	16	267	35	368	49	754
	Punjab National Bank	613	46	451	34	269	20	1333
	State Bank of India	142	39	90	25	133	36	365
March 2020	Bank of Baroda	66	44	43	29	41	28	149
	Bank of India	81	45	72	40	29	16	182
	Canara Bank	303	39	156	20	315	41	774
	Punjab National Bank	805	47	539	31	381	22	1725
	State Bank of India	180	43	101	24	134	32	415

March 2019	Bank of Baroda	35	41	28	33	23	27	86
	Bank of India	79	47	70	41	21	12	170
	Canara Bank	106	16	135	20	425	64	666
	Punjab National Bank	380	48	236	30	177	22	793
	State Bank of India	104	24	128	29	207	47	439
March 2018	Bank of Baroda	30	43	24	34	16	23	70
	Bank of India	77	33	62	27	94	40	233
	Canara Bank	481	81	76	13	38	6.4	594
	Punjab National Bank	327	34	348	36	297	31	971
	State Bank of India	619	39	397	25	573	36	1589
March 2017	Bank of Baroda	31	44	25	36	14	20	70
	Bank of India	80	20	40	10	275	70	395
	Canara Bank	89	16	257	46	241	43	561
	Punjab National Bank	121	20	134	22	344	57	599
	State Bank of India	51	17	81	28	163	55	295

Source: State Level Bankers' Committee, Haryana

Table 1.19 provides the configuration of non-performing assets (NPAs) of MSMEs (micro, small, and medium enterprises) in designated public sector banks (PSBs) in Haryana for various years. Among the designated PSBs, Punjab National Bank had the maximum total NPAs for MSMEs in Haryana in March 2022, with 1,849 crore rupees. Canara Bank also has an important NPA of 859 crore rupees. The Bank of Baroda and the State Bank of India have reasonably inferior NPA amounts, at 202 crore rupees and 414 crore rupees, respectively. The Bank of India has an NPA of 291 crore rupees. In March 2022, Micro Enterprises had the highest NPA amount amongst the MSME groups in most of the designated banks. Small enterprises also add significantly to NPAs, though medium enterprises have a moderately inferior NPA amount. The configuration differs by bank, with some banks having a more stable delivery amongst micro, small, and medium enterprises, while others have a higher level of attentiveness in precise classes. There has been a notable difference in the NPA composition over the years. In some years, certain categories of MSMEs may have advanced NPAs compared to other years. For example, in March 2021, Canara Bank had a substantial NPA amount in small enterprises, but in March 2022, the focus shifted more towards micro and medium enterprises. Changes in NPA composition may reflect the impact of economic conditions, business cycles, and lending practices over the years. The COVID-19 pandemic could have influenced NPA tendencies, as seen in March 2020 and 2021. The variations in NPA composition also suggest that diverse banks may work with variable plans for managing and recuperating NPAs within the MSME sector. The data is sourced from the State Level Bankers' Committee (SLBC) in Haryana, reflecting the teamwork among banks to report banking and credit-related subjects in the state.

Table 1.20: Compositions of NPAs of Micro, Small and Medium Enterprises in Selected PVSBS in Haryana

(Amount in Crore)

Year	Bank Name	Micro Enterprises		Small Enterprises		Medium Enterprises		Total
		Amount	%	Amount	%	Amount	%	
March 2022	Axis Bank	47	57.32	16	19.51	19	23.17	82
	HDFC Bank	57	22.09	128	49.61	73	28.29	258
	ICICI Bank	84	46.67	87	48.33	9	5	180
	KMB	17	53.12	4	12.5	11.80	36.88	32
	YES Bank	19	76	4.22	16	02	8	25
March 2021	Axis Bank	32	68.09	15	31.91	00	00	47
	HDFC Bank	32	32.32	41	41.41	26	26.26	99
	ICICI Bank	128	37.98	157	46.59	53	15.73	337
	KMB	6	25	16	66.67	02	8.33	24
	YES Bank	29	51.79	25	44.64	02	3.57	56
March 2020	Axis Bank	42	84	08	16	00	00	50
	HDFC Bank	61	44.85	63	46.32	12	8.8	136
	ICICI Bank	62	34.83	98	55.06	18	10.1	178
	KMB	24	100	0	0	0	-	24
	YES Bank	15	53.57	9.88	35.29	3	10.71	28

March 2019	Axis Bank	42	82.35	09	17.65	-	-	51
	HDFC Bank	49	54.44	37	41.11	4	4.44	90
	ICICI Bank	59	43.38	70	51.47	7.40	5.44	136
	KMB	13	68.42	6	31.58	-	-	19
	YES Bank	5	100	-	-	-	-	5
March 2018	Axis Bank	33	62.26	19	35.85	01	1.89	53
	HDFC Bank	54	57.45	40	42.55	-	-	94
	ICICI Bank	11	18.33	49	81.67	-	-	60
	KMB	19	65.52	10	34.48	-	-	29
	YES Bank	172	100	-	-	-	-	172
March 2017	Axis Bank	11	55	09	45	-	-	20
	HDFC Bank	44.69	47.53	49	52.11	0.34	0.36	94.03
	ICICI Bank	47	47	52	52	1	1	100
	KMB	16	80	04	20	-	-	20
	YES Bank	-	-	-	-	-	-	0

Source: State Level Bankers' Committee, Haryana

Table 1.20 provides the composition of non-performing loans of micro, small, and medium enterprises (MSMEs) in selected private sector banks (PVSBS) in Haryana for numerous years. Amongst the selected PVSBS, HDFC Bank had the highest total NPAs for MSMEs in Haryana in March 2022, with 258 crore rupees. ICICI Bank and Axis Bank also have significant NPA amounts, at 180 crore rupees and 82 crore rupees, respectively. Kotak Mahindra Bank and Yes Bank have comparatively lower NPA amounts. Microenterprises have extreme NPA amounts in most of the designated banks, with a noteworthy percentage share. Small Enterprises also add to NPAs, though their share may differ across banks. Medium Enterprises usually have inferior NPA share related to Micro and Small units. There is a difference in the NPA composition across different banks. For example, Axis Bank has advanced percentage of Micro Enterprises in its NPA configuration compared to HDFC Bank. YES Bank has a relatively small NPA amount but a great percentage share of Micro Enterprises. NPA configuration may vary from year to year. In some years, certain categories of MSMEs may have advanced NPAs compared to other years. HDFC Bank steadily has a significant NPA amount, while other banks may show variations. Variations in NPA composition may echo the impression of economic conditions, business cycles, and lending practices over the years. The COVID-19 pandemic could have had an effect on NPA trends, as seen in March 2020 and 2021. The variations in NPA configuration also suggest that different banks may employ varying strategies for managing and recovering NPAs within the MSME sector. The data is obtained from the State Level Bankers' Committee (SLBC) in Haryana, replicating the association amongst banks to address banking and credit-related matters in the state. Overall, the statistics bring ideas into the distribution of NPAs amongst diverse categories of MSMEs and across selected PVSBS in Haryana. It highlights the importance of monitoring and managing NPAs within the MSME sector to care for the financial fitness of the region.

1.11 Conclusion

The chapter recognizes that the total credit flow to MSMEs in the state has steadily increased from 46,178 crore in March 2015 to 95,070 crore in March 2022. Microenterprises consistently receive the largest share of credit (around 42% to 53%), followed by small enterprises, while medium enterprises show significant growth in their share. This increased credit flow is beneficial for MSMEs, enabling them to invest, expand, and contribute to economic development. The data emphasizes the importance of policies supporting MSMEs and coordinated efforts among financial institutions in Haryana to facilitate credit access. Monitoring and addressing challenges in credit utilization for MSMEs remain crucial for sustained growth in the sector.

Furthermore, data is presented on Non-Performing Loans among Micro, Small, and Medium Enterprises in Haryana over several years. NPAs in Micro Enterprises increased from 1,087 in 2016-17 to a peak of 2,435 in 2017-18 before declining to 2,273 in 2021-22. Small Enterprises followed a similar pattern, reaching 1,706 NPAs in 2017-18 and then decreasing to 1,662 in 2021-22. Medium Enterprises fluctuated, peaking at 1,339 NPAs in 2017-18 and decreasing to 1,243 in 2021-22. Total MSME NPAs rose from 5,480 in 2017-18 to 5,179 in 2021-22. The initial increase in NPAs for Micro and Small Enterprises may be due to economic challenges. Efforts to improve asset quality led to stabilization and decline in NPAs. Medium Enterprises also showed a declining trend. The data emphasizes the importance of managing NPAs for MSMEs in Haryana to support economic growth and employment. Additionally, it highlights the increasing credit flow to MSMEs in Haryana from 46,178 crore in March 2015 to 95,070 crore in March 2022, with Micro Enterprises receiving the largest share of credit. This indicates positive growth and development opportunities for MSMEs in the state.

1.12 Outline of the Research

Chapter I- Introduction

The chapter delves deeply into the issues of non-performing assets (NPAs) in the micro, small, and medium enterprises sector. It discusses this problem both in the general Indian context and in the particular context of Haryana. Using data from several years, it explores the nuances of NPA trends among MSMEs in Haryana. This data serves as a clear reminder of how important it is to have skilled NPA management in order to maintain employment prospects and the MSME sector's ability to thrive both nationally in India and particularly in Haryana.

Chapter II- Review of Literature

Numerous researches on the growing threat of nonperforming assets (NPAs) in banks are available in the chapter on the review of literature. There are seven sections to the literature. Each segment's incorporation of the ideas and viewpoints of several scholars advances our understanding of the problems and possible solutions related to Non-Performing Assets (NPAs) in the banking sector overall, with a particular emphasis on Micro, Small, and Medium-Sized Enterprises (MSMEs).

Chapter III- Research Methodology

An overview of the study's design, goals, questions, and research gap is given in this chapter. Moreover, it offers a description of the many quantitative methods that were applied to the data analysis. Analyzing the efficacy and efficiency of NPA management practices in the MSME zone of particular public and PVSBS in ten districts in Haryana—Panipat, Faridabad, Gurugram, Panchkula, Ambala, Karnal, Rohtak, Kaithal, Kurukshetra, and Yamunanagar—is the goal of the current research. The research is empirical, analytical, and descriptive. By the RBI's ranking based on their performance, five PSBs and five PVSBS are chosen.

Chapter IV- Quantum, Trends and Composition of NPAs of MSMEs in selected Public and Private Sector Bank in Haryana

This chapter discusses the amount, patterns, and makeup of MSMEs' nonperforming loans in public and private sector banks. State-level bankers' committee reports from

Haryana, annual reports from particular banks, budget statements for the state, the MSME Pulse Report, and the Haryana MSME Policy have all been taken into attention in order to accomplish this goal. The threat of non-performing loans is a financial issue that requires our attention. Nonperforming loans, which are defined as loans for which borrowers have fallen behind on their payments, pose a significant threat to lending organizations as well as the whole economy. In this chapter, we focus on a few public and private sector banks that operate in Haryana as we begin a thorough investigation of the quantity, size, trend, and makeup of NPAs within the MSME sector. Using this critical analysis, we aim to reveal the many nuances surrounding this issue, facilitating the development of well-informed plans and policies that protect the financial well-being of MSMEs and reinforce the state's economy.

Chapter V- Identification of the Factors contributing to raise in Non-Performing Assets of MSMEs

The purpose of this chapter is to identify the variables that have contributed to the upsurge in MSMEs' non-performing assets in a few Haryana banks. Several reports on MSMEs published by the government were examined for this purpose. After discussing these criteria with bankers, a lot of new ones were investigated. In the MSME sector, NPAs are attributed to political, technological, socio-cultural, economic, natural, and internal causes. The elements can be categorized into three categories: market, borrower, and bank-related. After reviewing reports and speaking with bankers, a questionnaire was created to find out what they thought were the contributing factors to more NPAs in the MSME sector.

Chapter VI- Adoption of Non-Performing Assets (NPA) Management Practices

The chapter attempts to focus on identifying multiple preventive strategies for managing non-performing assets (NPAs) in the MSME sector going forward. The actual use of preventive measures is the subject of the primary data. Based on the survey of 316 bankers from 10 banks, frequency analysis was used empirically to evaluate the data (5 selected public and 5 selected private sector banks). Thus, the purpose of this chapter is to provide insight into the strategies used to avoid non-performing assets (NPAs) in mortgage-backed securities while considering the

perspective of bankers who have made lending decisions firsthand. The results point out the most important ways to avoid non-performing assets (NPAs), which the banks should take into account while adjusting their mitigation strategies structurally.

Chapter VII- Effectiveness and Efficiency of NPA Management Practices

This chapter applies the RIDIT methodology to study bankers' perceptions of effectiveness and efficiency. Here, we've selected 12 practices, or 5 legal (curative) and 7 preventive elements that bankers may take into account when choosing an NPA management plan. Furthermore, the effectiveness and efficiency of NPA management procedures are the two factors used to assess their performance. Here, efficiency is linked to lower costs and quicker resolution times, whereas effectiveness is linked to better credit or recovery.

Chapter VIII- Summary and Conclusion

In terms of creating jobs, India's Micro, Small, and Medium Enterprise (MSME) sector is second only to agriculture and is a key generator of economic development. Its pervasiveness contributes originally to the depth of the country's economy by promoting regional growth and employment creation. Nonetheless, the industry is susceptible to changes in the domestic and international markets. Banks must contend with an increase in nonperforming assets (NPAs) associated with MSMEs, driven by socioeconomic goals such as priority sector financing. According to RBI data, NPAs accounted for 16% of all public sector bank MSME credits as of the second quarter of 2019. This is over three times higher than the rate for private sector banks and non banking financial companies. RBI's desire for more lending to MSME's makes handling these NPAs is more difficult. This problem affects both public and private banks, particularly in light of the recent rise in non-performing assets (NPAs) in states like Tripura, Assam, and Haryana. Haryana's MSME NPA amount as of March 2022 was Rs. 5,179 crores, which reflects the urgent issues facing the industry.

CHAPTER II

REVIEW OF LITERATURE

The chapter on the inspection of literature offers a wide range of research on the rising menace of NPAs in banks. The literature is organized into seven segments. The inclusion of multiple scholars' thoughts and perspectives in each segment contributes to a comprehensive comprehension of the difficulties and potential remedies associated with non-performing assets (NPAs) within the banking industry as a whole, with a specific focus on micro, small, and medium enterprises (MSMEs).

Segment 2.1: Determinants of Non-Performing Assets in Indian Banks

This segment elucidates the basic reasons and factors responsible for the increase of NPAs in the Indian banking segment. Several authors, including Patil, A. P. (2010), Gupta, B. (2012), Zafar et al., (2013), Tiwari et al., (2013), Selvaraj et al., (2015), and Singh (2016), have worked on the causes of nonperforming assets in banks in India and found many political, economic, social, and technological reasons contributing to the accretion of NPAs in India. After analyzing various research papers, numerous factors, such as political factors, natural factors, socio-economic factors, legal factors, internal factors, and technological factors, were found responsible for increasing NPAs from bankers' and borrowers' points of view. The main descriptions of these factors are as follows:-

Table 2.1: Determinants of Non-Performing Assets in Indian Banks

S. No.	Authors' Name	Primary Causes of NPAs Identified
1.	Das and Dey (2024)	Factor analysis pinpoints two primary causes of non-performing assets (NPAs) in loan sanction and disbursal procedures: the inadequacy of due diligence and external circumstances. Based on demographic factors including officer scale, department, and organizational type, ANOVA tests were performed. At the sanction and disbursal stage, respondents concurred that the main causes of non-performing assets (NPAs) are failures in due diligence and external factors.

2.	Murthy and Krishnan (2023)	In the Indian banking industry, there is a connection between Dark personality traits, corporate governance, and NPAs.
3.	Gowda (2020)	The research conducted delves into the relationship between priority sector lending, which encompasses the MSME sector, and the growth of non-performing assets (NPAs) in listed commercial banks. Contrary to popular perception, the study suggests that NPAs aren't primarily fueled by lending to priority sectors like MSMEs. Instead, other systemic or managerial factors within the banks play a more significant role. This challenges the conventional notion and emphasizes the need for a re-evaluation of credit policies and NPA management strategies, ensuring that MSMEs aren't unfairly targeted or penalized.
4.	Kattadiyil et al., (2020)	The present paper identified a mix of legal, environmental, administrative, and both internal and external factors locking bank capital into NPAs.
5.	Gupta et al., (2020)	The present paper pointed to micro-factors such as bank policies and managerial skills and macro-factors like inflation, government policies, and external factors as major causes. Specific managerial-level scams in the case of Yes Bank were found.
6.	Bardhan et al, (2019)	The present paper identified bank-specific factors, especially the capital-to-risk-weighted assets ratio and the non-linear impact of credit growth on bad loans.
7.	Varalakshmi and Shanmugapriya (2019)	The research cited various factors affecting public sector banks specifically, implying systemic and management inefficiencies.
8.	Rizvi et al., (2019)	The present paper pointed to the absence of strong policies accompanying rapid economic growth, political influences, and economic instability as the main contributors.

9.	Siva Kumar (2019)	The paper focused on the lack of effective recovery channels and legal measures in the State Bank of India's NPA management.
10.	Sharma et al., (2019)	The research emphasizes the lack of rigorous credit appraisals, insufficient borrower background checks, and lax corporate governance standards.
11.	Jayaraman et al., (2019)	The research emphasized the influence of gross advances and total bank advances on NPAs. Also, macroeconomic variables like growth rate and inflation impact NPAs.
12.	Singh et al., (2019)	The study emphasized the importance of various recovery measures, from identifying defaulters to setting up debt recovery tribunals and following securitization acts.
13.	Naveenan et al., (2018)	The present study stated that primary lending to various sectors occurs without proper risk assessment and the need to maintain high provisions due to existing NPAs.
14.	Kadanda and Raj (2018)	The paper identified the rapid rate of lending without proper loan management, high interest, and aggressive competition among banks as primary causes.
15.	Kaur and Kumar (2018)	The research focused on both bank-specific and macro factors affecting NPAs in PSBs, suggesting that both internal and external factors play significant roles.
16.	Rajeev and Subrmoniam (2017)	The study highlighted incompetency in business management, intentional defaulting, internal weaknesses of businesses, and macroeconomic factors as primary causes.
17.	Singh (2016)	The study highlighted the importance of proper training and follow-up programs and the need for a revised credit appraisal policy.
18.	Shanmugsundram and Selvaraj (2015)	The paper emphasized that the issue of NPAs affects the nation's economy and pointed to deficiencies in borrower selection and loan management in underdeveloped areas.

19.	Das et al., (2014)	The research suggests a comparative analysis, indicating that irrespective of their operational methodologies, banks face similar challenges regarding NPAs.
20.	Saha et al., (2013)	The present paper notes the rise of cyber fraud with the advent of electronic core banking as a new-age contributor to NPAs.
21.	Tiwari and Sontakke (2013)	The research points to the importance of credit for economic enlargement and suggests that unchecked NPAs can disrupt this flow, emphasizing the need for proper management.
22.	Selvarajan and Vadivalagan (2013)	The present paper identified political pressures and lending without proper assessment, especially in priority sectors, as primary causes of NPAs.
23.	Vigneswara (2012)	The present study underlined the importance of a stable macroeconomic environment, effective credit risk management, and operational efficiencies in managing NPA.
24.	Swamy (2012)	The research paper suggested that high lending rates aren't the primary cause; rather, inefficiencies in credit risk management and technology adoptions, particularly in PSBs, contribute to higher NPAs.
25.	Bala Subramaniam (2012)	While the study highlighted the resilience of Indian banks, it also identified the lack of a robust credit monitoring policy and internal credit management as causes of NPAs.
26.	Bihari (2012)	The study emphasized that high NPAs primarily arise due to credit defaulters, impacting both the banking sector and the broader Indian economy.
27.	Pradhan (2012)	The study indicated that banks were compelled to increase lending rates due to NPAs, attracting high-risk borrowers. Large borrowers were especially highlighted as major defaulters.
28.	Kumar and Singh (2012)	The research identifies the lack of proper credit appraisal methods and the need for a dedicated monitoring department as causes of NPAs.

29.	Joseph et al., (2011)	The study noted that inefficient interest rate policies were identified as a primary cause, suggesting that poor interest rate decisions could lead to increased NPAs.
30.	Sanjeev and Gunjan (2007)	External influences were found to have a more significant impact than internal ones. The study identified economic downturns, willful defaults, poor managerial skills, and a lack of administrative action as major causes.
31.	Ahmad (2006)	The study concentrated on potential causes of stress leading to NPAs and highlighted the need for strategic balance in various work-life domains.
32.	Rzhevskyy and Budagovska (2003)	This research focused on inefficiencies in banks using two models, suggesting underlying operational and financial management issues.

Segment 2.2: Various aspects of MSMEs influencing the growth of NPAs

This section delves into the unique challenges and factors within the MSME sector that contributes to the growth of NPAs.

Table 2.2: Various aspects of MSMEs influencing the growth of NPAs

S. No.	Authors' Name	Key MSME-related Challenges Contributing to NPAs
1.	Shah (2021)	The dependency of MSMEs on short-term loans, both domestically and in foreign currencies, is the main contributor to NPAs.
2.	Krishnaswamy et.al. (2020)	Shortage of power, non-availability of raw materials, high tax rates, banks' reluctance in lending, and MSMEs' hesitance in borrowing due to external factors like interest rates and banking rules.
3.	Kumar et al., (2020)	The study emphasized the distinction between large corporate borrowers and smaller entities, hinting at the nuanced challenges faced by MSMEs in loan repayment.

4.	Gaur and Mohapatra (2020)	The research paper presented the lending pressures on priority sectors, leading to NPAs. The government's non-payment announcements burden bank balance sheets.
5.	Esubalew and Raghurama (2020)	The study states that managerial behavioral biases affect optimal fund utilization. There is a need for banks to consider behavioral aspects before granting loans. MSMEs' growth depends on bank financing; however, behavioral bias among managers can lead to suboptimal use of funds.
6.	Maji (2019)	The study identified restructured assets as a primary reason for high NPAs, a situation that often arises in the MSME sector due to their inherent vulnerabilities.
7.	Venkatesh and Kumari (2016)	The study states that high NPAs arise due to faulty project selection, a lack of effective credit assessment, and quality asset degradation.
8.	Kumar and Rao (2016)	MSMEs' dependency on banks for short-term operational needs, with larger firms having alternative sources due to better financial standing.
9.	Singh and Wasdani (2016)	MSMEs' dependency on various sources is based on their business life cycle. Challenges in obtaining loans due to lack of awareness, high processing charges, and technical procedures.
10.	Chakraborty (2012)	The study concluded that economic challenges like poverty and unemployment and a lack of prioritized financial support for MSMEs from banks, despite their potential contribution to the economy, are the main factors generating NPAs.
11.	Beck et al., (2008)	The weak position of financial institutions in underdeveloped countries can be the main reason for NPAs. Smaller units rely more on internal financing; larger units utilize more diverse external financing methods.
12.	Beck and Kunt (2006)	Challenges in financial access for MSMEs, inadequate capital and money market development, and legal challenges deter investors.

Segment 2.3: Comparing NPAs of Public Sector Banks with Private Sector Banks in India

A comparative analysis is presented, highlighting the differences in NPA trends and patterns prevailing in public and private sector banks in India. For more tangible results, many authors (Saluja and Lal (2010), Chaudhary and Sharma (2011), Malyadri and Sirisha (2011), Bihari (2012), Mohnani and Deshmukh (2013), Ahmad and Jegadeesh Warren (2013), Rao and Patel (2015), Bijender (2016), and Satheesh Kumar (2018)) made a comparison between public and PVSBS' NPAs, as both public and PVSBS are lending loans to MSMEs under priority sector guidelines in the financial market.

Table 2.3: Comparing NPAs of Public Sector Banks with Private Sector Banks in India

S. No.	Authors' Name	Key Findings on NPA Differences or Challenges in PSBs vs. PVSBS
1.	Kaur et al., (2023)	The study used IBM SPSS version 20 for statistical analysis, comparing central location, and dispersion, the Kolmogorov-Smirnov test, the Mann-Whitney U test, and the Kruskal-Wallis test. Results showed a higher trend in public sector banks with non-performing assets (NPAs) compared to private sector banks, with NPA losses impacting banks' profitability.
2.	Bhatia and Dahiya (2022)	Public and private sector banks in India have witnessed a decline in gross NPAs in the priority sector, though the rate is higher for public sector banks (24%) due to more advances in this sector and political influences. Despite both bank types meeting the RBI's priority sector lending targets, private banks have outperformed public banks. In a sector-wise breakdown, public banks lead in 'agriculture' and 'weaker sections', while private banks excel in the 'micro enterprise' sector, crucial for MSMEs. The success of priority sector lending, vital for MSMEs, hinges on reducing bad loans, which impact the banks' profitability.

3.	Kumar (2018)	HDFC (private) has higher NPAs due to delayed repayments by borrowers. In contrast, CANARA (public) has borrowers who are more punctual in their repayments.
4.	Kurian and Suganya (2018)	PSBs are more adversely affected by NPAs, which diminish their profitability and liquidity. Effective monitoring and control strategies are essential.
5.	Alamelu and Chandran (2018)	Public sector banks are playing a pivotal role in India's financial system and grapple with high NPAs, especially in sectors like infrastructure. Improved credit appraisal and skilled human resources are vital.
6.	Bijender (2016)	Agriculture and small-scale sectors significantly contribute to NPAs, especially in PSBs, which face more challenges than PVSBS.
7.	Satpal (2014)	PSBs show a higher trend of NPAs compared to PVSBS, largely attributed to lending to priority sectors. Within the banks, SBI (Public) and ICICI (Private) lead in NPAs.
8.	Joseph and Prakash (2014)	PSBs struggle more with high NPAs compared to private banks. A more proactive and systematic approach is required for NPA management in PSBs.
9.	Selvarajan and Vadivalagan (2013)	Indian banks in Tamil Nadu (public) face NPA challenges, but they manage them better than other PSBs. Effective remedial measures are emphasized.

Segment 2.4: The Impact of NPAs on the Overall Performance of the Banking Sector

This segment elucidates how NPAs influence the financial health, profitability, and operational efficiency of banks.

Table 2.4: The Impact of NPAs on the Overall Performance of the Banking Sector:

S. No.	Authors' Name	Nonperforming Assets and Banking Sector Performance
1.	Kanoujiya et al., (2023)	According to the study, strict restrictions and high levels of non-performing assets (NPA) may have an impact on Indian banks' profitability. NPA and profitability have an inverse relationship, although they are unrelated to regulation. This is unexpected since the laws governing Indian banks don't adequately reflect the needs of banks. The results indicate that while rules in Indian banks should be flexible and dynamic to assist profitability and risk reduction, they do not live up to these expectations. The report recommends reallocating policies to satisfy comprehensive bank performance standards and changing regulations to make banks safer.
2.	Gaur and Mohapatra (2021)	NPAs profoundly influence banks' profitability. Policymakers and regulatory bodies must prioritize NPA management. The research study also focuses on the importance of resource allocation and loan portfolio management for effective NPA control.
3.	Kumar et al., (2020)	PSBs are more burdened by high NPAs than PVSBS. The study recommends a two-sided trust model to identify lapses in loan disbursements and repayments. The SARFAESI Act is superior to DRTs and Lok Adalat for NPA management.
4.	Dinesh et al., (2020)	Banks are leveraging online technologies to manage NPAs. The failure of borrowers' businesses is often due to outdated technologies.
5.	Nirmal and Derashri (2020)	High NPAs can lead to significant losses and potentially shut down banks. The study presents the recovery journey of Punjab National Bank from high NPAs to profitability.

6.	Singh and Husain (2020)	Transparency in listing defaulters, agricultural loan restructuring, and strict actions against willful defaulters are essential for NPA management. The study also suggests various government-backed measures to minimize bad loans.
7.	Maji (2019)	A significant increase in GNPA and NNPA ratios was observed post-2015. The Banking Regulation (Amendment) Ordinance 2017 is expected to bolster the RBI's capability to handle bad loan situations.
8.	Sharifi et al.,(2019)	Credit risk is pivotal in measuring banks' lending performance. RBI's guidelines and limits on loan disbursement, coupled with reduced political interference, have resulted in better credit risk performance for PVSBs compared to PSBs.
9.	Agarwala and Agarwala (2019)	PVSBs outperform PSBs and scheduled commercial banks in NPA management. Nationalized banks, particularly SBI and its associates, struggle with loan recovery. IBC 2016 has emerged as an effective tool for loan recovery.
10.	Chawla and Rani (2019)	Punjab National Bank witnessed rapid NPA growth in specific periods. The bank's reliance on write-offs and upgrades weakened its credit risk system. The study identifies non-priority sectors, especially the industrial segment, as significant contributors to NPAs.
11.	Dhananjaya (2019)	The result of the international financial predicament led to a dual balance sheet problem for Indian banks. The crisis accentuated credit and corporate risks. The study emphasizes the importance of bank efficiency and various factors in analyzing NPAs.
12.	NachiMuthu and Veni (2018)	NPAs impact banks' profitability. Commercial banks are now adopting curative measures to enhance profitability, with GNPA and NNPA showing insubstantial influence on gross, net advances, and total assets.

13.	Singh and Sharma (2018)	NPAs, along with other factors, significantly affect bank liquidity. Banks with a high capital adequacy ratio have a positive liquidity correlation. Economic parameters like inflation also influence the liquidity of banking sectors.
14.	Vijai (2018)	Transparent systems, strict actions against willful defaulters, loan restructuring, and cooperation with regulatory authorities are essential measures for efficient NPA management.
15.	Alamelu and Chandran (2018)	The study analyzes NPA trends in PSBs and identifies various causes behind the surge in NPAs. PSBs are vital for India's economic growth, but high NPAs pose challenges. The study recommends an improved credit appraisal system and other measures to manage NPAs.
16.	Sharifi et al.,(2018)	Credit risk significantly influences banks' performance. PVSBS demonstrate superior credit risk management compared to PSBs.
17.	Arora et al.,(2018)	The research investigates the impact of NPAs on the technical efficiency of various bank types using the meta-frontier technique. Foreign banks demonstrate superior performance and technical efficiency compared to domestic banks.
18.	Mittal and Suneja (2017)	NPAs pose challenges for banks, affecting their performance. A proactive approach, especially in checking the creditworthiness of borrowers, is essential.
19.	Phani et al., (2016)	The agriculture sector is identified as a high-risk area for NPAs. The study suggests proactive measures and strengthening credit appraisal systems to manage NPAs effectively.
20.	Dasgupta (2016)	NPAs negatively impact the total assets, advances, and profitability of banks, including RRBS. The central government and RBI must formulate effective measures to curb NPAs.

21.	Dasgupta (2016)	The study underlines the influence of NPAs on the general fitness of the banking segment, which sequentially directly impacts MSME credit accessibility.
22.	Ibrahim and Thangavelu (2014)	PVSBs exhibit lower gross NPAs than PSBs and foreign banks. The study emphasizes the importance of training, credit rating agencies, and the strict implementation of remedial measures for efficient NPA management.
23.	Das and Dutta (2014)	NPAs severely impact PSBs, affecting their profitability, efficiency, and overall performance. Remedial measures are essential to controlling the rising NPAs.
24.	Kumar (2014)	High NPAs adversely affect banks in various ways. The Narasimha Committee recommends that banks adopt international norms for asset classification. The study suggests several measures for handling NPAs.
25.	Ahmad and Waran (2013)	Banks play a vital role in fiscal development. NPAs adversely affect their performance. The study indicates that Indian banks are ranked based on their NPA management efficiency.
26.	Dasgupta and Malai (2013)	The Rural Credit Franchisee model was developed to provide for the monetary requirements of rural borrowers, enabling cooperation between formal and informal financial institutions. This model can be deemed microcredit.
27.	Aspal and Malhotra (2012)	The CAMEL model was applied to review banks' monetary soundness. Bank of Baroda and Andhra Bank exhibited superior performance due to sound capital adequacy ratios and quality assets. In contrast, the United Bank of India needs to address management issues and asset quality.
28.	Chijoriga (2011)	Banks can use multiple discriminant analysis techniques to categorize customers, assess credit risk, and make informed lending decisions. This analysis is essential for proper loan classification and cost-effective lending.

29.	Bhaumik and Piesse (2008)	PVSBs exhibit more flexibility in their operations compared to PSBs and foreign banks. RBI's provisions for NPAs can negatively impact the credit disbursement system.
30.	Aravanan and Vijaya Kumar (2007)	NPAs detrimentally affect banks' financial stability, which includes profitability, liquidity, and efficiency. The SARFAESI Act 2002 has emerged as an effective tool to combat NPAs.
31.	Winnie et al.,(1999)	BFRS is an effective analytical technique for assessing banks' financial strength based on their financial ratios. BFRS's risk rating varies depending on the country's economic conditions.
32.	Shajahan (1998)	The RBI report indicates that PSBs have high NPAs due to advances in priority sectors. The RBI introduced netting as a measure when PSBs faced high NPAs in the priority sector.

Segment 2.5: Strategies and Approaches to NPA Management in General

This section reviews various practices adopted by banks globally to manage and mitigate the risks associated with NPAs. Commercial banks have employed a variety of NPA management techniques to recover and lower NPAs. To regulate NPAs, primarily two types of techniques are required. The objective of the curative steps is to boost recoveries so that bank money invested in NPAs can be free for recycling. The purpose of precautionary actions is to keep the asset from going bad. The importance of remedial interventions and preventive measures was discussed by Collins (2011), Reddy (2002), Rao and Patel (2015), Singh (2013), Gupta (2012), Zafar et. al., (2013), Tiwari et. al.,(2013), Shanmuga Sundaram and Selvaraj (2015), Singh (2016), and Pati (2010). In addition to cleaning up the balance sheets of banks by reducing or removing difficult loans, it is critical to consider preventive actions. Both components are vital to a sturdy NPA management method.

Table 2.5: Strategies and Approaches to NPA Management in General

S. No.	Authors' Name	Key Management and Recovery Techniques for NPAs
1.	Gaur and Gupta, 2023	Intellectual capital and its elements are beneficial for managing NPA. Banks may reduce their loan losses by investing in more advanced procedures and infrastructure, keeping tight relationships with stakeholders, particularly customers, and developing the skills and expertise of their workers.
2.	Rao (2020)	The research paper emphasized the effectiveness of the SARFAESI Act in managing NPAs and suggested training, recovery camps, and timely loan reviews for better NPA management.
3.	Sahoo and Majhi (2020)	The present paper discussed the effectiveness of recovery channels and stressed the importance of training, credit monitoring systems, and strict loan recovery mechanisms.
4.	Fatima and Ashraf (2020)	The research examined the trends in gross and net NPAs. Emphasized the effectiveness of the SARFAESI Act due to the absence of court intervention.
5.	Sumi (2019)	Cooperative banks are more customer-friendly than commercial banks. However, NPAs severely impact the cooperative banking system, especially since their primary borrowers belong to small and middle-income groups. Efficient loan management and proper asset classification are vital for managing NPAs in cooperative banks.
6.	Jha (2018)	The study highlighted the role of new curative measures by the RBI for speedy NPA recovery. Suggested more Debt Recovery Tribunal offices and centers for timely case resolution.
7.	Dey (2018)	The study emphasized the importance of monitoring potential NPAs. Pointed out the efficiency of Lok Adalat in managing cases of below Rs. 10 lakh.

8.	Kurian and Suganya (2018)	The study pointed out the importance of a proper loan monitoring system, creditworthiness checks, and legal measures for controlling NPAs.
9.	Prasad and Prasad (2017)	The study emphasized improving credit assessment mechanisms, regular NPA upgrades, and systematic pre- and post-loan approaches. Curative and preventive measures play a crucial role in NPA management.
10.	Venkateswara et al.,(2017)	The study highlighted the effectiveness of the SARFAESI Act and Debt Recovery Tribunal in recovering NPAs. Stressed on proper record maintenance, training, and adherence to government guidelines.
11.	Gautami (2017)	Advocated for legal mechanisms like Lok Adalat, the SARFAESI Act, and the Debt Recovery Tribunal for quick recoveries. The paper suggested regular recovery camps and direct communication with borrowers.
12.	Prasad and Prasad (2017)	The paper reiterated the importance of credit assessment mechanisms, credit control, and regular upgrades of NPAs for better asset quality.
13.	Tripathi and Syed (2017)	Non-payment leads to asset categorization like standard, sub-standard, doubtful, and loss assets. The Basel Committee introduced guidelines to address growing NPAs. The learning recommends that banks should prioritize asset quality over credit volume. The RBI's guidelines can help banks manage NPAs better.
14.	Puntambekar and Meher (2016)	The research paper identified factors contributing to NPAs and recommended curative measures such as the SARFAESI Act, DRTs, and preventive strategies.
15.	Singh (2016)	The research paper stressed the need for stricter loan recovery measures and faster settlement procedures to enhance bank performance and economic growth.

16.	Vallabh et al.,(2016)	The study suggested the development of a forecasting model for NPAs and emphasized the importance of continuous monitoring, technology, and proper record maintenance.
17.	Kandpal and Kavidayal (2014)	The study emphasized the need for proper borrower evaluation, continuous communication, and legal measures for efficient NPA management.
18.	Samir and Kamra (2013)	While several legal measures are in place, there's a need for enhanced practices to recover bad loans. Banks should treat assets as national assets.
19.	Migwi (2013)	The study stressed the importance of strong bank policies, credit monitoring, and frequent borrower evaluations for effective NPA management.
20.	Shenbagavalli et al., (2013)	The research paper highlighted the role of proper financial record checking, credit monitoring systems, and the implementation of BASEL norms.
21.	Singh (2013)	The present paper stresses the importance of systematic credit risk management and close examination of projects and borrowers for NPA control.

Segment 2.6: Strategies and Approaches to NPA Management for MSMEs in particular

This section presents a comprehensive examination of the various approaches adopted by banks globally to proficiently handle and alleviate the risks linked to non-performing assets in micro, small, and medium enterprises.

Table 2.6 Strategies and Approaches to NPA Management for MSMEs in particular

S. No	Authors' Name	Conclusion/Finding
1.	Kaveri (2022)	<p>The unprecedented challenges posed by the COVID-19 epidemic led to a considerable dip in production, income, and employment within India's MSME sector. This subsequently resulted in a surge of loan defaults. To counteract these challenges, the Indian Government amended the Insolvency Bankruptcy Code, introducing the Pre-Pack Resolution Scheme specifically tailored for corporate MSMEs. This initiative offers a swifter, streamlined debt resolution process, requiring the consensus of 66% of financial creditors to move toward the National Company Law Tribunal (NCLT) for insolvency. Before this, MSMEs faced a tedious process under the IBC. This strategy, while promising, brings forth its own set of challenges for stakeholders, including MSMEs, lenders, and the NCLT. Nonetheless, it represents a proactive step in managing the rising NPAs within the MSME sector.</p>
2.	Anglekar et. al., (2021)	<p>Assessing the financial credibility of customers for credit risks stands as a critical aspect of risk management within the finance sector. The outcome, whether to accept or reject the application, is driven by the credit risk assessment. Often, loans are approved without a thorough background investigation merely based on the firm's established reputation in the market, thereby narrowing down financial assistance opportunities for emerging small and medium enterprises (SMEs). Moreover, the prevailing systems predominantly focus on the financial facets alone. Our proposal is to devise a model that autonomously gauges the credit eligibility of an applicant by not merely relying on the data submitted by applicants but also by deriving insights from their spending behavioral and psychological patterns utilizing Clustering Algorithms, Classifiers, etc.</p>

3.	Raju and Chockalingam (2020)	KFC allocated a substantial 93.72% of its loans to the micro sector, a smaller 5.54% to the small sector, and a mere 0.72% to the medium sector. Over recent years, KFC has implemented appropriate measures to curb non-performing assets (NPA); however, more strategic actions are recommended to fully eradicate the corporation's NPA.
4.	Singh and Husain (2020)	The interventions by regulatory bodies underscore the need for transparent and strategic measures to assist MSMEs, ensuring their growth isn't hampered by the overarching NPA dilemma.
5.	Dinesh et. al., (2020)	Based on the data from the Reserve Bank of India, as of August 31, 2018, a significant portion, 48.3%, of the loan portfolio of numerous large Indian scheduled commercial banks (SCBs) was composed of corporate assets. The other 51.7% was distributed among micro, small, and medium enterprises (MSMEs), trade clientele, and other sectors. This research primarily explores the viewpoint of bankers on employing digital technologies as preventive strategies for managing non-performing assets (NPAs).
6.	Chandrasekhar (2020)	In these conditions, although new-fangled pandemic-linked lending to micro, small, and medium enterprises was partly assured by the government, an increase in NPA ratios and additional corrosion of bank capital seem unavoidable.
7.	Venkatesh and Kumari (2015)	The study delves into the challenges and opportunities presented by NPA management in the Indian MSME sector, as facilitated by commercial banks. Their study underscores the significant responsibility of MSMEs in the Indian financial system and the growing concern of rising NPAs within this sector. By analyzing the causes and implications of these NPAs, they advocate for stronger regulatory mechanisms, advanced technological interventions, and refined credit appraisal techniques to enhance the efficacy of NPA management, ultimately bolstering the resilience and growth potential of MSMEs in India.

Segment 2.7: Evaluating the Efficacy of NPA Management Techniques

This segment critically assesses the effectiveness and efficiency of different NPA management practices and their implications for the banking sector's stability. Most of the authors, Saluja and Lal (2010), Chaudhary and Sharma (2011), Malyadri and Sirisha (2011), Bihari (2012), Mohnani and Deshmukh (2013), Ahmad and Jegadeeshwaran (2013), Rao and Patel (2015), Bijender (2016), and Satheesh Kumar (2018), evaluated the efficiency and effectiveness of NPA management practices by using secondary data from publications made by the RBI on recoveries made through legal measures.

Table 2.7: Evaluating the Efficacy of NPA Management Techniques

S. No.	Author's Name	Key Insights on Effectiveness and Efficiency of NPA Management Practices
1.	Rajput and Prasad (2023)	The study looks at how India's public sector banks are affected by the Insolvency and Bankruptcy Code, 2016 (IBC). It looks into how advances and non-performing assets affect banks and evaluates how NPAs affect earnings following the adoption of the IBC. Secondary data from the Reserve Bank of India, the Economic Survey, the IBBI, and other publications are used in the study. The findings indicate that the recovery of loans, earnings, and non-performing assets of four Indian banks has been significantly impacted by IBC enforcement. The ten-year duration and concentration on four Indian banks are two of the study's shortcomings.
2.	Thakkar et al., (2023)	This paper uses trend regression analysis to highlight the efficacy of Lok Adalats, debt recovery tribunals (DRTs), and the Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002 (SARFAESI Act) based on time series data, despite the fact that there are many legislative frameworks to address non-performing assets.

3.	Singh (2020)	Regular refinement of banking regulations is crucial. The SARFAESI Act is highlighted as an efficient tool for quick bad loan recovery, showcasing its effectiveness.
4.	Hafsal et.al., (2020)	NPAs lead to a 16.2% efficiency gap in Indian banks. The study suggests increasing bank efficiency and considers recapitalization as an efficient strategy to manage NPAs.
5.	Chakravarthy and Tiwari (2020)	The SARFAESI Act is favored for its ease of asset auctioning. The study points out the need for appropriate recovery measures based on the nature of the loan for effective NPA control.
6.	Kumar and Khosla (2020)	Post-1991, the recovery of high nonperforming loans emerged as a challenge. The SARFAESI Act is highlighted as an effective platform for loan recovery, emphasizing its importance in NPA management.
7.	Naveenan et al.,(2019)	Stress on rigorous loan appraisal, trained staff deployment, and strict adherence to regulatory guidance, underscores the importance of efficiency in NPA management practices.
8.	Alamelumangai and Sudha (2019)	Despite the recovery channels' efforts, NPA recoveries remain unsatisfactory. The study suggests that the introduction of advanced measures can effectively control the growing NPAs.
9.	Raju (2019)	PSBs face more challenges than PVSBS in managing NPAs. A significant link between asset quality and solvency is observed, emphasizing the need for efficient NPA management practices.
10.	Yeruva and Kumar (2019)	The study emphasizes that NPAs significantly affect banks' profitability. The study advises that banks need to strengthen their internal and external environments for effective NPA management.

11.	Alamelumangai and Sudha (2019)	The present paper focuses on the problems faced by Indian banks due to non performing loans. The study recommends improving the functioning of recovery channels to effectively reduce the NPA strain on banks.
12.	Naveenan et al.,(2019)	Stresses the importance of rigorous loan appraisal and trained staff deployment. The study shows the effectiveness of various recovery tools, like the SARFAESI Act, in NPA management.
13.	Thomas (2018)	The study emphasizes the superior performance of the debt recovery tribunal. Banks are advised to use NPA recovery channels rigorously, indicating the effectiveness of strict channels.
14.	Panigrahi and Chaudhary (2017)	The SARFAESI Act 2002 is identified as an effective benchmark in NPA recovery, helping banks safeguard their liquidity and creditworthiness.
	Jana (2017)	Recommends stringent loan granting practices and the utilization of both legal and non-legal measures. This reflects the dual approach to effective and efficient NPA management.
16.	Gupta and Malhotra (2017)	The SARFAESI Act is a strong performer in recovering bad loans. However, its efficiency waned in 2010–11, indicating a need for continuous evaluation of NPA management tools.
17.	Kumar et. al., (2017)	The study emphasizes the effectiveness of the SARFAESI Act and Debt Recovery Tribunal in loan recovery. The study also suggests maintaining a regular record and training loan staff for efficient NPA management.
18.	Shaardha and Jain (2016)	Public sector banks are observed to benefit from legal remedies like the SARFAESI Act, highlighting the effectiveness and efficiency of such legal measures in NPA management.

19.	Siraj and Pillai (2013)	PSBs exhibit superior capability in NPA management. Their strategies bring about enhanced stability and improvement in the banking sector, demonstrating effectiveness in NPA control.
20.	Singh et al., (2013)	Recovery management techniques are crucial for banks' financial health. Effective and efficient recovery techniques can enhance banks' financial power and aid overall economic development.
21.	Ramesh et al.,(2013)	A holistic approach is required for NPA issues. Emphasis on deep project examination, efficient credit risk management, and advanced legislative methods to achieve effective NPA management.
22.	Siraj and Pillai (2012)	The study reiterates the strength of the SARFAESI Act in NPA management. Its efficiency is highlighted by bypassing court intervention for settlements.
23.	Siraj (2012)	The SARFAESI Act stands out as an efficient tool to manage NPAs without the need for court intervention, reflecting its effectiveness in NPA management.

CHAPTER III RESEARCH METHODOLOGY

This chapter provides an overview of the research gap, objectives, questions, and design of the study. Furthermore, it provides an account of the varied quantitative techniques used to analyze the data.

3.1 Research Gap

There are some research gaps that are drawn because of the analysis of current literature on NPAs and thereby become the basis of the present study. Bibliometric network analysis based on keyword co-occurrences allows us to discover research gaps and trends. This segment is essential because it describes research gaps in the existing literature for potential research. It determine research questions or problems that presented research in the given domain has either not addressed or has not addressed sufficiently. VOS viewer can mechanically evaluate the literature's significance to a subject by counting the occurrence of keywords. (De Oliveira, 2019). Accordingly, it is likely to ascertain whether a subject has been adequately investigated or not. Thus, this section reveals systematic gaps and consequent research questions.

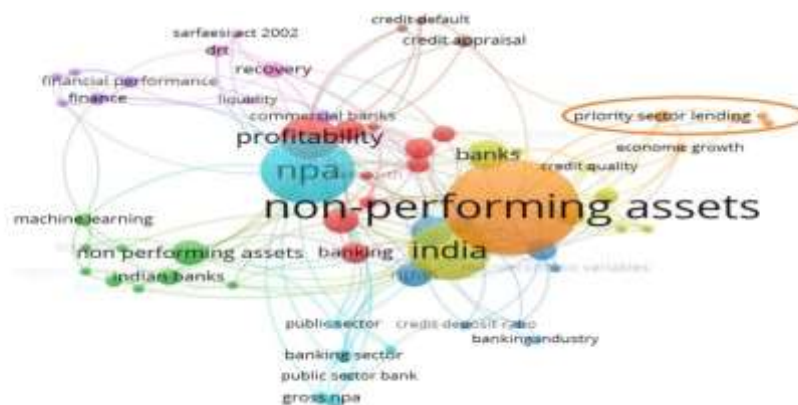


Figure 3.1 Bibliometric Network of Non-Performing Assets *Source: Author's Computation*

Figure 3.1 shows that in India, priority sector lending with special reference to MSMEs (the extreme left side in the orange circle) is the least touched part. Although the network does display some prevalent legal as well as preventive practices in content analysis, it is found that there is no practical proof of the effectiveness and

efficiency of NPA management practices in MSMEs, and therefore there is a wide scope for research on this front. The gaps have been summarized as follows:

Gap 1: Very thin literature exists on the exploration of the causes of the rise in NPAs among MSMEs in the banking sector.

Gap 2: Old curative measures such as the SARFAESI Act, DRTs, and Lok Adalat have been studied mostly in previous studies. There is a need to take into account the latest legislative changes, like the IBC, to see how far the IBC route is preferred over pre-NCLT settlements.

Gap 3: The study recognizes the prevalence of preventive practices to control NPAs, but what practices are initiated by banks to implement these practices has not been widely discussed.

Gap 4: Empirically, very little work captures the perception of bankers on the effectiveness and efficiency of NPA management practices in MSMEs.

3.2 Research Questions

After studying various literature and identifying research gaps, the importance of measuring the effectiveness and efficiency of NPA management practices came into existence. Also, the literature on NPA shows the following types of issues are prevalent, which form the basis for the preparation of research questions in the present study on NPAs in the context of MSMEs: Growth; Factors; Management; Efficiency.

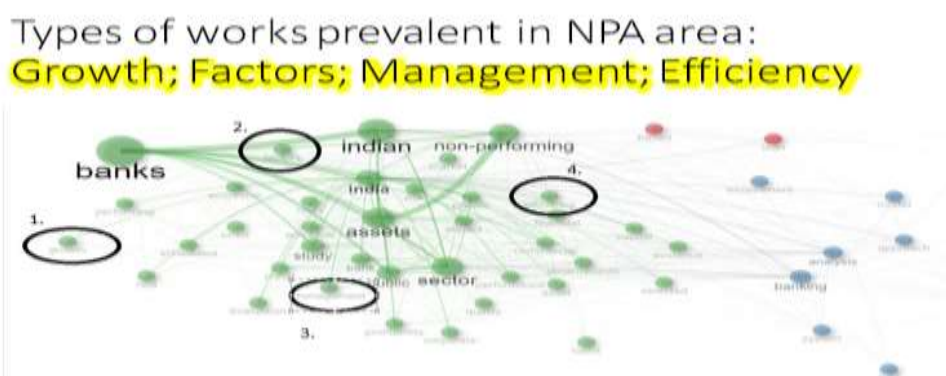


Figure 3.2: Types of works prevalent in NPA area: Growth, Factors, Management, Efficiency

Source: Author's Computation

The research queries of the research therefore are as follows:

1. What are the quantum, trends, and composition of NPAs in the MSME sector in Haryana State?
2. What are the factors that are liable for increasing NPAs in the banking and MSME sector?
3. What are the NPA Management practices followed by the selected public and private sector banks in minimizing NPAs in the MSME sector?
4. How effectively and efficiently selected banks are implementing the NPA Management practices in controlling NPAs?

3.3 Objectives of Research

1. To examine the quantum, trend, and composition of Non-Performing Assets of MSMEs in selected Public and Private Sector Banks in Haryana.
2. To identify the factors contributing to the rise in Non-Performing Assets of MSMEs in Selected banks in Haryana.
3. To identify the NPA management practices adopted by the selected banks to bring down the level of NPAs in MSMEs.
4. To evaluate the efficiency and effectiveness of NPA management practices for the MSME sector adopted by the selected banks.

3.4 Research Design

The present research aims to analyze the effectiveness and efficiency of NPA management practices in the MSME zone of selected public and PVSBS in ten districts, i.e., Panipat, Faridabad, Gurugram, Panchkula, Ambala, Karnal, Rohtak, Kaithal, Kurukshetra, and Yamunanagar in Haryana. The nature of the study is descriptive, analytical, and empirical. Five PSBs and five PVSBS are selected according to the ranking given by the RBI based on their performance.

3.4.1 Sampling Design

3.4.1.1. Population

Bankers were selected from five public and five PVSBS from selected districts such as

Panipat, Faridabad, Gururgram, Panchkula, Ambala, Karnal, Rohtak, Kaithal, Kurukshetra, and Yamunanagar in Haryana state. These districts are famous in the Auto Components Industry, Garments Industry, Rice Production and Exports, Scientific Instruments and Kitchen Appliances, Textile and Handloom Industry, Fasteners Industry, and Plywood and Utensils Industry. The study restricts itself to the state of Haryana. Haryana is in the midst of seven states categorized as dominant motivators in the ranking of states and union territories based on the accomplishment of the business reform action plan 2020 (Times of India 2022). Noninterventionist credit is one of the benchmarks to measure the ease of doing business (PIB 2018). As a result, a number of MSMEs are entering Haryana. In total, Haryana has 1,00,000 MSMEs. Nevertheless, there is an increase in nonperforming loans for MSMEs in Haryana (Haryana MSME Policy 2019).

3.4.1.2 Types of Population

The respondents consist of branch managers and section officers of the recovery division in equally private and public sector banks of selected districts.

3.4.1.3 Sampling Technique:

The proportionate sampling technique has been used to do the study.

3.4.1.4 Sample Size and its Justification

Data was gathered from employees working in public and PVSBS in Haryana, India, particularly from those working in the credit departments of the banks. The data were gathered through multi-stage sampling. In the beginning, five PSBs and five PVSBS of ten districts (Panipat, Faridabad, Gururgram, Panchkula, Ambala, Karnal, Rohtak, Kaithal, Kurukshetra, and Yamunanagar) in Haryana state are preferred as a target group based on their RBI ranking in terms of the number of NPAs as per 2019. These banks are SBI, PNB, BOB, CNB, BOI, HDFC, ICICI, Axis, Yes Bank, and KMBL. The respondents have been announced to communicate their opinions on a variety of clues for nonperforming loans, the frequency of usage of preventive practices, and their agreeableness as to the effectiveness and efficiency of both legal and preventive management practices. 350 bankers altogether from 10 institutions were contacted, however, only 316 of them gave adequate responses. Regular follow-up for the same

results in a good response rate. The distribution of the questionnaires was done proportionately. The general consensus among many earlier researchers is that the sample size must be five times as many items as there are (Hair et al., 1995). Therefore, the 316 sample volume versus 48 assertions speaks to the suitability of the sample.



Figure 3.3: Classifications of Banks

Table 3.1: Calculation of Sample Size

	Name of Banks	Ambala	Proportionaterespondents	Faridabad	Proportionaterespondents	Gurugram	Proportionaterespondents	Karnal	Proportionaterespondents	Panipat	Proportionaterespondents	Yamunanagar	Proportionaterespondents	Rohtak	Proportionaterespondents	Kaithal.	Proportionaterespondents	kurukshetra	Proportionaterespondents	Panchkula	Proportionaterespondents	Total
PSB	B.O.B	9	1	2	1	15	2	5	1	4	1	5	1	2	1	2	1	5	1	7	1	
	C.B	8	1	20	3	24	3	25	3	11	1	8	1	8	1	4	1	10	1	12	1	
	B.O.I	4	1	9	1	11	1	4	1	3	1	3	1	2	1	4	1	2	1	4	1	
	PNB	45	6	45	6	74	10	61	9	44	5	49	5	59	7	31	4	47	5	32	4	
	SBI	44	5	54	7	96	13	48	6	41	5	38	5	45	5	28	3	38	5	50	6	
	Total	110	14	130	18	220	29	143	20	103	13	103	13	116	15	69	10	102	13	105	13	158
PVSB	AXIS	23	6	12	3	67	18	12	3	11	3	8	2	7	2	7	1	11	3	10	3	
	HDFC	19	5	17	4	78	21	26	6	15	4	25	5	10	2	11	2	19	5	16	4	
	ICICI	9	2	9	3	34	9	4	1	6	2	2	1	3	1	1	1	4	1	6	2	
	KMB	2	1	4	1	26	8	3	1	3	1	2	1	2	1	2	1	4	1	2	1	
	Y.B	1	1	1	1	16	4	1	1	14	3	1	1	10	2	1	1	1	1	1	1	
		54	15	43	12	221	60	46	12	49	13	38	10	32	8	22	6	39	11	35	11	158

3.4.1 Data

3.4.2.1 Data Type- The data used in the research is both primary and secondary.

3.4.2.2 Data Collection Method- The current research is based on both primary and secondary records. Secondary records have been gathered from:

For Objective I:

1. State Level Bankers' Committee Reports of Haryana,
2. Annual Reports of selected Banks,
3. Haryana Budget Statements
4. MSME Pulse Report,
5. Haryana MSME Policy
6. Official Website of MSME (www.msme.haryana.gov.in)
7. District Industries' Profiles, Haryana
8. MSME Annual Reports
9. Handbook of Statistics of the Indian Economy
10. Official website of RBI (www.rbi.org.in)
11. Journals and Periodicals
12. Directorate of MSME, Haryana

For Objective II:

1. Expert Committee MSMEs, 2019
2. Report of International Finance Corporation on Financing India's MSMEs 2018
3. Readings from various newspapers like the Times of India,
4. Journals and Periodicals

For Objective III:

1. Annual Reports of Selected Banks
2. MSME Policies of Selected Banks

For Objective IV:

1. The OECD DAC Network on Development Evaluation (EvalNet)
2. Reading from various newspaper like The Economic Times, The Tribune, and The Hindu.

3.4.3 Primary data:

Questionnaires on a five/ seven point Likert scale and personal and informal interviews with bank managers were used in this study to collect the information to accomplish the second, third, and fourth objectives.

3.4.4. Data Analysis Tools:

Suitable statistical approaches are used to investigate the data in order to achieve the specified objectives of the present study. The primary statistical techniques used in the present study are exploratory and confirmatory factor analysis, Frequency analysis, and RIDIT analysis. The results are comprehended by doing a content analysis of various reports. The softwares used for the empirical examination are IBM SPSS Statistics Version 21.0, SMART PLS, and Microsoft Excel as well. In order to summarize and describe the data, descriptive statistics have been computed. Basically, descriptive statistics provide an overview of some fundamental features of the data. The measures of central tendency and measures of variation provide the way for proceeding with any quantitative analysis of the data. The study uses frequency analysis to represent the actual treatment of various protective actions Instead of calculating the percentage of respondents, RIDIT analysis uses computing an average RIDIT value for a class, giving each of the replies in the dependent variable. For achieving the fourth objective of assessment of the efficiency and efficacy of NPA management practices for the MSME sector adopted by the selected banks, RIDIT analysis was used to analyze the questionnaire data, RIDIT essentially represents the likelihood of a response group appearing in the reference distributions through the weights that are assigned to that group.

CHAPTER - IV

QUANTUM, TRENDS AND COMPOSITION OF NPAS OF MSMEs IN SELECTED PUBLIC AND PRIVATE SECTOR BANK IN HARYANA

This chapter is related to the quantum, trends, and composition of nonperforming loans of MSMEs in preferred public and private sector banks in Haryana. To achieve this objective, state-level bankers' committee reports of Haryana, annual reports of selected banks, Haryana budget statements, MSME pulse report, and Haryana MSME policy have been considered.

The Micro, Small, and Medium Enterprises (MSME) sector stands as the cornerstone of economic dynamism in Haryana, propelling innovation, employment, and entrepreneurship. This vibrant sector has not only been instrumental in shaping the socio-economic landscape of the state but has also contributed significantly to the larger national narrative. However, amidst this thriving ecosystem, there exists a financial conundrum that demands our attention: the specter of non-performing loans. Nonperforming loans, characterized by loans that borrowers have defaulted on, present a formidable challenge for both lending institutions and the broader economic framework. In this chapter, we embark on a comprehensive exploration of the quantum, magnitude, trend, and composition of NPAs within the MSME sector, focusing on elected public and private sector banks operating in Haryana. Through this critical analysis, we endeavor to uncover the nuanced intricacies of this issue, paving the way for informed strategies and policies that safeguard the financial health of MSMEs and fortify the economic backbone of the state.

4.1. Quantum, Magnitude, Trend, and Composition of NPAs

4.1.1 Quantum of NPAs:

To gain a comprehensive understanding of the financial health of MSMEs in selected public and private sector banks in Haryana, it is imperative to delve into the quantum of non-performing assets. This involves a meticulous examination of the total outstanding loans that have been categorized as NPAs within the MSME sector. These are loans where borrowers have failed to meet their repayment obligations, which can have comprehensive implications for both economic institutions and the

broader financial system.

4.1.2 Magnitude of NPAs:

Assessing the magnitude of NPAs provides a crucial perspective on the extent of the issue at hand. This is achieved by compelling the quantum of NPAs as a percentage of the total loans disbursed to MSMEs. This percentage, often referred to as the NPA ratio or NPA percentage acts as a barometer for gauging the proportion of loans within the MSME sector that have turned sour. A higher NPA ratio indicates a greater volume of stressed assets, which could potentially have unfavorable effects on the stability of the banking sector and the overall financial ecosystem.

$$\text{NPA Ratio} = (\text{Total NPAs} / \text{Total MSME Loans}) * 100$$

4.1.3 Trends of NPAs:

Understanding the trend of NPAs is paramount to formulating effective strategies to address this issue. Monitoring how the NPA ratio evolves over time provides invaluable insights into whether the NPA situation is ameliorating, deteriorating, or maintaining a steady state. This analysis is not confined to a singular period; rather, it necessitates a longitudinal examination over multiple periods to discern discernible patterns. By identifying the trajectory of NPAs, policymakers, financial institutions, and stakeholders can proactively implement measures to mitigate risks and bolster the resilience of the MSME sector.

4.1.4 Composition of MSME Loans NPAs:

Understanding the composition of non-performing loans within the Micro, Small, and Medium Enterprises segment is paramount to formulating precise and effective interventions. This analysis delves into the intricate breakdown of NPAs based on various categories, providing invaluable insights into areas that warrant targeted attention and tailored policy measures.

One crucial facet of this composition analysis involves categorizing NPAs by the type of MSME, namely micro, small, and medium enterprises. This stratification enables a granular examination of the specific challenges faced by different scales of enterprises within the sector. For instance, it allows for the identification of whether micro-

enterprises, which form the backbone of the MSME sector, are disproportionately affected by NPAs compared to their small or medium counterparts. Such insights can serve as a foundation for crafting interventions that are tailored to the unique needs and vulnerabilities of each category, ensuring that the policy measures are not only effective but also sensitive to the scale of operations. The composition analysis aids in refining credit management strategies. By pinpointing the categories or segments with a higher incidence of NPAs, lending institutions can implement more nuanced risk assessment methodologies. This may involve tailored credit terms, enhanced monitoring mechanisms, or the development of specialized financial products that align with the specific characteristics and challenges of the identified categories. In doing so, financial institutions can mitigate the risks associated with NPAs while simultaneously fostering a conducive lending environment for MSMEs.

In essence, a comprehensive understanding of the composition of MSME Loan NPAs equips stakeholders with the knowledge required to design interventions that are not only precise but also responsive to the diverse landscape of the sector. By considering composition, policymakers and financial institutions can craft targeted measures that fortify the financial health of MSMEs, driving sustained growth and economic prosperity in Haryana.

Table 4.1: Number of MSME Loans Accounts Outstanding in PSBs

Banks	March 2015	March 2016	March 2017	March 2018	March 2019	March 2020	March 2021	March 2022
BOB	5808	6185	5995	7564	19017	19017	25981	31953
BOI	6062	6677	7092	7046	8779	8932	12573	12810
CB	17282	19461	22319	25188	26134	39498	48862	46205
PNB	31678	47314	50866	53337	25453	78763	78724	76199
SBI	70351	59924	70899	65107	51947	29297	35645	32188

Source: State Level Bankers Committee, Haryana

The database of the State Level Bankers Committee, Haryana, has presented some data, which is shown in Table 4.1. Table 4.1 gives the categorization of the number of Micro, Small, and Medium Enterprises (MSME) loan accounts outstanding in selected

Public Sector Banks (PSBs) of Haryana from March 2015 to March 2022.

The statistics showed a major increase in the number of MSME loan accounts from March 2015 to March 2022. In the year March 2015 number of MSME loan accounts was found to be 133181 which has increased to 199355 in March 2022. The highest change in the magnitude of Punjab National Bank's MSME loan accounts was observed, which increased from 31,678 in March 2015 to 76,199 in March 2022 as compared to the MSME loan account from 17282 to 46205 over the period of time. Moreover, a remarkable increment in the MSME loan accounts of Bank of Baroda from 5,808 to 31,953 loan accounts was found. A common rising trend is observed across the banks, with an important spike in loan accounts at Punjab National Bank (PNB) between March 2019 and March 2020. Bank of Baroda also showed a steady rising trend over the years. On the other side, the State Bank of India (SBI) showed a decline in loan accounts, mainly post-March 2017, stabilizing somewhat from March 2020 onward. By March 2022, the largest share of MSME loan accounts was held by Punjab National Bank (PNB) with 38.20% of the total, followed by Canara Bank with 23.17% and Bank of Baroda with 16.04%. State Bank of India (SBI) detained a share of 16.14% which is a decrease from its leading position in March 2015 with a share of 52.85%.

This study illustrates the growth of MSME loan accounts across different public sector banks over the past seven years. The magnitude and trend show a growing commitment of these banks to the MSME sector, while the composition highlights a change in the share of MSME loan accounts among these banks.

Table 4.2 Number of MSME Loans Accounts Outstanding in PVSBS

Banks	March 2015	March 2016	March 2017	March 2018	March 2019	March 2020	March 2021	March 2022
Axis Bank	1394	1968	4008	6418	10781	12185	10027	20440
HDFC Bank	35119	96090	115599	121639	189390	196277	195340	195110
ICICI Bank	19491	27478	32129	36823	47578	48948	49952	43875
KBM	4991	6766	8548	11712	11953	11398	13413	12323
Yes Bank	288	506	881	2115	4375	4670	6853	8015

Source: State Level Bankers Committee, Haryana

Table 4.2 provides a perceptive data demonstration regarding the number of Micro, Small, and Medium Enterprises (MSME) loan accounts outstanding in various private sector banks (PVSBS) for the timeframe across March 2015 to March 2022, as sourced from the State Level Bankers Committee, Haryana. The whole quantum of MSME loan accounts in the selected private sector banks has witnessed an important rise from March 2015 to March 2022. The total MSME loan accounts transversely selected by private sector banks outlined in the table surged from 66,283 in March 2015 to 454,763 in March 2022. HDFC Bank stands out in terms of magnitude, with an increase from 35,119 loan accounts in March 2015 to an enormous 195,110 accounts in March 2022, followed by Axis Bank, which increased from 1,394 to 20,440 loan accounts within the same period. A rising trend in the number of MSME loan accounts is evident across most banks, especially in HDFC Bank and Axis Bank. HDFC Bank's steady rise, peaking in March 2019, is important. Axis Bank also showed a considerable increase, more marked between March 2021 and March 2022. On the contrary, ICICI Bank saw a decline from March 2021 to March 2022, marking a variation from its earlier balanced growth. By March 2022, HDFC Bank held the major share of MSME loan accounts among the banks planned, constituting about 42.94% of the total MSME accounts. This is followed by ICICI Bank with 9.64% and Axis Bank with 4.50%. The supremacy of HDFC Bank in this sector is noticeable all through the period, indicating its substantial involvement with the MSME sector. In the course of this analysis, the significant growth in MSME loan accounts in private sector banks over the specified period is apparent. The trend shows a constant involvement of private sector banks with the MSME sector, whereas the composition reflects the important role of HDFC Bank in this field among its private sector rivals.

Table 4.3: Amount of MSME Loans Outstanding in PSBs

(Amount in Crores)

Banks	March 2015	March 2016	March 2017	March 2018	March 2019	March 2020	March 2021	March 2022
BOB	987	876	756	1008	1988	1988	2707	4140
BOI	1496	1533	1518	1596	966	979	1128	1264
CB	3516	3149	3020	3517	3349	3527	3885	4924
PNB	5923	4934	4505	5358	3121	7755	7408	7433
SBI	10486	11517	11265	17569	4713	18112	18250	22630

Source: State Level Bankers Committee, Haryana

Table 4.3 shows a data description connected to the amount of Micro, Small, and Medium Enterprises (MSME) loans outstanding in various Public Sector Banks (PSBs) from March 2015 to March 2022, as renowned by the State Level Bankers Committee, Haryana. The collective amount of MSME loans outstanding in these PSBs has seen an apparent increase over the years. The total outstanding amount of all selected banks increased from ₹ 28,408 crores in March 2015 to ₹ 54,391 crores in March 2022. The magnitude of change is remarkably high for the State Bank of India (SBI), which showed an outstanding loan amount surge from ₹ 10,486 crores in March 2015 to ₹ 22,630 crores in March 2022. Punjab National Bank (PNB) and Canara Bank also show significant increments in the outstanding loan amount over the years, despite with some variations. A common increasing trend in the outstanding MSME loan amount is marked across most banks, particularly marked for SBI from March 2018 onwards. PNB showed an impressive increase between March 2019 and March 2020. Bank of Baroda also shows a reliable growth trend from the years 2015 to year 2022, while Bank of India had a declining tendency originally till March 2019, post which a slow upward trend is perceptible. In terms of composition, SBI guidelines a leading share of the total outstanding MSME loan amount among the outlined banks, accounting for about 41.6% of the total amount as of March 2022. This is followed by Punjab National Bank with 13.7% and Canara Bank with 9.1%. The magnitude shows a large participation of SBI in the MSME loan sector as compare to other public sector banks counterparts.

During this analysis, a prominent growth in the amount of MSME loans outstanding in public sector banks over the experiential period is clear. The rising trend across most banks underscores a sustained financial commitment to the MSME sector. The composition additionally shows the important role of the State Bank of India in this sector among the mentioned public sector banks, with an important growth in outstanding loan amounts over the years.

Table 4.4: Amount of MSME Loans Outstanding in Private Sector Banks**(Amount In Crores)**

Banks	March 2015	March 2016	March 2017	March 2018	March 2019	March 2020	March 2021	March 2022
AXIS BANK	1184	1299	1760	2291	3591	3979	2375	7085
HDFC BANK	3088	3930	4843	4695	8939	9285	9938	21947
ICICI BANK	2506	3117	3569	4566	7252	7419	8427	10254
KMB	441	720	977	1663	1855	1847	2359	3902
YES BANK	261	452	650	958	1596	1512	1866	2267

Source: State Level Bankers Committee, Haryana

Table 4.4 provides a glance into the amount of Micro, Small, and Medium Enterprises (MSME) loans outstanding in various private sector banks (PVSBs) from March 2015 to March 2022, as recognized by the State Level Bankers Committee, Haryana. Based on the data available from the State Level Bankers Committee, Haryana, during March 2022, MSME loans of Rs. 21947 crore from HDFC Bank and MSMEs loans of Rs. 10254 crore from ICICI Bank were found to be outstanding. Their outstanding MSMEs loans are higher than those from Axis Bank, Kotak Mahindra Bank, and Yes Bank. The analysis of Table 4.4 shows a prominent growth in the quantum of MSME loans presented by private sector banks over the given period, with a marked upward trend in outstanding loan amounts. The magnitude of growth in HDFC Bank and Axis Bank is significant, contributing extensively to the overall MSME loan portfolio among the PVSBs. This trend indicates an increasing financial involvement and shore-up by private sector banks towards the MSME sector. The composition reflects an important focus on MSME loan amounts at HDFC Bank and ICICI Bank, pointing towards their important role in this sector among their private sector counterparts.

Table 4.5: Number of NPA accounts against MSME Loans Outstanding in PSBs

Banks	March 2015	March 2016	March 2017	March 2018	March 2019	March 2020	March 2021	March 2022
BOB	488	412	425	490	2261	2268	3118	2902
BOI	147	1771	1910	1095	1828	1806	2263	2354
CB	785	1853	1677	2026	3054	7387	4398	9858
PNB	10153	11417	12292	11496	1993	16394	18107	23979
SBI	6117	6052	6264	8741	14279	7341	8198	7332

Source: State Level Bankers Committee, Haryana

The database of the State Level Bankers Committee, Haryana, in table 4.5 shows the number of non-performing asset (NPA) accounts related to the MSME Loans Outstanding in Public Sector Banks from March 2015 to March 2022. The data indicates an increasing quantum of NPA accounts in public sector banks from March 2015 to March 2022. The total NPA accounts increased from 10,153 in March 2015 to 23,979 in March 2022, showing a considerable increase in the quantum of NPA accounts at Punjab National Bank. So, the highest magnitude of NPA accounts was found at Punjab National Bank. A significant increase in the quantum of NPA accounts was found at Canara Bank in March 2022, with 9,858 NPA accounts. The magnitude of NPA accounts in the remaining banks is lesser in contrast but still shows an increasing trend. The tendency of NPA accounts of preferred public sector banks has been increasing from year to year. A remarkable increment is observed at Punjab National Bank and Canara Bank. Still, the State Bank of India shows a decrease in NPA accounts in the later years, from 14,279 in March 2019 to 7,332 in March 2022. From the composition of NPA accounts point of view, it's evident that Punjab National Bank holds the major share of NPA accounts amongst the other public sector banks, especially in the later years. The ratio of NPA accounts in Canara Bank also grew notably, whereas the other banks have a lesser share in evaluation. The analysis of Table 4.5 sheds light on the increasing quantum and magnitude of NPA accounts in PSBs over the experimental time. The rising tendency, especially in Punjab National Bank and Canara Bank, signals a concerning blueprint for increasing non-performing assets in the MSME unit. The composition of NPA accounts is slanted a lot towards

Punjab National Bank, representing a requirement for possibly more healthy risk management and recovery practices. The State Bank of India shows a declining tendency in the later years, which may be analytic of better risk improvement strategies or loan recovery efforts being engaged.

Table 4.6: Accounts of NPAs out of MSME Loans Outstanding in PVSBS

BANKS	March 2015	March 2016	March 2017	March 2018	March 2019	March 2020	March 2021	March 2022
AXIS BANK	28	33	52	106	111	134	100	430
HDFC BANK	521	1000	2561	5146	6664	5359	5860	1425
ICICI BANK	NA	1310	1494	144	2198	1982	3497	1597
KMB	51	33	137	173	338	358	268	310
YES BANK	NA	99	NA	26	87	124	206	86

Source: State Level Bankers Committee, Haryana

The database of the State Level Bankers Committee, Haryana, in Table 4.6 provides data concerning the accounts of non-performing loans out of MSME loans outstanding in private sector banks from March 2015 to March 2022. The quantum of NPA accounts in PVSBS presents a common increase over the period, even though there are variations among the banks. The total NPA accounts improved from 600 in March 2015 (not including the data not available) to 4,848 in March 2022. HDFC Bank showed a major magnitude of NPA accounts, increasing to 5,860 in March 2021 before falling to 1,425 in March 2022. ICICI Bank also showed a prominent magnitude with 3,497 NPA accounts in March 2021, even though the facts fluctuated significantly over the period.

The magnitude of NPA accounts in the supplementary banks is lesser, with Axis Bank viewing a prominent increase to 430 by March 2022. The trend is assorted among the banks. HDFC Bank and ICICI Bank showed important growth in NPA accounts, with fluctuations in between. Axis Bank also presented a rising tendency, mainly visible between March 2021 and March 2022. On the contrary, the NPA accounts in Kotak Mahindra Bank and Yes Bank remained fairly constant or even decreased, displaying a descending drift towards March 2022. In terms of composition, ICICI Bank and HDFC Bank followed with the largest share of NPA accounts among the PVSBS for the

majority of the phase. Alternatively, by March 2022, the share of HDFC Bank had reduced drastically, while that of Axis Bank had improved significantly. The analysis of Table 4.6 underscores a varied image concerning the quantum and magnitude of NPA accounts in PVSBS across the different years. The rising tendency in NPA accounts in some banks like ICICI Bank and HDFC Bank, with a vital rise in Axis Bank towards the end, denotes a spot of worry. The composition across the banks shows the leading share of HDFC Bank and ICICI Bank in the NPA accounts, hinting at the probable threat concentrations in these banks. Nevertheless, the major fall in NPA accounts in HDFC Bank in March 2022, besides relatively constant or descending trends in Kotak Mahindra Bank and Yes Bank, might specify some level of risk mitigation or improved recovery actions being engaged.

Table 4.7: Amount of NPA out of MSME Loans Outstanding in PSBs

(Amount in Crores)

Banks	March 2015	March 2016	March 2017	March 2018	March 2019	March 2020	March 2021	March 2022
BOB	73	68	70	70	148	149	217	95
BOI	81	176	395	233	181	182	259	302
CB	148	440	561	594	789	774	754	797
PNB	701	703	599	971	1332	1725	1333	1703
SBI	317	303	297	1589	385	415	365	203

Source: State Level Bankers Committee, Haryana

The database of the State Level Bankers Committee, Haryana, in Table 4.7 provides data concerning the amount of non-performing loans out of MSME loans outstanding in public sector banks (PSBs) from March 2015 to March 2022. The quantum of outstanding NPA amounts in public sector banks shows variations over the period observed. In March 2015, the total NPA amount stood at Rs. 1,320 crores, which fluctuated over the years to reach Rs. 3,100 crores in March 2022. Amongst the PSBs, Punjab National Bank (PNB) constantly holds the maximum degree of NPA amounts all over the period, peaking at Rs. 1,725 crores in March 2020. Canara Bank also shows a prominent degree, with the NPA amount increasing from Rs. 148 crore in March 2015 to Rs. 797 crore in March 2022. The tendency varies across the banks. PNB shows a considerable rise in NPA amount from March 2015 to March 2020,

followed by a slender decline after that. Similarly, Canara Bank has shown a stable, rising tendency over the years. On the other hand, the State Bank of India showed a remarkable spike in March 2018, followed by a falling tendency in the subsequent years. Bank of Baroda and Bank of India show irregular trends over the period, with a visible decrease in NPA amount for Bank of Baroda in March 2022. The composition of NPA amounts indicates that Punjab National Bank, followed by Canara Bank, constitutes a major share of the NPAs in the selected Public Sector Banks section, particularly in the later years. The State Bank of India, on the other hand, holds a lesser share, with its involvement decreasing considerably post March 2018.

The analysis of Table 4.7 shows the fluctuations and differences in the quantum and degree of NPA amounts across the public sector banks over the observed phase. The rising trend in NPA amounts in banks like Canara Bank and Punjab National Bank signifies an alarm that necessitates consideration for risk mitigation and recovery actions. The composition shows the different assistance of different banks to the NPA amounts, with Punjab National Bank and Canara Bank forming the main shares, representing possible areas of focus for addressing the NPA matter in the Public Sector Bank segment. The data suggests a requirement for resistant strategies to manage and trim down NPAs, particularly in banks with important NPA amounts and increasing trends.

Table 4.8: Amount of NPA out of MSME Loans Outstanding in PVSBS

(Amount in Crores)

Banks	March 2015	March 2016	March 2017	March 2018	March 2019	March 2020	March 2021	March 2022
AXIS BANK	4	6	21	53	56	50	47	82
HDFC BANK	37	82	94	93	148	136	99	258
ICICI BANK	NA	63	100	60	208	178	337	180
KMB	2	6	20	29	42	24	24	32
YES BANK	NA	NA	NA	171.77	19	28.23	56	25

Source: State Level Bankers Committee, Haryana

The database of the State Level Bankers Committee, Haryana, in table 4.8 provides data concerning the amount of non-performing loans out of MSME loans outstanding in private sector banks (PVSBS) from March 2015 to March 2022. The quantum of NPAs in private sector banks explains variations across the years. The total NPA amount was Rs. 43 crores in March 2015, which improved to Rs. 577 crores in March 2022. The whole quantum of NPAs has stretched over the years, representing a rising alarm in the private sector banks regarding NPAs associated with MSME loans. The extent of NPAs is the highest in HDFC Bank among the private sector banks, especially in March 2022, whereas the NPA amount stood at Rs. 258 crore. On the contrary, Kotak Mahindra Bank and Axis Bank show lesser magnitudes of NPAs during the phase observed, with Kotak Mahindra Bank having the lowest degree for most of the period. The trend reveals a common rise in NPA amounts over the years across the banks, with HDFC Bank and ICICI Bank seeing prominent increments. HDFC Bank, in particular, shows a momentous rising point in March 2022. Conversely, Axis Bank and Kotak Mahindra Bank keep relatively constant NPA amounts with minor increases. Yes Bank, after a momentous point in March 2018, shows a declining trend in the subsequent years. The composition of NPA amounts reflects that HDFC Bank and ICICI Bank donate a considerable share of the NPAs in the Private Sector Bank segment, particularly in the later years. The share of NPAs from KMB, Axis Bank, and Yes Bank is relatively smaller, with Kotak Mahindra Bank having the minimum share for the majority of the period. In summary, Table 4.8 presents the quantum, magnitude, trend, and composition of NPAs in the Private Sector Bank segment, showing a common increasing trend in NPA amounts, particularly in HDFC Bank. The larger size of NPAs in HDFC Bank and ICICI Bank suggests a need for better risk management and recovery actions in these banks. The composition further explains an unbalanced input to NPAs from different banks, suggesting different levels of risk disclosure and management effectiveness among the private sector banks in managing NPAs in MSME loans. The statistics underscore the significance of addressing the NPA issue to ensure the financial constancy and sustainability of the private sector banking sector.

Table 4.9: %age of NPA Accounts under MSME Loans in PSBs

Banks	March 2015	March 2016	March 2017	March 2018	March 2019	March 2020	March 2021	March 2022
BOB	8.32	6.66	7.09	6	12	12	12	10
BOI	NA	26.52	26.93	16	21	20	18	19
CB	10.50	9.52	7.51	8	12	19	9	22
PNB	44.20	24.13	24.17	22	27	21	23	30
SBI	8.84	10.10	8.84	13	21	25	23	23

Source: State Level Bankers Committee, Haryana

The database of the State Level Banker Committee, Haryana, in Table 4.9 presents the data relating to the percentage of non-performing asset accounts under MSME loans in public sector banks from March 2015 to March 2022. The quantum of the NPA percentage shows the ratio of MSME loan accounts that have turned non-performing. A visible quantum of NPAs is observed in Punjab National Bank (PNB) across all years, with a high of 44.20% in March 2015, at the same time as other banks have lesser percentages of NPAs. In terms of degree, Punjab National Bank reflects the peak percentage of NPA accounts across all years, reaching a peak of 44.20% in March 2015. The degree of NPA percentages is significantly lower in other banks, with Bank of Baroda having the lowest magnitude in March 2016 at 6.66%. The trend of NPA percentages at selected banks varies from year to year. PNB indicated a declining trend until March 2019 and, after that, an increasing trend, reaching 30% in March 2022. The State Bank of India indicates an escalating inclination over the years, moving from 8.84% in March 2015 to 23% in March 2022. The Bank of India had a spiky decline between March 2016 and March 2018, but after that, it remained around 18%–21% from March 2018 to March 2022. Canara Bank has had variations over the years, increasing to 22% in March 2022. Bank of Baroda reflects a declining trend from 12% in March 2019 to 10% in March 2022. In terms of composition, Punjab National Bank constitutes the maximum share of NPA percentages among the public sector banks for the majority of the years, followed by the State Bank of India in the later years. Bank of Baroda and Canara Bank have a smaller scope of NPA percentages, and Bank of India had an important share in

March 2016 and March 2017 but a lesser proportion in the subsequent years.

The data reflects a level of NPAs, mainly in Punjab National Bank, and a growing trend in the State Bank of India, underscoring the need for improved risk supervision and recovery efforts in these banks. The unstable levels of NPA percentages across the banks also emphasize the differential risk disclosure and effectiveness of risk management practices among the public sector banks. It is crucial for the banks and regulatory authorities to tackle the NPA problem to ensure the financial strength and sustainability of the MSME segment, which is an imperative provider of economic development and employment creation.

Table 4.10: %age of NPA Accounts under MSME Loans in Private Sector Banks

Banks	March 2015	March 2016	March 2017	March 2018	March 2019	March 2020	March 2021	March 2022
AXIS BANK	2%	2%	1%	2%	1%	1%	1%	2%
HDFC BANK	1%	1%	2%	4%	4%	3%	3%	5%
ICICI BANK	NA	5%	5%	0%	5%	4%	7%	4%
KMB	1%	1%	2%	1%	3%	3%	2%	3%
YES BANK	0%	0%	0%	1%	2%	3%	3%	1%

Source: State Level Bankers Committee, Haryana

The database of the State Level Bankers Committee, Haryana, in table 4.10 gives the percentage of NPA (non-performing asset) accounts under Micro, Small, and Medium Enterprises loans in private sector banks for different years from March 2015 to March 2022. The NPA percentages of private sector banks fluctuate year to year. HDFC Bank has the maximum NPA percentage in March 2022, getting 5%, while ICICI Bank and Axis Bank also have comparatively high NPA percentages. Kotak Mahindra Bank has a reasonable NPA percentage, and Yes Bank has lower percentages in the majority of years. HDFC Bank stands out with the highest NPA percentage, representing a higher magnitude of NPAs within MSME loans in this particular bank. ICICI Bank and Axis Bank also have a comparatively high degree of NPAs within their MSME loan portfolios. Kotak Mahindra Bank has a reasonable

magnitude of NPAs, and Yes Bank has a lesser magnitude in most years. HDFC Bank represents a growing trend in NPA percentages over the years, departing from 1% in March 2015 to 5% in March 2022. ICICI Bank practiced variations in NPA percentages but showed a climax of 7% in March 2021. KMB, Axis Bank, and Yes Bank also showed variations in their NPA percentages. HDFC Bank has a high composition of NPAs within its MSME loan portfolio because of its higher NPA percentages. ICICI Bank and Axis Bank also have an important composition of NPAs. Kotak Mahindra Bank and Yes Bank have relatively lesser compositions of NPAs within their MSME loan portfolios.

The data represents fluctuations in NPA percentages, magnitudes, and trends of selected private sector banks in their MSME loan portfolios. Particularly, HDFC Bank has a high NPA percentage and magnitude, representing a requirement for stronger risk management and NPA recovery actions. Supplementary banks like ICICI Bank and Axis Bank also have remarkable NPA percentages. Effective risk appraisal and management strategies are important to preserve the eminence of MSME loan portfolios in these banks.

Table 4.11: %age of NPA Amount under MSME Loans in PSBs

Banks	March 2015	March 2016	March 2017	March 2018	March 2019	March 2020	Mar 2021	Mar 2022
BOB	15.53 %	11.28%	9.30%	7%	7%	8%	8%	5%
BOI	NA	NA	26.03%	15%	19%	19%	23%	24%
CB	0.00%	1.49%	18.56%	17%	24%	22%	19%	21%
PNB	4.72%	7.17%	13.31%	18%	28%	22%	18%	25%
SBI	0.00%	0.00%	2.62%	9%	2%	2%	2%	2%

Source: State Level Bankers Committee, Haryana

The database of the State Level Bankers Committee, Haryana, in table 4.11 informs the percentage of NPA (non-performing asset) amounts under MSMEs loans in public sector banks for different years from March 2015 to March 2022. In terms of the quantum, trend, and composition of NPAs within MSME loans of selected public sector banks, the NPA percentage changes from year to year. Bank of India has the maximum NPA percentage, getting 26.03% in March 2017 and gradually declining to

24% in March 2022. Canara Bank also had an important NPA percentage, opening at 18.56% in March 2017 and attaining 21% in March 2022. The NPA percentage of the State Bank of India, Bank of Baroda, and Punjab National Bank was found to be lower as compared to the Bank of India and Canara Bank. A higher magnitude of NPAs in terms of highest NPA percentages within MSME loans was found in the selected public sector banks, which have comparatively lesser NPA percentages, suggesting a lower degree of NPAs in their MSME loan portfolios.

A continuous decrease in the NPA percentage of Bank of Baroda was found, from 15.53% in March 2015 to 5% in March 2022. Canara Bank, Bank of India, and Punjab National Bank have faced fluctuations in their NPA percentages, with some years seeing increases and others seeing decreases. The State Bank of India has maintained a comparatively constant NPA percentage over the years. Bank of India and Canara Bank have a high composition of NPAs within their MSME loan portfolios because of their higher NPA percentages. Canara Bank, Bank of India have a comparatively higher composition of NPAs in their MSME loan portfolios. The data signifies fluctuations in NPA percentages, magnitudes, and trends across different public sector banks in their MSME loan portfolios. Higher NPA percentages at the Bank of India and Canara Bank indicate a requirement for stronger risk management and NPA recovery actions. Canara Bank and Bank of India have comparatively higher NPA percentages, signifying improved asset quality within their MSME loan portfolios. Effective risk measurement and management strategies are essential to maintaining the health of MSME loan portfolios in these banks.

Table 4.12: %age of NPA Amount under MSME Loans in PVSBs

Banks	March 2015	March 2016	March 2017	March 2018	March 2019	March 2020	March 2021	March 2022
AXIS Bank	NA	NA	1%	2%	2%	1%	2%	1%
HDFC Bank	1.18%	2.08%	1.93%	2%	2%	1%	1%	1%
ICICI Bank	NA	2%	3%	1%	3%	2%	4%	2%
KMB	NA	1%	2%	2%	2%	1%	1%	1%
Yes Bank	0.14%	NA	NA	18%	1%	2%	3%	1%

Source: State Level Bankers Committee, Haryana

Table 4.12 reflects the results of Micro, Small, and Medium Enterprises NPAs of selected private sector banks in Haryana in terms of percentage of NPA amounts under Micro, Small, and Medium Enterprises loans for various years from March 2015 to March 2022. The NPA percentages of Axis Bank in micro, small, and medium enterprises increased from 1% in March 2017 to 2% in March 2018, remained constant at 2% in March 2019, and after that decreased to 1% in March 2020 and 2022. NPA percentages at Axis Bank remained comparatively low, indicating that the amount of NPA under MSME loans was not very high. The NPA percentages in MSME loans at HDFC Bank fluctuated within a slight series, peaking at 2.08% in March 2016 and remaining constant at 1% from March 2020 to March 2022. HDFC Bank maintained a reasonable level of NPA, with percentages normally below 2%. Variations were found in the micro, small, and medium enterprises NPA percentages of ICICI Bank, with an increment of 4% in March 2021. They were moderately low in March 2015 and March 2018. The NPA percentages of ICICI Bank recommend fluctuations in the quantum of NPA under MSME loans, with a higher degree in 2021. MSME NPA percentages at Kotak Mahindra Bank remained constant between 1% and 2% all over the period. The bank maintained a reasonable level of NPA, with percentages constantly below 2%. Yes Bank faced an important spike in MSME NPA percentage in March 2018 at the rate of 18%, which was an irregularity in the trend, as percentages were usually low in other years (ranging from 0.14% to 3%). While Yes Bank had comparatively low NPA percentages in most years, the size of the NPA increased considerably in March 2018. Most banks in the table managed to maintain their MSME NPA percentages at a reasonable level, showing reasonably good asset superiority. The overall trend appears to be comparatively constant for most banks, except for Yes Bank's important spike in 2018, which may have been a reason for distress. The composition of MSME NPAs in selected private sector banks seems to be controllable, with most banks maintaining NPA percentages within a moderate range, considering their MSME loan portfolios. While fluctuations in NPA percentages are observed, the banks in this analysis usually maintained a sensible level of asset excellence in their MSME loan portfolios, with the exception of Yes Bank's anomaly in 2018. Monitoring and Managing NPAs are necessary for ensuring the economic power and sustainability of banks and sustaining the

development of the MSME sector.

Table 4.13: Number of Accounts of MSME Advances granted as Collateral Free in Public Sector Banks

Banks	March 2015	March 2016	March 2017	March 2018	March 2019	March 2020	March 2021	March 2022
BOB	827	3165	3319	3965	6796	6796	6912	7123
BOI	0	NA	3015	3047	1615	1636	10270	10176
CB	14414	13180	15500	660	12572	23223	9541	8846
PNB	16472	20773	18041	20218	30704	42576	60681	56842
SBI	5386	10285	10385	17845	13487	11421	11817	10674

Source: State Level Bankers Committee, Haryana

Table 4.13 represents the outcome of the number of accounts of micro, small, and medium enterprises granted advances granted as collateral-free in Public Sector Banks for various years from March 2015 to March 2022, focusing on the quantum, magnitude, trend, and composition of MSME accounts.

The number of collateral-free MSME accounts in the Bank of Baroda improved gradually over the years, from 827 in March 2015 to 7,123 in March 2022. Bank of Baroda had a comparatively lower number of collateral-free MSME accounts compared to some other banks, but it constantly enlarged over time. Bank of India found considerable development in collateral-free MSME accounts, from 0 in March 2015 to 10,176 in March 2022. The bank considerably enhanced its number of collateral-free MSME accounts, representing a considerable attempt to support the sector. Canara Bank's collateral-free MSME accounts showed variations over the years but increased overall, reaching 8,846 in March 2022. The bank had a considerable number of collateral-free MSME accounts, with variations in size reflecting changes in its support to the sector. Punjab National Bank presented reliable development in collateral-free MSME accounts, from 16,472 in March 2015 to 56,842 in March 2022. The bank had a considerable number of collateral-free MSME accounts and verified an obligation to sustain this section. State Bank of India's collateral-free MSME accounts increased from 5,386 in March 2015 to 10,674

in March 2022, with some variations. As the prevalent public sector bank, the State Bank of India maintained a considerable number of collateral-free MSME accounts.

On the whole, a positive trend was found in the number of collateral-free MSME accounts among these selected public sector banks, showing their hard work to maintain the MSME sector. Punjab National Bank had the biggest number of such accounts, followed by the State Bank of India. Bank of India exhibited outstanding development in this regard, starting from zero accounts in 2015. The trend of Canara Bank, while positive, showed variations in the number of accounts over the years. Bank of Baroda had a reasonably lesser number of collateral-free MSME accounts, but it verified reliable enlargement. The data presents an obligation by these public sector banks to offer collateral-free support to the MSME segment. The trends demonstrate a reliable attempt to increase the number of such accounts, which is necessary for the expansion and development of MSMEs, as they frequently lack important collateral for traditional loans.

Table 4.14: Number of Accounts of MSMEs Advances Granted as Collateral Free in Private Sector Banks

Banks	March 2015	March 2016	March 2017	March 2018	March 2019	March	March 2021	March 2022
Axis Bank	NA	1	4	4	NA	1	134	134
HDFC Bank	27145	1587	104752	115928	178983	185565	184898	50062
ICICI Bank	NA	NA	9111	22371	31127	31127	552	388
KMB	NA	0	0	0	0	0	0	0
Yes Bank	NA	0	0	0	0	0	0	0

Source: State Level Bankers Committee, Haryana

Table 4.14 presents the outcome of the number of accounts of Micro, Small, and Medium Enterprises advances granted as collateral-free in private sector banks for various years from March 2015 to March 2022, focusing on the quantum, magnitude, trend, and composition of MSME accounts. Axis Bank's collateral-free MSME accounts varied over the years, with considerable increases in March 2021 and March

2022, with 134 accounts. Axis Bank had a comparatively low number of collateral-free MSME accounts as compared to other banks. HDFC Bank showed considerable development in collateral-free MSME accounts, with a remarkable increase from 27,145 in March 2015 to 185,565 in March 2020. On the other hand, the number decreased significantly to 50,062 in March 2022. HDFC Bank primarily had a large number of collateral-free MSME accounts but practiced a reduction in degree by 2022. ICICI Bank's collateral-free MSME accounts showed a changeable trend, with a considerable increase in 2018 and 2019, peaking at 31,127 accounts. The number decreased to 388 accounts in March 2022. ICICI Bank had a considerable number of collateral-free MSME accounts, but the magnitude decreased considerably by 2022. Kotak Mahindra Bank did not provide information about any collateral-free MSME accounts over the period. The bank did not have any collateral-free MSME accounts, representing a lack of this specific contribution. Similar to Kotak Mahindra Bank, Yes Bank did not report any collateral-free MSME accounts throughout the period. The bank did not have any collateral-free MSME accounts, indicating a lack of this specific offering. HDFC Bank initially had a large number of collateral-free MSME accounts, representing a strong focus on sustaining MSMEs without the need for collateral. However, this number will decrease extensively by 2022. ICICI Bank also had a considerable number of collateral-free MSME accounts, but their magnitude had reduced considerably by 2022. Axis Bank showed an outstanding increase in collateral-free MSME accounts in 2021 and 2022, suggesting a rehabilitated focus on this segment. Kotak Mahindra Bank and Yes Bank did not present collateral-free MSME accounts during the period, showing a probable gap in their MSME support contributions. The data reveals changeable approaches to collateral-free MSME lending among private sector banks. Some banks primarily had a considerable number of such accounts, while other banks did not offer this specific product. The trend suggests that some banks have either reduced their focal point on collateral-free MSME lending or faced challenges in maintaining the degree of such accounts over time.

Table 4.15: Amount of MSME advances granted as Collateral Free loans in PSBs
(Amount in Crores)

Banks	March 2015	March 2016	March 2017	March 2018	March 2019	March 2020	March 2021	March 2022
BOB	52	53	59	75	1799	1799	1800	1851
BOI	0	0	442	48	39	40	153	153
CB	977	2010	789	15	466	990	437	260
PNB	743	2029	846	1096	18	115	56	4318
SBI	5789	7156	7122	4566	986	927	812	1056

Source: State Level Bankers Committee, Haryana

Table 4.15 presents the outcome of the amount of Micro, Small, and Medium Enterprises advances granted as collateral-free loans in Public Sector Banks (PSBs) for various years from March 2015 to March 2022, focusing on the quantum, magnitude, trend, and composition of MSME advances. Bank of Baroda's collateral-free MSME advances showed a regular increase over the years, from Rs. 52 crores in March 2015 to Rs. 1,851 crores in March 2022.

The bank started with a comparatively low amount but constantly increased the quantum of collateral-free MSME advances. The Bank of India's collateral-free MSME advances showed fluctuations over the years, peaking at Rs. 442 crores in March 2017 and remaining comparatively constant at Rs. 153 crores in March 2021 and 2022. The bank's quantum of collateral-free MSME advances remained comparatively low compared to other years, and the magnitude did not show considerable growth. Canara Bank's collateral-free MSME advances had variations but showed an increase from Rs. 15 crore in March 2018 to Rs. 260 crore in March 2022. Canara Bank has considerably increased the quantum of collateral-free MSME advances in recent years.

Punjab National Bank's collateral-free MSME advances demonstrated fluctuations but showed a considerable increase from Rs. 18 crores in March 2019 to Rs. 4,318 crores in March 2022. PNB had a significant increase in the quantum of collateral-free MSME advances, reflecting an obligation to sustain this sector.

The State Bank of India's collateral-free MSME advances fluctuated but showed a regular increase, reaching Rs. 1,056 crores in March 2022. As the largest public sector bank, the State Bank of India maintained a relatively higher quantum of collateral-free MSME advances compared to other banks.

A positive trend in the quantum of collateral-free MSME advances of these selected public sector banks was found, indicating their hard work to support MSMEs without requiring collateral. Punjab National Bank and Bank of Baroda showed significant increases in their collateral-free MSME advances, reflecting an obligation to sustain this sector. The magnitude of the Bank of India remained relatively low compared to other banks, and Canara Bank demonstrated considerable development in recent years. The State Bank of India maintained a comparatively higher quantum of collateral-free MSME advances compared to other banks but with variations.

The data reveals varying approaches to collateral-free MSME lending among public sector banks. While some banks consistently increased their quantum of collateral-free MSME advances, others exhibited fluctuations or had relatively lower magnitudes. The trend suggests an overall commitment to supporting MSMEs without the need for collateral in the public banking sector.

Table 4.16: Amount of MSME advances granted as Collateral Free loans in Private Sector Banks

(Amount in Crores)

Banks	March 2015	March 2016	March 2017	March 2018	March 2019	March 2020	March 2021	March 2022
Axis Bank	NA	NA	2	2	NA	NA	78	78
HDFC Bank	797	8196	1560	1575	1971	2060	1689	2993
ICICI Bank	NA	NA	430	1629	1223	1223	30	23
KMB	NA	NA	NA	NA	NA	NA	0	0
Yes Bank	NA	NA	NA	NA	NA	NA	0	0

Source: State Level Bankers Committee, Haryana

Table 4.16 reflects the outcome of the amount of micro, small, and medium enterprises advances granted as collateral-free loans in selected private sector banks for various years from March 2015 to March 2022, focusing on the quantum, magnitude, trend, and composition of MSME advances. Collateral-free MSME advances at Axis Bank showed a growing trend, starting at Rs. 2 crore in March 2017 and reaching Rs. 78 crore in March 2022. The bank regularly increased the quantum of collateral-free MSME advances, showing its obligation to sustain this section. HDFC Bank showed variations in collateral-free MSME advances over the years, with an increase of Rs. 8,196 crore in March 2016. The amount decreased to Rs. 2,993 crore in March 2022. The HDFC bank primarily had a considerable degree of collateral-free MSME advances but reduced it over time. Collateral-free MSME advances at ICICI Bank showed fluctuations but decreased overall from Rs. 1,629 crores in March 2018 to Rs. 23 crores in March 2022. ICICI Bank had a significant magnitude of collateral-free MSME advances primarily, but it decreased considerably over time. Kotak Mahindra Bank did not provide any data about collateral-free MSME advances during the entire period. The bank did not provide collateral-free MSME advances, showing a lack of this specific product. Similar to Kotak Mahindra Bank, Yes Bank did not present any data about collateral-free MSME advances during the entire period. The bank did not provide collateral-free MSME advances, showing a lack of this specific product. Axis Bank showed constant assurance to increase the quantum of collateral-free MSME advances over the years. HDFC Bank primarily had a high magnitude of collateral-free MSME advances but concentrated it significantly by 2022. ICICI Bank also primarily had a high degree of collateral-free MSME advances but decreased it over time. Kotak Mahindra Bank and Yes Bank did not provide collateral-free MSME advances, showing a lack of this specific product.

The data presents changeable approaches to collateral-free MSME lending among private sector banks. While some banks constantly increased their quantum of collateral-free MSME advances, others showed fluctuations or did not provide this product. The trend explains that maintaining a high magnitude of collateral-free MSME advances can be difficult for some private sector banks, as they may have faced varying business strategies or market conditions over the years.

Table 4.17: Number of NPA Accounts out of MSME advances granted as Collateral Free in PSBs

Banks	March 2015	March 2016	March 2017	March 2018	March 2019	March 2020	March 2021	March 2022
BOB	81	22	NA	385	1705	1705	1659	1951
BOI	0	NA	0	620	582	580	1324	1735
CB	0	142	1981	604	1544	3875	1259	2551
PNB	4287	7142	7029	5485	9860	12892	16957	11892
SBI	NA	NA	276	2151	2790	2363	2186	1998

Source: State Level Bankers Committee, Haryana

Table 4.17 presents the number of Non-Performing Asset accounts out of Micro, Small, and Medium Enterprises advances granted as collateral-free in Public Sector Banks from March 2015 to March 2022. NPA accounts out of the collateral-free MSME advances of the Bank of Baroda showed fluctuations, with an increase of 1,951 accounts in March 2022. NPA accounts out of the collateral-free MSME advances of the Bank of India reached 1,735 accounts in March 2022. Canara Bank's NPA accounts out of collateral-free MSME advances showed fluctuations, with an increase of 2,551 accounts in March 2022. Punjab National Bank is leading in NPA accounts out of collateral-free MSME advances, with an increase of 11,892 accounts in March 2022. NPA accounts out of collateral-free MSME advances of the State Bank of India decrement to 1,998 accounts in March 2022. The data shows that selected public sector banks are facing troubles handling NPA accounts within collateral-free MSME advances, with fluctuations and changeable magnitudes. Punjab National Bank, in particular, had a considerable magnitude of NPA accounts within this sector, showing the requirement for effective risk management in collateral-free lending to MSMEs. Monitoring and addressing NPA accounts within collateral-free MSME advances are important for maintaining the economic potency of these banks and sustaining the growth of the MSME sector.

Table 4.18: Number of NPA Accounts out of MSME advances granted as Collateral Free in PVSBs

Banks	March 2015	March 2016	March 2017	March 2018	March 2019	March 2020	March 2021	March 2022
Axis Bank	NA	NA	NA	NA	0	0	NA	0
HDFC Bank	482	NA	1014	13403	6544	5239	3698	1214
ICICI Bank	NA	NA	815	90	2198	1982	0	0
KMB	NA	NA	NA	NA	NA	0	0	0
Yes Bank	NA	NA	NA	NA	NA	0	0	0

Source: State Level Bankers Committee, Haryana

Table 4.18 demonstrates the outcome of the number of non-performing asset accounts out of Micro, Small, and Medium Enterprises advances granted as collateral-free in selected private sector banks for various years from March 2015 to March 2022, focusing on the quantum, magnitude, trend, and composition of NPA accounts within collateral-free MSME advances. NPA accounts within collateral-free MSME advances of Axis Bank did not provide any information about NPAs until March 2020, and from then until March 2022, they remained at zero. Axis Bank had no reported NPA accounts within collateral-free MSME advances during the whole period. HDFC Bank's NPA accounts within collateral-free MSME advances showed changes over the years. The number increased drastically in March 2018 and reached 13,403 accounts. By March 2022, it had decreased to 1,214 accounts. The HDFC bank had a changeable magnitude of NPA accounts within collateral-free MSME advances, with a significant rise in 2018. ICICI Bank's NPA accounts within collateral-free MSME advances also changed over the years, with an increase of 2,198 accounts in March 2019 and 2020. They decreased to zero by March 2021 and remained at zero in March 2022. ICICI Bank had an unstable magnitude of NPA accounts within collateral-free MSME advances, with a recent decrease to zero. Kotak Mahindra Bank did not provide any information about NPA accounts within collateral-free MSME advances during the whole period. The bank had no reported

NPA accounts within collateral-free MSME advances, showing effective risk management in this sector. Similar to Kotak Mahindra Bank, Yes Bank did not provide any information about NPA accounts within collateral-free MSME advances during the whole period. Yes bank had no reported NPA accounts within collateral-free MSME advances, also indicating effective risk management. KMB, Axis Bank, and Yes Bank maintained clean documentation with zero reported NPA accounts within collateral-free MSME advances throughout the period. HDFC Bank and ICICI Bank had variations in NPA accounts, with significant increases in the number of NPAs in certain years. Both HDFC Bank and ICICI Bank showed a falling tendency in NPA accounts within collateral-free MSME advances in recent years.

The data shows changing levels of success in managing NPA accounts within collateral-free MSME advances among private sector banks. Some banks maintained clean and proper documentation with zero NPAs, while others faced fluctuations and changeable magnitudes in NPA accounts. Effective risk management practices are essential to maintaining the economic force of these banks and sustaining the growth of the MSME sector.

Table 4.19: Amount of NPAs out of MSME advances granted Collateral Free in Public Sector Banks

(Amount in Crore)

Banks	March 2015	March 2016	March 2017	March 2018	March 2019	March 2020	March 2021	March 2022
BOB	8	6	NA	66	95	95	97	111
BOI	0	NA	0	6	9	9	27	32
CB	0	30	561	7	46	142	44	257
PNB	35.08	146	205	161	5	20	12	946
SBI	NA	NA	190	478	79	68	51	54

Source: State Level Bankers Committee, Haryana

Table 4.19 indicates the consequences of the amount of non-performing loans out of Micro, Small, and Medium Enterprises advances granted as collateral-free loans in selected public sector banks for various years from March 2015 to March 2022, focusing on the quantum, magnitude, trend, and composition of NPAs within collateral-free MSME advances. The NPA amount within the collateral-free MSME

advances of Bank of Baroda showed variations but improved overall from Rs. 8 crore in March 2015 to Rs. 111 crore in March 2022. The bank had changeable magnitudes of NPA amounts within collateral-free MSME advances, with a prominent increase in recent years. The Bank of India's NPA amount within collateral-free MSME advances changed, rising to Rs. 32 crore in March 2022. The bank had changeable magnitudes of NPA amounts within collateral-free MSME advances, with a recent increase. Canara Bank's NPA amount within collateral-free MSME advances showed changes, with a rise of Rs. 257 crore in March 2022. The bank had varying magnitudes of NPA amounts within collateral-free MSME advances, with a prominent increase in recent years. Punjab National Bank showed fluctuations in the NPA amount within collateral-free MSME advances, with an increase of Rs. 946 crore in March 2022. The bank had a considerable magnitude of NPA amounts within collateral-free MSME advances, presenting challenges in managing asset quality within this segment. The State Bank of India's NPA amount within collateral-free MSME advances showed fluctuations but increased to Rs. 54 crore in March 2022. The bank had changeable magnitudes of NPA amounts within collateral-free MSME advances, with a recent increase. The data represents fluctuations in the amount of NPA within collateral-free MSME advances across these public sector banks, with changing magnitudes. Punjab National Bank had a significant magnitude of NPA amounts within collateral-free MSME advances, showing the requirement for effective risk management in collateral-free lending to MSMEs. While some banks exhibited fluctuations in NPA amounts, others faced an increase in current years, possibly because of monetary circumstances or lending practices.

The data shows that public sector banks have faced difficulties in managing NPA amounts within collateral-free MSME advances, with fluctuations and varying magnitudes. Effective risk management practices are essential to maintaining the economic strength of these banks and sustaining the improvement of the MSME sector.

Table 4.20: Amount of NPA out of MSME advances granted Collateral Free in Private Sector Banks

(Amount in Crore)

Banks	March 2015	March 2016	March 2017	March 2018	March 2019	March 2020	March 2021	March 2022
Axis Bank	NA	NA	NA	NA	NA	0	0	0
HDFC Bank	7	NA	14	102	54	40	35	42
ICICI Bank	NA	NA	47	7	208	178	0	0
KMB	NA	NA	NA	NA	NA	0	0	0
Yes Bank	NA	NA	NA	NA	NA	0	0	0

Source: State Level Bankers Committee, Haryana

Table 4.20 reflects the outcome of the amount of non-performing loans out of micro, small, and medium enterprises advances granted as collateral-free loans in private sector banks for various years from March 2015 to March 2022, focusing on the quantum, magnitude, magnitude, trend, and composition of NPAs within collateral-free MSME advances. Axis Bank did not provide any information about NPA amounts within collateral-free MSME advances during the entire period. The reported values are zero. Axis Bank had no reported NPA amounts within collateral-free MSME advances, indicating effective risk management in this sector. Axis Bank's NPA amount within collateral-free MSME advances showed variations over the years, with a rise of Rs. 102 crore in March 2018 and a decrease of Rs. 42 crore in March 2022. The bank had changeable magnitudes of NPA amounts within collateral-free MSME advances, with a recent decline. The NPA amount within the collateral-free MSME advances of ICICI Bank showed fluctuations, with a rise of Rs. 208 crore in March 2019 and 2020. The NPA amount within collateral-free MSME advances decreased to zero by March 2021 and remained at zero in March 2022. The bank had changeable magnitudes of NPA amounts within collateral-free MSME advances, with a recent decrease to zero. Kotak Mahindra Bank did not provide any information about NPA amounts within collateral-free MSME advances during the entire period. The reported values are again zero. The bank had no information about NPA amounts

within collateral-free MSME advances, indicating effective risk management in this segment. Similar to Kotak Mahindra Bank, Yes Bank did not provide any information about NPA amounts within collateral-free MSME advances during the whole period. The reported values are zero. The bank had no reported NPA amounts within collateral-free MSME advances, also showing effective risk management. KMB, Axis Bank, and Yes Bank maintained clean and proper documentation with zero reported NPA amounts within collateral-free MSME advances throughout the period. HDFC Bank and ICICI Bank had variations in NPA amounts, with significant increases in the number of NPAs in certain years. Both HDFC Bank and ICICI Bank showed a falling trend in nonperforming loan amounts within collateral-free MSME advances in recent years.

The data shows changing levels of success in handling NPA amounts within collateral-free MSME advances among selected private sector banks. Some banks maintained a clean and proper record with zero NPAs, while others experienced fluctuations and varying magnitudes in NPA amounts. Effective risk management practices are essential in maintaining the monetary power of these banks and supporting the growth of the MSME sector.

Table 4.21: %age of NPA Accounts under MSME Loans PSBs (Collateral Free)

Banks	March 2015	March 2016	March 2017	March 2018	March 2019	March 2020	March 2021	March 2022
BOB	9.79%	7%	0.00%	10%	15%	25%	24%	26.35
BOI	NA	NA	0.00%	20%	36%	35%	13%	16.81
CB	0.00%	10.8%	12.78%	92%	12%	17%	13%	98.12
PNB	26.03%	34.38%	38.96%	27%	32%	30%	28%	22.66
SBI	0.00%	NA	2.66%	12%	21%	21%	18.5%	18.66

Source: State Level Bankers Committee, Haryana

Table 4.21 reflects the data related to the proportion of non-performing asset accounts linked to loans provided to micro, small, and medium enterprises in selected public sector banks from March 2015 to March 2022. Bank of Baroda experienced fluctuations in the percentage of NPAs for collateral MSME loans. It increased from

9.79% in March 2015 to 26.35% in March 2022. Over the years, this bank has shown levels of NPA percentages for collateral-free MSME loans. On the other hand, the Bank of India's NPA percentage within collateral MSME loans changed as well. It reached its point at 36% in March 2019 and then decreased to 16.81% by March 2022. Canara Bank had variations in its NPA percentage for collateral MSME loans, reaching a peak of 98.12% in March 2022. Punjab National Bank also observed fluctuations in NPA percentages for collateral MSME loans, with a peak at 38.96% in March 2017 declining to 22.66% by March 2022. The State Bank of India recorded changes in NPA percentages, within collateral MSME loans too; it increased from 2.66% in March 2017 to reach 18.66 % by March 2022.

The data shows that there are differences, in the percentages of nonperforming loans for collateral-free loans provided to micro, small, and medium enterprises (MSMEs) by these selected public sector banks (PSBs), indicating varying levels of fluctuation. Canara Bank's high NPA percentage in March 2022 indicates the difficulty, in preserving the quality of assets in this sector, and other banks also display fluctuations and increasing trends over the years.

Table 4.22: % Age of NPA Accounts under MSME Loans in PVSBs (Collateral Free)

Banks	March 2015	March 2016	March 2017	March 2018	March 2019	March 2021	March 2022
Axis Bank	NA	0%	0	0	0	0	0%
HDFC Bank	1.78%	NA	9.7%	12%	4	2.00	2%
ICICI Bank	NA	0%	8.95%	0%	7	0.00	0%
KMB	NA	NA	0	0	0	0	0%
Yes Bank	NA	NA	0	0	0	0	0%

Source: State Level Bankers Committee, Haryana

Table 4.22 displays data regarding the percentages of accounts that experienced non-assets (NPA) in relation to loans provided to micro, small, and medium enterprises (MSME) by selected private sector banks (PVSBs). The time frame considered is from March 2015 to March 2022. The analysis primarily focuses on metrics such as volume, scale, trends, and the composition of NPAs within collateral MSME loans. From March 2016 to March 2022, Axis Bank consistently maintained a record with a

0% NPA percentage for collateral MSME loans. This indicates their risk management practices in this segment. HDFC Bank showed some fluctuations in their NPA percentage for collateral MSME loans. Managed to keep it relatively low, ranging from 1.78% in March 2015 to 2% in March 2022. ICICI Bank also experienced variations in its NPA percentage for collateral MSME loans, which remained relatively low throughout the analyzed period. It fluctuated from 0% in both March 2016 and 2020 to a peak of 8.95% in March 2017. On the other hand, Kotak Mahindra Bank consistently reported a record with steady NPA percentages of zero for collateral-free MSME loans during the entire analyzed period. Similarly, Yes Bank also reported a record with no NPAs within collateral MSME loans across all available years. Hence, KMB, Axis Bank, and Yes Bank demonstrated performance with zero NPA percentages, within collateral MSME loans throughout the entire period analyzed. On the other hand, HDFC Bank and ICICI Bank had levels of nonperforming assets (NPAs), but they remained relatively low and consistent. The data shows that private sector banks generally maintained NPA percentages for collateral MSME loans during the period under study. Some banks consistently reported 0% NPAs, while others experienced fluctuations. These banks must have risk management practices in place to ensure stability and support the escalation of the MSME sector.

These statistics highlight the problems faced by public sector banks (PSBs) in managing NPA percentages for collateral MSME loans, showcasing disparities and changing magnitudes. Effective risk management practices are vital to ensuring the health of these banks and fostering the development of the MSME sector.

Table 4.23: %age of NPA amount under MSME Loans in PSBs (Collateral Free)

Banks	March 2015	March 2016	March 2017	March 2018	March 2019	March 2020	March 2021	March 2022
BOB	15.53%	11.28%	0.00%	88%	5.29%	5%	5.40%	6%
BOI	NA	0%	0.00%	13%	23.81%	23%	17.75%	17%
CB	0.00%	1.49%	71.01%	45%	9.78%	14%	10.03%	0%
PNB	4.72%	7.17%	24.28%	15%	29.44%	17%	21.25%	0%
SBI	0.00%	0%	2.67%	10%	7.4%	7%	6.28%	5%

Source: State Level Banker's Committee, Haryana

Table 4.23 highlights the outcome on the percentage of Non-Performing Asset amounts under Micro, Small, and Medium Enterprises loans in selected Public Sector Banks from March 2015 to March 2022. The NPA percentage under MSME loans (collateral-free) of Punjab National Bank and Bank of India was high in March 2019. The NPA percentage under MSME loans (collateral free) of Bank of Baroda was calculated high in March 2018 with 88%. In the year 2022, the Bank of India was leading in NPA percentage under MSME loans (collateral free).

The statistics show important fluctuations in the percentage of NPA amounts under collateral-free MSME loans of selected Public Sector Banks, with changing magnitudes. The data shows that Public Sector Banks have faced difficulties in managing NPA percentages under collateral-free MSME loans, with important fluctuations and varying magnitudes. Effective risk management practices and improved asset superiority are essential in supporting the development of the MSME sector and maintaining the financial strength of these selected banks.

**Table 4.24: %age of NPA amount under MSME Loans in PSBs (Collateral Free)
(Amount in Crores)**

Banks	March 2015	March 2016	March 2017	March 2018	March 2019	March 2020	March 2021	March 2022
Axis Bank	0	0	0.00%	0	0	0	0	0%
HDFC Bank	0.89%	0.79%	0.89%	6%	2.74%	2%	2.05%	1%
ICICI Bank	NA	NA	10.94%	0	16.98%	15%	0	0%
KMB	NA	NA	NA	0	0	NA	0	0%
Yes Bank	0.00%	NA	NA	0	0	NA	0	0%

Source: State Level Bankers Committee, Haryana

Table 4.24 presents the results on the percentage of non-performing asset amounts under Micro, Small, and Medium Enterprises loans in private sector banks for various years from March 2015 to March 2022, focusing on the quantum, trend, and composition of NPAs within collateral-free MSME loans. Axis Bank reported a 0% NPA percentage under collateral-free MSME loans for all accessible years. The bank had no information about the NPA amounts within collateral-free MSME loans, indicating effective risk management in this division. HDFC Bank's NPA percentage under collateral-free MSME loans remained moderately low, with a rise of 6% in

March 2018. It decreased to 1% in March 2022. The bank had to change the magnitudes of NPA percentages within collateral-free MSME loans, with relatively low percentages all over the period. The NPA percentage under collateral-free MSME loans of ICICI Bank showed fluctuations but remained relatively low, ranging from 0% in March 2018 and 2020 to 16.98% in March 2019. The bank had to change the magnitudes of NPA percentages within collateral-free MSME loans, with variations over the years. Kotak Mahindra Bank reported a 0% NPA percentage under collateral-free MSME loans for all available years. The bank had provided no information about NPA amounts within collateral-free MSME loans, indicating effective risk management. Yes Bank reported a 0% NPA percentage under collateral-free MSME loans for all presented years. The bank had provided no information about NPA amounts within collateral-free MSME loans, indicating effective risk management. KMB, Axis Bank, and Yes Bank maintained a clean and proper record with 0% reported NPA percentages and amounts within collateral-free MSME loans all over the period. HDFC Bank and ICICI Bank had variations in NPA percentages, with relatively low percentages and amounts.

The data shows that private sector banks normally maintain low NPA percentages and amounts within collateral-free MSME loans during the analysis phase. Some banks reported 0% NPA percentages and amounts, while others had negligible changes. Effective risk management practices are essential to maintaining the financial fitness of these banks and sustaining the growth of the MSME segment.

Table 4.25: Flow of Credit to Micro, Small & Medium Enterprises (MSMEs)

(Amount in Crores)

Particulars	March 2015	March 2016	March 2017	March 2018	March 2019	March 2020	March 2021	March 2022	March 2023
Micro Enterprises	15179	17184	18441	23296	24177	24088	25298	31471	41317
Small Enterprises	20764	20361	20721	24155	26125	24363	22669	31834	33397
Medium Enterprises	10235	10648	10692	13018	16848	20076	22267	31765	31765

Source: State Level Bankers Committee, Haryana

Table 4.25 presents the outcome of the movement of credit to MSMEs for different years from March 2015 to March 2023. During March 2023, Rs. 41317 crore was assigned to microenterprises, Rs. 33397 crore was assigned to small enterprises, and Rs. 31765 crore was given to medium enterprises. The share of credit flow to microenterprises was higher as compared to the credit given to small and medium enterprises. The data shows an optimistic trend in the flow of credit to MSMEs over the years, with reliable development in quantum and magnitude. Microenterprises obtain the majority of credit, followed by small and medium enterprises. This shows that credit support to MSMEs is essential for their expansion and development, and it has been increasing gradually in recent years, which is constructive for the MSME sector's extension and involvement in the economy.

Table 4.26: Bifurcation of NPA under MSME Advances (No. of A/Cs)

Particulars	March 2017	March 2018	March 2019	March 2020	March 2021	March 2022
Micro Enterprises	42167	48530	49920	56846	76772	96851
Small Enterprises	9953	7315	7421	9138	7966	7456
Medium Enterprises	2109	2031	1072	1559	1397	2984
Total NPA under MSME Advances	54229	57876	58413	67543	86135	107291

Source: State Level Bankers Committee, Haryana

Table 4.26 reflects the results of the bifurcation of non-performing loans under Micro, Small, and Medium Enterprises advances in terms of accounts from March 2017 to March 2022. In March 2022, under Micro Enterprises, 96851 accounts were observed as NPAs, under Small Enterprises, 7456 accounts were observed as NPAs, under Medium Enterprises, 2984 accounts were observed as NPAs. The contribution of microenterprises was higher in NPAs as compared to small and medium enterprises.

The data reveals a concerning trend of increasing NPA accounts within MSME advances over the years, with microenterprises being the most affected category. The overall magnitude of NPA accounts has grown significantly, indicating challenges in managing NPA levels within the MSME sector. Effective risk management and

support measures are essential to address these NPAs and promote the financial health of MSMEs

Table 4.27: Bifurcation of NPA under MSME Advances
(Amount in Crores)

Particulars	March 2017	March 2018	March 2019	March 2020	March 2021	March 2022
Micro Enterprises	1087	2435	1563	2052	2077	2273
Small Enterprises	1284	1706	1381	1523	1540	1662
Medium Enterprises	1178	1339	1273	1063	1053	1243
Total NPA under MSME Advances	3549	5480	4217	4638	4670	5179

Source: State Level Bankers Committee, Haryana

Table 4.27 reflects the results of the bifurcation of non-performing loans under micro, small, and medium unit advances in terms of amounts (in Crores) for different years from March 2017 to March 2022. The database of the State Level Bankers Committee, Haryana explains the statistics about the bifurcation of nonperforming assets under MSME advances in Haryana state from March 2017 to March 2022. In March 2022, Micro enterprises are paying contribution in NPAs under MSMEs advances in Haryana of Rs 2273 crore, Small enterprises paid contributions in NPAs under MSMEs advances in Haryana of Rs 1662 crore, and medium enterprises paid contributions in NPAs under MSMEs advances in Haryana of Rs 1243 crore. The contribution of Micro enterprises was more in NPAs as compared to small and medium enterprises.

The data reflects variations in the NPA amounts within MSME advances over the years, with all categories (Micro, Small, and Medium Enterprises) experiencing changeable levels of NPAs. Microenterprises constantly have the highest share of both NPA accounts and amounts. Effective risk management and sustainable actions are essential to address these NPAs and promote the financial fitness of MSMEs.

Table 4.28: NPA Ratio amongst Micro, Small and Medium Enterprises NPA Ratio = (Total NPAs / Total MSME Loans) * 100

Particulars	March 2017	March 2018	March 2019	March 2020	March 2021	March 2022
Micro Enterprises	5.89%	10.45%	6.46%	8.51%	8.21%	7.22%
Small Enterprises	6.20%	7.06%	5.29%	6.25%	6.79%	5.22%
Medium Enterprises	11.01%	10.28%	7.55%	5.29%	4.72%	3.91%

Source: State Level Bankers Committee, Haryana

The database of the State Level Bankers Committee, Haryana, in table 4.28 provides statistics about the non-performing asset ratio prevailing in micro, small, and medium enterprises up to March 2022. A 5.89 % NPA ratio was observed in March 2017 in micro-enterprises, and a 7.22% NPA ratio was observed in March 2022, which shows an increment in the NPA ratio. The NPA ratio of small enterprises was 6.20% in March 2017 and 5.22% in March 2022, which shows a decrease in the NPA ratio. The NPA ratio fell to 3.91% in medium enterprises from March 2017 to March 2022. The NPA ratio of microenterprises was observed as compared to the NPA ratios of small and medium enterprises. Micro, small, and medium enterprises have shown variations in their NPA ratios, with micro-enterprises normally having a higher ratio. Effective risk management and support mechanisms are important for addressing NPAs and maintaining the financial fitness of MSMEs.

4.2 Conclusion

The study provides a comprehensive overview of the dynamics surrounding micro, small, and medium units and their loans within both selected public sector banks and private sector banks in Haryana as of March 2015 to March 2022. It highlights a notable surge in the number of MSME loan accounts in both sectors during this period, with banks like Punjab National Bank (PNB) and Canara Bank in PSBs, and HDFC Bank in PVSBS, emerging as leaders in terms of MSME account growth. Additionally, the outstanding MSME loans increased significantly, with the State Bank of India (SBI) and HDFC Bank prominently responsible for the expansion of public sector banks and private sector banks, respectively. However, a concerning

trend emerges in the form of escalating non-performing assets (NPAs), particularly within PSBs. Punjab National Bank and State Bank of India displayed persistently high NPA percentages, underscoring the need for more effective risk management strategies. This data illustrates the critical importance of robust risk mitigation measures to secure the stability of MSME loans in the banking sector.

Furthermore, the data underscores the varied levels of support for MSMEs in terms of collateral-free accounts, with some banks showing a commendable increase in such accounts while others lag. The study highlights the urgent need for addressing NPA concerns in both the private and public banking sectors, as they pose a significant threat to the financial health of MSMEs. It also emphasizes the significance of tailored support and risk mitigation strategies for medium enterprises, which consistently exhibit higher NPA ratios among the three MSME categories. Overall, the findings suggest that while there has been substantial growth in credit flow to MSMEs, it should be accompanied by more effective risk management measures to safeguard the interests of both banks and the MSME sector.

CHAPTER - V
IDENTIFICATION OF THE FACTORS CONTRIBUTING TO THE
RISE IN NON-PERFORMING ASSETS OF MSMES

This chapter aims to recognize the factors contributing to the increase in non-performing assets of MSMEs in selected banks in Haryana. For this purpose, various government-released reports on MSMEs were studied. Many new factors were explored after discussing them with bankers. Political, technological, socio-cultural, economic, natural, and internal factors are found to be responsible for NPAs in MSME sectors. Factors are summarized as bank-related, borrower-related, and market-related factors. A questionnaire was developed after studying reports and conducting interviews with bankers to capture bankers' perceptions of factors leading to enhanced NPAs in the MSME sector.

5.1 Item and Scale Development Process

For developing a comprehensive and well-structured measurement instrument, we followed the guidelines that were laid down by previous researchers and experts such as Schwab (1980), Hinkin (1995), and De Vellis (2003). The process includes three major steps: the generation of items, scale development, and scale evaluation. The statements were determined based on the comprehensive framework developed for this study, and the questionnaire items were laid out on a measurement scale (Likert) that ranged from "strongly disagree" to "strongly agree." Because there was no existing measurement scale available that could be used to evaluate the research concepts, all of the constructs had to be rediscovered from the ground up.

This section is divided into three parts:

1. Item generation, which refers to the creation of an item pool for each construct;
2. Scale development, which refers to the process of combining items to create scales;
3. Scale evaluation, which refers to the psychometric assessment of scales in terms of reliability and validity.

5.1.1 Items Generation

To generate measurement instruments, we conducted preliminary interviews with

bankers and explored the existing literature that elaborates on the constructs under study. According to academia, there are broadly three reasons responsible for generating NPAs. These are bank-related factors, borrower-related factors, and other market-related factors. Under bank-related factors, four variables were taken into consideration. These are bureaucratic intricacies, allocation impediments, faulty credit appraisal skills, and discriminatory and unethical attitudes.

Under Bureaucratic Intricacies, Un-Collateralized lending leads to NPAs (Report of the Expert Committee on Micro, Small and Medium Enterprises, 2019; World Bank, 2018); compromised loans lead to NPAs (Chawla & Rani,2021); Bureaucratic procedures delay the timely intervention when there are signs of incipient sickness(Report of the Expert Committee on Micro, Small and Medium Enterprises, 2019; Interview with Bankers; World Bank,2018); bureaucracy in lending procedures becomes a big hurdle in MSMEs financing causes NPAs (Interview with Bankers); financial institutions often take too long to disburse sanctioned loans on account of bureaucracy and red tape also caused NPAs (Bank For International Settlement, 2015) therefore these factors were considered for further evaluation.

Under Allocation Impediments, over/under financing leads to NPAs (Money life, 2018; DCMSME, 2010; Interview with Bankers); lack of specialized staff focused on MSMEs leading to poor lending decisions (Interview with Bankers); relaxed lending norms adopted by banks also lead to NPAs (Live mint, 2023); unhealthy competition among banks to diversify leads to aggressive lending, which leads to NPAs (Bank for International Settlement, 2015; UBI MSME Policy 2022-23); therefore, these factors were considered for the study.

Under faulty credit appraisal skills, faulty assessments of repayment capabilities (Shankar, 2019); lack of expertise in the assessment of exceptional projects (Interview with Bankers); ineffective market intelligence system to collect information about borrowers (Report of the Expert Committee on Micro, Small and Medium Enterprises, 2019); improper or insufficient interaction with borrowers (Michael Raj 2014); faulty assessment of the viability of the project proposed and its funding pattern (Interview with Bankers); poor follow up of credit risk appraisal owing to shortage of financial information about MSMEs (Bank For International

Settlement, 2015; Interview with Bankers); faulty post-disbursement monitoring of proposals (Interview with Bankers; World Bank, 2018)lead to NPAs, therefore these factors were included in the questionnaire for item construction.

Under discriminatory and unethical attitudes, patronizing the borrowers (Report of the Expert Committee on Micro, Small and Medium Enterprises, 2019); compromising integrity while issuing loans to borrowers (Chawla & Rani 2021); overlooking deeds of hypothecation and mortgages in a hurry for disbursement (Interview with Bankers), errors in the execution of the loan agreements (Interview with Bankers); Attainment of targets for purposes of building up a record of achievements and reporting (Interview with Bankers) leads to NPAs, therefore were taken into consideration for the present study.

Under inefficient financial management, the distraction of funds for purposes other than loan granted (Bank for International Settlement, 2015), an inadequate equity base leads to financial overextending, which makes the loans vulnerable to defaults and also leads to NPAs (Interview with Bankers; World Bank, 2018). Cost overruns in project implementation (Report of the International Finance Corporation on Financing India's MSMEs 2018; World Bank, 2018), and loans raised for the showy project (interview with bankers) led to NPAs.

Under willful dereliction, the disposal of movable and immovable property used for taking term loans without the knowledge of the bank leads to NPAs (Interview with Bankers; Meher et al., 2020). Additionally, siphoning off the funds (interview with bankers) and conscious unwillingness to repay loans (Expert Committee MSMEs, 2019) lead to NPAs. Similarly, subsidies by the government to defaulters encourage even disciplined borrowers for willful dereliction in the future to avail themselves of the benefits of subsidies (Meher et al., 2020). Hence, these were taken into consideration, as these factors lead to NPAs.

Under infrastructural and capacity building bottlenecks, lack of managerial, legal, and operational skills (Expert Committee MSMEs, 2019); lack of access to the infrastructure needed by entrepreneurs (Expert Committee MSMEs, 2019; World Bank, 2018; KPMG, 2016); and lack of awareness about government schemes lead to NPAs (Expert Committee MSMEs, 2019). Additionally, lack of entrepreneurial

vision, tendencies, and innovation leads to NPAs (Expert Committee MSMEs, 2019; World Bank, 2018), absence of scale and size (report of Union Bank of India on MSME Policy 2021); Lack of business planning (Expert Committee MSMEs, 2019); lack of financial literacy (Expert Committee MSMEs, 2019), product obsolescence (Report of International Finance Corporation on Financing India's MSMEs 2018; World Bank, 2018); strained labor relations (Report of International Finance Corporation on Financing India's 2018); lack of management experience leads to NPAs (Expert Committee MSMEs, 2019); Therefore, all these factors are chosen for further investigation.

Under the Regulatory Framework, loans are granted to priority segments of the economy based on government commands rather than commercial imperatives (Report of the Expert Committee on Micro, Small, and Medium Enterprises, 2019; Joseph & Parkash, 2014; Interview with Bankers), liberal government policies, i.e., providing debts to MSMEs with minimal documentation (Naveenan et al., 2018), prolonged regulatory forbearance (Interview with Bankers), GST compliance and procedures (ICICI, 2023), and a weak and mild regulatory environment (Interview with Bankers), therefore, these factors were taken into consideration.

Under Political Facets, lack of political transparency (viz., issue of transparency in policy decisions) affects the endurance or absence of SMEs in the competitive market, leading to NPAs (Zonouzi et al., 2021); lack of implementation of MSMEs policies leads to policy paralysis, making the loans NPAs (Zonouzi et al., 2021; World Bank, 2018; Bank for International Settlement, 2015).

Under Economic Frailties, change in the line and pattern of business leads to NPAs (Interview with Bankers), national and international economic downturns (DCMSME, 2010; Soni, 2022), the downturn in commodity price cycles (Anand, 2023), fluctuations in the foreign exchange market (Interview with Bankers: Kamali et al., 2021), business failures (Interview with Bankers), and increased inflation (Naveenan et al., 2018; Nayak, 2022; Interview with Bankers) were taken into consideration.

Under Legislative Frictions, delayed loan recovery due to prolonged legal proceedings gives rise to Willful Dereliction (World Bank, 2018; Michael, 2014;

Narayan & Surya, 2014; Interview with Bankers), ineffective legal measures due to statutory protections available to willful defaulters, a slew of laws that slow down the process of judicial remedy (Interview with Bankers; World Bank, 2018), overcrowding of courts (Interview with Bankers); and improper working of recovery channels which are set up by the government (Rao et al.,2019; World Bank, 2018), therefore, all these factors were taken into consideration for further investigation.

Under natural fallbacks, loss due to natural calamities (Interview with Bankers; World Bank 2018), and inadequate insurance coverage (Report of the Expert Committee on Micro, Small, and Medium Enterprises, 2019; Interview with Bankers). Similarly, making a large number of provisions in order to pay damages for natural loss loans would end the fiscal year with an abridged profit, leading to NPAs (Interview with Bankers). Additionally, government intervention in loan markets in the case of an enormous natural tragedy (Interview with Bankers) and natural calamities/destroy the bankers supervisory capability to create loans, including the ability to screen and practice loan applications leading to NPAs (Interview with Bankers). Therefore, these factors were exposed to further exploration.

5.1.2 Scale Development (Validity of Questionnaire)

Questionnaire validation controls the ability of measurement statements to achieve the intended purpose. So that, the conclusions and inferences made on their basis (test scores) could be valid. When validating the questionnaire, two main validation approaches are applied, including content validity and construct validity.

5.1.3 Expert Validation of Contents, Variables, and Questionnaire Statements

The questionnaire instrument was subjected to both face and content validity. Content validation was conducted to establish the degree to which the elements in the statements were relevant to the targeted constructs and variables. The assessment of whether or not the measures seem to accurately reflect the essence of the construct in question is known as content validity (also known as face validity), and it is a methodical but subjective process (Bryman & Bell, 2011).

The validity evidence was represented using the Content Validity Index (CVI). The following content validation procedure was adopted:

Preparation of a content validation form: Statements/Items were drafted to be measured using a 4-point Likert scale of relevance where:

1=statement is “not relevant to the measured domain”

2=statement is “somewhat relevant to the measured domain”

3=statement is “quite relevant to the measured domain”

4=statement is “highly relevant to the measured domain”

Selection of are view panel of experts: 17 experts were selected from the academia and the relevant fields of governance, public finance management, sustainable development, and health and education sectors. 10 out of the 17 provided the feedback used for the validation whose list is given in Table 5.1.

Table 5.1: List of the Expert Panel for Face & Content Validity of Questionnaire

S. No.	Name of the Expert	Name of the Bank	Contact No.
1	Mr. Inder Narang	State Bank of India	9466119812
2	Mr. Rajesh Malhotra	Punjab National Bank	8295892900
3	Mrs. Teena Singh	CANARA Bank	0171 2643130
4	Mr. Rahul Dogra	Bank of Baroda	7419710109
5	Mr. Sondeep Singh	Bank of India	0171-2643020
6	Mr. Gautam	Axis Bank	9729676025
7	Mr. Pankaj Shukla	ICICI Bank	8607546655
8	Mr. Rahul Mehta	HDFC Bank	8222813113
9	Mr. Gurdeep Kot	Kotak Mahindra Bank	7015294896
10	Mr. Aayush	Yes Bank	8087943464

5.1.4 Conducting the Content Validation

An online confirmation form was sent to the ten experts to obtain acceptable CVI values of at least 0.78 (Lynn, 1986), which were obtained using the formula presented in Table 5.2. The description and procedure are based on their commendations by Lynn (1986), Davis (1992), Polit & Beck (2006), and Polit et al., (2007).

Table 5.2: Definitions and Formula of I-CVI, S-CVI/Ave and S-CVI/UA

The CVI Indices	Definition	Formula
I-CVI (Item-level content validity index)	The proportion of subject matter experts who gave the item a relevant rating of three or four.	$I-CVI = \frac{\text{agreed item}}{\text{Number of experts}}$
S-CVI/Ave (scale-level content validity index based on average method)	The average of the scores on the I-CVI for all of the items on the scale, or the average of the proportional relevance as determined by all of the experts. The percentage of information that is relevant is determined by taking the average assessment of each expert.	$S-CVI/Ave = \frac{\text{sum of I-CVI scores}}{\text{number of items}}$ $S-CVI/Ave = \frac{\text{sum of proportion relevance rating}}{\text{number of experts}}$
S-CVI/UA (scale-level content validity index based on the universal agreement method)	The proportion of items on the scale that all of the experts deem to have a relevance score of 3 or 4. When an item has the support of one hundred percent of the experts polled, it is given a score of one on the universal agreement (UA) scale; otherwise, it receives a score of zero.	$S-CVI/UA = \frac{\text{sum of UA scores}}{\text{number of item}}$

Source: Yusoff (2019)

The results of the experts' validation survey are presented in Table 5.3, Table 5.4 and Table 5.5

Table 5.3: Calculation of CVR for Bank Related Factors: Bankers' Perspective

Constructs	Label	Statements	CVR	Acceptable
Bureaucratic Intricacies (5)	BI 1	Un-collateralized lending leads to NPAs (Interviews with Bankers) (Expert Committee MSMEs, 2019)	0.7	Yes
	BI 2	Compromised Loans lead to NPAs (Chawla & Rani 2021)	0.8	Yes
	BI 3	Bureaucratic procedures delay the timely intervention when there are signs of incipient sickness leading to NPAs (Interviews with Bankers)	1	Yes
	BI 4	Bureaucracy in lending procedures become a big hurdle in MSMEs financing causing NPAs (Interviews with Bankers)	0.9	Yes
	BI 5	Financial institutions often take too long to disburse sanctioned loans on account of bureaucracy and red tape causing NPAs (Interviews with Bankers)	0.7	Yes
Allocation Impediments (4)	AE 6	Over/Under Financing leads to NPAs (Interviews with Bankers)	1	Yes
	AE 7	Lack of specialized staff focused on MSMEs leading to poor lending decisions (Interviews with Bankers)	0.7	Yes
	AE 8	Relaxed Lending Norms adopted by banks lead to NPA (www.corporatefinanceinstitute.com)	0.8	Yes
	AE 9	Unhealthy Competition amongst Banks leads to aggressive lending (Chawla & Rani 2021)	0.9	Yes

Faulty Credit Appraisal Skills (7)	FCA 10	Faulty Assessments of repayment capabilities lead to NPAs (Interviews with Bankers)	0.8	Yes
	FCA 11	Lack of expertise in the assessment of exceptional project leads to NPAs (Interviews with Bankers)	0.9	Yes
	FCA 12	Ineffective Market Intelligence System to collect Information about borrowers leads to NPAs (Chawla & Rani 2021)	0.8	Yes
	FCA 13	Improper or Insufficient Interaction with Borrowers leads to NPAs (Raj 2014)	0.7	Yes
	FCA 14	Faulty assessment of the viability of the project proposed and its funding pattern leads to NPAs (Interviews with Bankers)	0.8	Yes
	FCA 15	Poor Follow-up of Credit Risk Assessment owing to lack of financial information about MSMEs leads to NPAs (Interviews with Bankers)	0.7	Yes
	FCA 16	Faulty post-disbursement monitoring of proposals leads to NPAs (Interviews with Bankers)	0.9	Yes
Discriminatory and Unethical Attitude (5)	DCA 17	Patronizing the borrowers leads to NPAs (Chawla & Rani 2021)	0.8	Yes
	DCA 18	Compromising integrity while issuing loans to borrowers leads to NPAs (Chawla & Rani 2021)	0.7	Yes
	DCA 19	Overlooking deeds of hypothecation and mortgages in the hurry for disbursement leads to NPAs (Interviews with Bankers)	0.9	Yes
	DCA 20	Errors in the execution of the loan agreements lead to NPAs (Interviews with Bankers)	0.9	Yes
	DCA 21	Attainment of targets for purposes of building up a record of achievements and reporting leads to NPAs. (Interviews with Bankers)	1	Yes

Table 5.4: Calculation of CVR for Borrowers Related Factors: Banker’s Perspective

Constructs	Label	Statements	CVR	Acceptable
Inefficient Financial Management (4)	IFM 22	Diversion of Funds for the purpose other than loan granted leads to NPAs (Interviews with Bankers)	0.9	Yes
	IFM 23	An inadequate Equity base leads to financial overextending which makes the loans vulnerable to defaults leads to NPAs (Interviews with Bankers)	0.8	Yes
	IFM 24	Cost overrun in project implementation leads to NPAs (Report of International Finance Corporation on financing India’s MSMEs 2018)	1	Yes
	IFM 25	Loan raised for Showy Project leads to NPAs (Interview with Bankers)	0.7	Yes
Willful Default (4)	WD 26	Disposal of movable and immovable property used for taking term loans without the knowledge of the bank leads to NPAs (Interviews with Bankers) (Meher et al.,2020)	0.8	Yes
	WD 27	Siphoning off the funds leads to NPAs (Interviews with Bankers)	0.8	Yes
	WD 28	Conscious Unwillingness to repay loans leads to NPAs (Expert Committee MSMEs, 2019)	1	Yes
	WD 29	Subsidies by the government to the defaulters encourage even the disciplined borrowers for Willful Dereliction in the future to avail themselves of the benefits of subsidies (Meher et. al., 2020)	1	Yes

Infrastructural and Capacity Bottleneck (10)	ICB 30	Lack of managerial, legal, and operational skills leads to NPAs (Expert Committee MSMEs, 2019)	0.9	Yes
	ICB 31	Lack of access to the infrastructure needed by entrepreneurs leads to NPAs (Expert Committee MSMEs, 2019)	1	Yes
	ICB 32	Lack of awareness about the government schemes leads to NPAs (Expert Committee MSMEs, 2019)	1	Yes
	ICB 33	Lack of entrepreneurial vision, tendencies, and innovation leads to NPAs (Expert Committee MSMEs, 2019)	0.8	Yes
	ICB 34	Absence of scale and size leads to NPAs (Report of Union Bank of India on MSME Policy 2021)	0.9	Yes
	ICB 35	Lack of business planning leads to NPAs (Expert Committee MSMEs, 2019)	0.8	Yes
	ICB 36	Lack of financial literacy leads to NPAs (Expert Committee MSMEs, 2019)	0.9	Yes
	ICB 37	Product Obsolescence leads to NPAs (Report of International Finance Corporation on Financing India's MSMEs 2018)	0.8	Yes
	ICB 38	Strained Labour Relations leads to NPAs (Report of International Finance Corporation on Financing India's MSMEs 2018)	0.7	Yes
	ICB 39	Lack of management experience leads to NPAs (Expert Committee MSMEs, 2019)	0.9	Yes

Table 5.5: Calculation of CVR for Market Related Factors: Bankers' Perspective

Constructs	Label	Statements	CVR	Acceptable
Regulatory Framework (5)	RF 40	Granting Loans to Priority Sectors of the economy based on Government directives rather than Commercial Imperatives leads to NPAs (Joseph & Parkash 2014) (Interview with Bankers)	0.8	Yes
	RF 41	Liberal Government Policies i.e., Providing debts to MSMEs with Minimal Documentation lead to NPAs (Naveenan et al.,2018)	0.9	Yes
	RF 42	Prolonged regulatory forbearance leads to NPAs) (Interview with Bankers)	0.7	Yes
	RF 43	Complexity related to GST compliance and procedures leads to NPAs (Interviews with Bankers)	1	Yes
	RF 44	Weak and mild regulatory environment leads to NPAs (Interviews with Bankers)	0.8	Yes
Political Facets (4)	PF 45	Lack of political transparency (viz. issue of transparency in policy decisions) affects the survival or absence of SMEs in the competitive market lead to NPAs (Kamali et al.,2021)	1	Yes
	PF 46	Lack of implementation of MSME policies leads to policy paralysis making the loans NPAs lead to NPAs (Interview with Bankers)	0.8	Yes
	PF 47	Political Warfare and Instability leads to NPAs (Mittal & Suneja, 2017) (Interview with Bankers)	0.8	Yes
	PF 48	Failure to implement the interactive policies as the change of government leads to large changes in the policies and laws eventually leading to NPAs (Kamali et al.,2021)	0.9	Yes

Economic Frailties (6)	EF 49	Change in the line and pattern of business leads to NPAs (Interviews with Bankers)	1	Yes
	EF 50	National and International Economic Downturns lead to NPAs (Times of India)	1	Yes
	EF 51	The downturn in commodity price cycles leads to NPAs (Times of India)	0.8	Yes
	EF 52	Fluctuations in Foreign Exchange Market lead to NPAs (Interview with Bankers)	0.8	Yes
	EF 53	Business failures lead to NPAs (Interviews with Bankers)	0.7	Yes
	EF 54	Increased Inflation leads to NPAs (Naveenan et al.,2018) (Interview with Bankers)	0.9	Yes
Legislative Frictions (5)	LF 55	Delayed loan recovery due to prolonged legal proceeds gives rise to Willful Dereliction leading to NPAs (Michael, 2014) (Narayan & Surya,2014) (Interview with Bankers)	0.9	Yes
	LF 56	Ineffective legal measures due to Statutory protections available to willful defaulters leads to NPAs (Interview with Bankers)	0.8	Yes
	LF 57	Slew of laws has slowed down the process of judicial remedy leading to NPAs (Interviews with Bankers)	0.8	Yes
	LF 58	Overcrowding of courts leads to NPAs (Interview with Bankers)	1	Yes
	LF 59	Improper Working of Recovery channels which are set up by the government leads to NPAs (Rao et al.,2019)	0.7	Yes
Natural Fallbacks (5)	NF 60	Loss Due to Natural Calamities leads to NPAs (Interviews with Bankers)	1	Yes
	NF 61	No/Inadequate insurance coverage leads to NPAs (Interviews with Bankers)	0.9	Yes
	NF 62	Make a large number of provisions in order to pay damages natural loss loans, hence ending up the fiscal with a reduced profit leading to NPAs (Interviews with Bankers)	0.8	Yes
	NF 63	Government intervention in loan markets in the case of a massive natural disaster leads to NPAs (Interviews with Bankers)	0.9	Yes
	NF 64	Natural calamities/destroy the bankers' managerial capacity to originate loans, including the ability to screen and process loan applications leading to NPAs (Interviews with Bankers)	0.7	Yes

5.2 Data Analysis

5.2.1 Descriptive Statistics: Antecedents for NPAs in MSMEs in Haryana

The study noted that the NPA position in the MSME sector reflects the antecedents used for the assessment of NPA cases in this study. Based on the perceptions of the respondents, the study revealed the following statistics:

Table 5.6: Descriptive Statistics and Respondents' Perception on the existence of Bureaucratic Intricacies in MSME sector

Item Code	N	Mean	Std. Deviation	Skewness	Kurtosis
BI 1	150	4.47	2.129	0.265	-1.202
BI 2	150	4.34	1.948	0.377	-1.117
BI 3	150	4.67	2.077	0.195	-1.389
BI 4	150	4.33	1.903	0.276	-0.935
BI 5	150	4.09	1.943	0.529	-0.758

In the BI construct, descriptive statistics for most statements representing bureaucratic intricacies depicted a mean score of more than 4 on a scale of 1 to 7, as most respondents moderately agreed with the statements. The standard deviation of the respondents was also greater than 1, depicting the variation of the responses. The test for normality in the descriptive analysis of the responses from the study on these parameters from the MSME sector showed a normal distribution. Scores for excess kurtosis and skewness fall between -1 and +1, as presented in Table 5.6. This signifies that BI is one of the critical factors responsible for NPAs in the MSME sector.

Table 5.7: Descriptive Statistics and Respondents' Perception on the Allocation Impediments related to MSME sector

Item Code	N	Mean	Std. Deviation	Skewness	Kurtosis
AEA 6	150	4.25	2.161	0.489	-1.282
AEA 7	150	4.51	1.913	0.387	-0.967
AEA 8	150	4.64	2.08	0.164	-1.46
AEA 9	150	4.65	2.053	0.204	-1.466

The results for the descriptive analysis of all the statements of the bank-related Allocation Impediments Factors (table 5.7) show a mean score of more than 4 on a scale of 1 to 7. This meant that most respondents more than moderately agreed with

the statements. Most respondents agreed that unhealthy competition amongst banks leads to aggressive lending and relaxed lending norms adopted by banks lead to NPAs, with mean scores of 4.64 and 4.65, respectively. The standard deviation of three of the four statements is more than 2, and the SD of one statement is near 2, depicting their strong variation. Greater variation was represented in the response relating to over/under financing leads to NPAs with a standard deviation of 2.161. The distribution of the responses was found to be near normal on all the statements, as their skewness results were less than 1.

Table 5.8: Descriptive Statistics and Respondents' Perception on the Faulty Credit Appraisal related to MSME sector

Item Code	N	Mean	S.D	Skewness	Kurtosis
FCA10	150	4.25	2.020	.286	-1.301
FCA11	150	4.20	1.921	.350	-.957
FCA12	150	4.41	1.974	.587	-.823
FCA13	150	4.55	2.039	.421	-1.074
FCA14	150	4.82	1.803	.866	-.595
FCA15	150	4.28	2.171	.519	-1.148
FCA16	150	4.55	1.841	.245	-1.178

The results for the descriptive analysis of all the statements of the bank-related faulty credit appraisal skills factors (table 5.8) registered a mean score of more than 4 on a scale of 1 to 7 of five statements. This meant that most respondents more than moderately agreed to the statements. Most respondents agreed that improper or insufficient interaction with borrowers and faulty post-disbursement monitoring of proposals lead to NPAs with mean scores of 4.55 and 4.82. The standard deviation of three of the seven statements is more than 2, and the SD of our statement is near 2, depicting their strong variation. Greater variation was depicted in the response relating to improper or insufficient interaction with borrowers, leading to NPAs with a standard deviation of 2.039. The distribution of the responses was found to be near normal on all the statements, as their skewness results were less than 1.

Table 5.9: Descriptive Statistics and Respondents' Perception on the Discriminatory and Unethical Attitude in MSME sector

Item Code	N	Mean	S.D	Skewness	Kurtosis
DUA 17	150	2.92	1.866	.482	-.906
DUA 18	150	3.12	1.768	.354	-.753
DUA 19	150	2.95	1.809	.384	-.995
DUA 20	150	3.29	2.135	.500	-1.138
DUA 21	150	4.18	2.121	.535	-1.215

The results of the descriptive analysis of all the statements of the bank related to discriminatory and unethical attitude factors (table 5.9) noted a mean score of nearly 3 on a scale of 1 to 7. This meant that most respondents more than moderately agreed with the statements. Most respondents agreed that errors in the execution of the loan agreements lead to NPAs with a mean score of 3.29, respectively. The standard deviation of two of the five statements is more than 2, and the SD of one statement is near 2, depicting their strong variation. Greater variation was depicted in the response relating to errors in the execution of the loan agreements leading to NPAs, with a standard deviation of 2.135. The distribution of the responses was found to be near normal on all the statements, as their skewness results were less than 1.

Table 5.10: Descriptive Statistics and Respondents' Perception on the Inefficient Financial Management related to MSME sector

Item Code	N	Mean	S.D	Skewness	Kurtosis
IFM 22	150	4.39	2.082	.255	-1.192
IFM 23	150	4.73	2.062	.187	-1.305
IFM 24	150	4.21	1.968	.324	-1.091
IFM 25	150	4.86	1.946	.948	-.495

The results for the descriptive analysis of all the statements of the borrowers related to inefficient financial management factors (table 5.10) registered a mean score of more than 4 on a scale of 1 to 7. This meant that most respondents more than moderately

agreed with the statements. Most respondents agreed that an inadequate equity base leads to financial overextending, which makes the loans vulnerable to dereliction, leading to NPAs with a mean score of 4.73. The standard deviation of two of the four statements is more than 2, and the SD of the two statements is near 2, depicting their strong variation. Greater variation was depicted in the response relating to the diversion of funds for purposes other than loan grants, leading to NPAs with a standard deviation of 2.082. The distribution of the responses was found to be near normal on all the statements, as their skewness results were less than 1.

Table 5.11: Descriptive Statistics and Respondents' Perception on the Willful Dereliction related to MSME sector

Item Code	N	Mean	Std. Deviation	Skewness	Kurtosis
WD 26	150	4.34	2.078	0.182	-1.433
WD 27	150	4.44	2.147	0.275	-1.227
WD 28	150	4.49	1.786	0.165	-1.313
WD 29	150	4.63	1.985	0.269	-1.312

The results of the descriptive analysis of all the statements of the borrowers-related willful dereliction factors (table 5.11) noted a mean score of more than 4 on a scale of 1 to 7. This meant that most respondents more than moderately agreed with the statements. Most respondents agreed that subsidies by the government to defaulters encourage even the disciplined borrowers for willful dereliction in the future to avail themselves of the benefits of subsidies, leading to NPAs with a mean score of 4.63. The standard deviation of two of the four statements is more than 2, and the SD of the two statements is near 2, depicting their strong variation. Greater variation was depicted in the response relating to siphoning off the funds leading to NPAs, with a standard deviation of 2.147. The distribution of the responses was found to be near normal on all the statements, as their skewness results were less than 1.

Table 5.12: Descriptive Statistics and Respondents' Perception on the Infrastructural and Capacity Building related to MSME sector

Item Code	N	Mean	S.D.	Skewness	Kurtosis
ICB 30	150	4.31	1.966	0.669	-0.695
ICB 31	150	4.47	2.012	0.177	-1.321
ICB 32	150	4.29	2.045	0.55	-1.151
ICB 33	150	4.47	2.035	0.257	-1.27
ICB 34	150	4.31	2.098	0.479	-1.13
ICB 35	150	4.01	1.932	0.53	-0.804
ICB 36	150	4.03	1.911	0.441	-0.94
ICB 37	150	4.28	1.987	0.536	-0.909
ICB 38	150	4.46	1.975	0.542	-0.903
ICB 39	150	4.06	2.05	0.638	-0.913

The results for the descriptive analysis of all the statements of the borrowers related to infrastructural and capacity-building bottleneck factors (5.12) noted a mean score of more than 4 on a scale of 1 to 7. This meant that most respondents more than moderately agreed with the statements. Most respondents agreed that lack of access to the infrastructure needed by entrepreneurs' leads to NPAs and lack of entrepreneurial vision, tendencies, and innovation leads to NPAs with a mean score of 4.47 each. The standard deviation of five of the ten statements is more than 2, and the SD of five statements is near 2, depicting their strong variation. Greater variation was depicted in the response relating to the absence of scale and size, leading to NPAs with a standard deviation of 2.098. The distribution of the responses was found to be near normal on all the statements, as their skewness results were less than 1.

Table 5.13: Descriptive Statistics and Respondents' Perception on Bank Related Regulatory Framework

Item Code	N	Mean	S.D	Skewness	Kurtosis
RF 40	150	4.33	2.201	0.244	-1.325
RF 41	150	4.43	2.025	0.401	-1.181
RF 42	150	4.36	2.112	0.43	-1.201
RF 43	150	4.29	2.009	0.451	-1.095
RF 44	150	4.09	1.862	0.583	-0.762

The results for the descriptive analysis of all the statements of the market-related regulatory framework (table 5.13) registered a mean score of five statements more than 4 on a scale of 1 to 7. This meant that most respondents more than moderately agreed with the statements. Most respondents agreed that liberal government policies, i.e., providing debts to MSMEs with minimal documentation, lead to NPAs with a mean score of 4.43, respectively. The standard deviation of four of the five statements is more than 2, and the SD of one statement is near 2, depicting their strong variation. Greater variation was depicted in the response relating to prolonged regulatory forbearance leading to NPAs with a standard deviation of 2.112. The distribution of the responses was found to be near normal on all the statements, as their skewness results were less than 1.

Table 5.14: Descriptive Statistics and Respondents' Perception on Bank Related Political Facets

Item Code	N	Mean	Std. Deviation	Skewness	Kurtosis
PF 45	150	4.15	1.967	0.409	-0.976
PF 46	150	4.44	1.933	0.499	-0.909
PF 47	150	4.53	1.965	0.469	-0.954
PF 48	150	4.27	2.055	0.33	-1.137

The results for the descriptive analysis of all the statements of the market-related Political Facets (table 5.14) registered that the mean score of four statements is more than 4 on a scale of 1 to 7. This meant that most respondents more than moderately

agreed with the statements. Most respondents agreed that political warfare and instability lead to NPAs with a mean score of 4.53, respectively. The standard deviation of one of the four statements is near 1, and the SD of one statement is close to 2, depicting their strong variation. Greater variation was depicted in the response relating to the failure to implement the interactive policies, as the change of government leads to large changes in the policies and laws, eventually leading to NPAs with a standard deviation of 2.055. The distribution of the responses was found to be near normal on all the statements, as their skewness results were less than 1.

Table 5.15: Descriptive Statistics and Respondents' Perception on Bank Related Economic Frailties

Item Code	N	Mean	Std. Deviation	Skewness	Kurtosis
EF 49	150	4.36	2.044	0.419	-1.151
EF 50	150	4.51	1.972	0.536	-0.927
EF 51	150	4.33	2.065	0.401	-1.013
EF 52	150	4.2	1.907	0.409	-0.831
EF 53	150	4.97	2.144	0.831	-1.077
EF 54	150	4.41	2.127	0.323	-1.161

The results of the descriptive analysis of all the statements of the market-related economic frailties (table 5.15) show that the mean score of six statements is more than 4 on a scale of 1 to 7. This meant that most respondents more than moderately agreed with the statements. Most respondents agreed that the downturn in commodity price cycles leads to NPAs with a mean score of 4.51. The SD of four of the six statements is near 2, and the SD of two statements is near 2, depicting their strong variation. Greater variation was depicted in the response relating to business failures leading to NPAs, with a standard deviation of 2.144. The distribution of the responses was found to be near normal on all the statements, as their skewness results were less than 1.

Table 5.16: Descriptive Statistics and Respondents' Perception on Bank Related Legislative Frictions

Item Code	N	Mean	Std. Deviation	Skewness	Kurtosis
LF 55	150	4.35	2.027	0.213	-1.287
LF 56	150	4.61	2.108	0.248	-1.381
LF 57	150	4.64	2.171	0.25	-1.426
LF 58	150	4.12	1.798	0.386	-0.747
LF 59	150	4.22	1.821	0.341	-0.799

The result of the descriptive analysis of all the statements of the market-related legislative frictions (Table 5.16) shows that the mean scores of five statements are more than 4 on a scale of 1 to 7. This meant that most respondents more than moderately agreed with the statements. Most respondents agreed that the slew of laws has slowed down the process of judicial remedy, leading to NPAs with a mean score of 4.64, respectively. The standard deviation of three of the five statements is near 2, and the SD of two statements is near 2, depicting their strong variation. Greater variation was depicted in the response relating to the number of laws that have slowed down the process of judicial remedy, with a standard deviation of 2.171. The distribution of the responses was found to be near normal on all the statements, as their skewness results were less than 1.

Table 5.17: Descriptive Statistics and Respondents' Perception on Natural Fallbacks

Item Code	N	Mean	S.D	Skewness	Kurtosis
NF 60	150	4.08	2.084	0.569	-0.919
NF 61	150	4.35	2.066	0.4	-1.224
NF 62	150	4.84	1.81	0.696	-0.944
NF 63	150	4.23	2.138	0.477	-1.224
NF 64	150	4.66	1.946	0.654	-0.785

The result of the descriptive analysis of all the statements of the market-related Natural Fallbacks shows that the mean score of four statements (table 5.17) out of five statements is more than 4 on a scale of 1 to 7. This meant that most respondents more than moderately agreed with the statements. Most respondents agreed that inadequate or no insurance coverage leads to NPAs, with a mean score of 4.35, respectively. The standard deviation of three of five statements is near 2, and the SD of two statements is near 2, depicting their strong variation. Greater variation was depicted in the response relating to loss due to natural calamities leading to NPAs, with a standard deviation of 2.084. The distribution of the responses was found to be near normal on all the statements, as their skewness results were less than 1.

5.3 Pilot Test of the questionnaire

In research survey design, pilot testing of questionnaires is crucial for ensuring the validity, reliability, and practicality of the questionnaire instrument during large-scale surveys (Cohen et al., 2013). By conducting pilot testing, researchers can ensure that the questions are worded correctly and effectively applied (Cohen et al., 2013). To pilot test a questionnaire, researchers should establish how the test will be conducted and who will be surveyed. During pilot testing, an elected group of respondents representing the study's target sample is administered the questionnaire, and feedback is obtained through statistical analysis to reduce the number of items to a manageable size. Data analysis from pilot testing is then conducted to determine various statistical aspects:

1. Collinearity
2. Reliability
3. Factor Analysis (Cohen et al., 2013)

To ensure the validity of the questionnaire in this study, pilot testing was deemed necessary as the constructs and statements were based on previous research studies. The pilot test included normality, reliability, and factorability tests. Between February and March 2022, a face-to-face interaction approach was used to collect responses from a sample of 150 participants from both the public and private sectors. The questionnaire was distributed through hard copies provided to bankers. The pilot

aimed to identify any areas for improvement in the questionnaire, assess the reliability of the responses, and determine if any additional relevant statements needed to be added. A 7-point Likert Scale was utilized in the questionnaire, with responses ranging from strongly disagree (1) to strongly agree (7).

5.3.1 Exploratory Factor Analysis and Reliability Assessment Procedure

Exploratory Factor Analysis (EFA) is a statistical technique that identifies the underlying structure among variables in the analysis to reveal whether groups of observed variables share variance-covariance features that describe theoretical constructs/factors (Schumacker & Lomax, 2010). The main objectives of EFA are to determine the number of common factors, understand the nature of the factors and which items relate to each factor, assess whether the factors are correlated or uncorrelated, and identify any problematic items that need to be considered in subsequent confirmatory factor analysis (CFA) (Hair et al., 2019).

EFA also assesses whether some variables can be represented more parsimoniously as measures of one or a few underlying constructs while maintaining a minimum loss of information (Fabrigar & Wegener, 2010; Hair et al., 2019). In this investigation, an exploratory approach was chosen to assess whether the data met the assumptions of the model and to gain a better understanding of how the substantive measures behave (Fabrigar & Wegener, 2012). First, the suitability of the variables for EFA was examined, and then EFAs were performed for each construct in the conceptual model. The steps taken to achieve these objectives are discussed in detail below.

To determine whether the variables were appropriate for EFA, the following measures were used:

- (a.) The Bartlett's test for Sphericity; and
- (b.) The Kaiser-Meyer-Olkin Measure (KMO)

Bartlett's Test for Sphericity is a statistical method utilized to evaluate item homogeneity by measuring the presence of correlations among variables (Hair et al., 2006). If Bartlett's test results in a significant value, it implies that the correlation matrix is non-orthogonal (i.e., variables are intercorrelated) and that the data is suitable for factorization (Sharma, 1996). However, the sensitivity of Bartlett's test to

sample size (Hair et. al., 2006; Sharma, 1996) suggests that it should not be solely relied upon for determining the appropriateness of data for EFA.

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was used along with Bartlett's test to assess variable homogeneity (Sharma, 1996). The KMO index ranges from 0 to 1 and determines the level of homogeneity among variables. While there are no statistical tests available for the KMO measure, values above 0.5 are generally deemed suitable for factor analysis (i.e., KMO values below 0.5 may require remedial action). Moreover, values greater than 0.8 indicate that the data is of good quality and appropriate for component or factor analysis (Sharma, 1996).

Factor rotations can be classified as orthogonal or oblique. Orthogonal rotation produces uncorrelated new factors, while slanted rotation results in correlated new factors. Although orthogonal rotation, particularly VARIMAX, is predominantly applied in marketing research, oblique rotation is theoretically superior (Lee & Hooley, 2005). The theoretical superiority is based on the notion that constructs in the social sciences are correlated in the real world (Cattell, 1988). For each construct, the EFA was conducted using principal axis factoring with oblique rotation (Direct Oblimin), allowing factors to be correlated with one another in an attempt to identify the smallest number of factors that could account for the common variance of the set of variables per construct (Backhaus et al., 2013).

5.3.2 Assessment of Factor Loadings

Several authors suggest more rigorous criteria for factor loadings (Comrey & Lee, 1992; Field, 2005; Fidell, 2007; Guadagnoli & Velicer, 1988; Tabachnick & Fidell, 2007). Field (2005) agrees with Guadagnoli & Velicer (1988) that a factor should be deemed reliable if it has four or more loadings of at least 0.6, regardless of the sample size. When items have different frequency distributions, Tabachnick and Fidell (2007) propose stricter cut-offs suggested by Comrey and Lee (1992) that range from 0.32 (poor), 0.45 (fair), 0.55 (good), and 0.63 (very good) to 0.71 (excellent).

As a result of these more stringent approaches, a minimum loading of 0.7 is commonly considered (Spector, 1992) as a more stringent cut-off. Therefore, the analysis aimed for factor loadings above 0.6, and items with factor loadings close to

the 0.4 threshold were closely scrutinized during CFA. When examining factor loadings, a lower bound of 0.7 was applied to indicate a significant factor loading. A loading of 0.7 was selected because Hair et al., (2006) recommended taking sample size into account when determining cut-off thresholds for factor loadings.

5.3.3 Assessment of Internal Consistency

Cronbach's alpha is a metric used to evaluate internal consistency and the degree of correlation among a group of items. It is based on two factors: the number of test items and their average inter-correlation, as illustrated in Equation 1. In the standardized formula, N represents the total number of items, the \bar{c} denotes the inter-item covariance, and the \bar{v} refers to the average variance. It is worth noting that Cronbach's alpha is influenced by the number of items, which means that a higher number of items results in a higher Cronbach's alpha score, even if there is no improvement in internal consistency. Additionally, Cronbach's alpha is sensitive to the average inter-item correlation; an increase in this correlation leads to a higher Cronbach's alpha, assuming the number of items is constant. These factors should be considered when interpreting Cronbach's alpha results.

$$\alpha = \frac{N \cdot \bar{c}}{\bar{v} + (N - 1) \cdot \bar{c}}$$

5.3.4 EFA and Reliability Assessment Results

A total of 64 statements have been considered to apply factor analysis. The items have been structured based on a review of the literature and the researcher's instinctive information. Kaiser-Meyer-Olkin's measure of sampling capability indicates the fraction of variance in the variables under learning that might be caused by essential factors. The value of the Kaiser-Meyer-Olkin Measure, or KMO, should exceed 0.50 to signify the dataset is adequate for conducting factor analysis (Kaiser, 1974). Here, the KMO value is 0.77, as shown in Table 5.18, which indicates that the sample is sufficient and we may continue with the factor analysis. Moreover, Bartlett's test of sphericity is considerable at $p < .000$.

Table 5.18: KMO and Bartlett's Test

	Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.77	
Reasons for NPA	Bartlett's Test of Sphericity	χ^2	5442.041
		df	946
		Sig.	.000

All 64 statements were used in the initial step of the study, utilizing EFA to evaluate the prototype loadings of the substance, taking into account their resulting factors and constructs. However, the findings on the 12-factor solution and the accepted norm for maintaining the factors that showed Eigenvalues greater than 1.00 kept 42 elements in total. Using factor loadings, Eigen values, percentages of variance explained, cumulative % variance of the various factors, and Cronbach's alpha values for all the constructs, Table 5.18 summarizes the results of EFA linked to reasons for NPAs. In the case of reasons for NPAs, the factor loadings for all the items ranged from 0.605 to 0.855, demonstrating the one-dimensionality and factorially unique nature of the constructs (Hulland, 1999; Hair et al., 2010; Truong & McColl, 2011). The twelve components that were retrieved together account for 58.99% of the variation in total.

Table 5.19: Mean Importance, Percentage of Variance Explained, Eigen Values and Cronbach-alpha for various Factors extracted for NPAs

Item Code	Factor wise Dimensions	λ	Eigen Value	% Variance Explained	Cumulative % Of Variance	α
F1:Bureaucratic Intricacies						
BI 1	Un-collateralized lending leads to NPAs	0.77	1.86	4.90	4.90	0.68
BI 2	Compromised Loans lead to NPAs	0.81				
BI 3	Bureaucratic procedures delay timely intervention when there are signs of incipient sickness leading to NPAs	0.76				
F2:Allocation Impediments						
AEA7	Over/Under Financing leads to NPAs	0.80	1.97	5.19	10.09	0.71
AEA 8	Lack of specialized staff focused on MSMEs leading to poor lending decisions	0.79				
AEA 9	Relaxed Lending Norms adopted by Banks lead to NPAs	0.78				
F3:Faulty Credit Appraisal Skills						
FCA 10	Faulty Assessments of repayment capabilities lead to NPAs	0.76	2.37	6.25	16.34	0.74
FCA 12	Ineffective Market Intelligence System to collect information about borrowers leads to NPAs	0.76				
FCA 13	Improper or Insufficient Interaction with Borrowers leads to NPAs	0.77				
FCA 16	Faulty post-disbursement monitoring of proposals leads to NPAs	0.71				

	F4: Discriminatory and Unethical Attitude					
DUA17	Compromising integrity while issuing loans to borrowers leads to NPAs	0.65	1.74	5.94	64.44	0.71
DUA18	Overlooking deeds of hypothecation and mortgages in the hurry for disbursement leads to NPAs.	0.73				
DUA 19	Errors in the execution of the loan agreements lead to NPAs	0.67				
DUA20	Attainment of targets for purposes of strengthening a record of achievements and reporting leads to NPAs.	0.79				
	F5: Inefficient Financial Management					
IFM22	Diversion of Funds for purposes other than loan granted leads to NPAs	0.77	1.82	4.78	21.12	0.68
IFM23	An inadequate Equity base leads to financial overextending which makes the loans vulnerable to Dereliction leading to NPAs	0.80				
IFM25	Cost overrun in project implementation leads to NPAs	0.76				
	F6: Willful Dereliction					
WD26	Disposal of movable and immovable property used for taking term loans without the knowledge of the bank leads to NPAs	0.73	2.28	6.01	27.13	0.74
WD27	Siphoning off the funds leads to NPAs	0.75				
WD28	Conscious Unwillingness to repay loans leads to NPAs	0.74				
WD29	Subsidies by the government to the defaulters encourage even the disciplined borrowers for willful Dereliction in the future to avail themselves of the benefits of subsidies	0.77				

F7: Infrastructural and Capacity Building Bottlenecks						
ICB 31	Lack of access to the Infrastructure needed by entrepreneurs leads to NPAs	0.75	2.47	6.50	33.63	0.74
ICB 32	Lack of awareness about the government schemes leads to NPAs	0.73				
ICB 33	Lack of entrepreneurial vision, tendencies, and innovation leads to NPAs	0.76				
ICB 36	Lack of managerial, legal, and operational skills leads to NPAs	0.77				
F8: Regulatory Framework						
RF40	Granting Loans to Priority Sectors of the economy on the basis of Government commands rather than Commercial Imperatives leads to NPAs	0.77	1.72	4.52	38.14	0.67
RF41	Liberal Government Policies i.e. providing debts to MSMEs with minimal documentation leads to NPAs	0.77				
RF42	Prolonged regulatory forbearance leads to NPAs	0.77				
F9: Political Facets						
PF45	Lack of political transparency (viz. issue of transparency in policy decisions) affects the endurance or absence of SMEs in the cutthroat market leading to NPAs.	0.75	2.15	5.65	43.79	0.73
PF46	Lack of implementation of MSME policies leads to policy paralysis making the loans NPAs lead to NPAs	0.75				
PF47	Political Warfare and Instability leads to NPAs	0.74				
PF48	Failure to implement the interactive policies as the change of government leads to huge changes in the policies and laws eventually leading to NPAs	0.73				

	F10: Economic Frailties					
EF 50	National Economic Downturns lead to NPAs	0.75	2.21	5.83	49.62	0.73
EF 51	International Economic Slowdown leads to NPAs	0.74				
EF 52	Change in the Line and pattern of business leads to NPAs	0.72				
EF 53	Fluctuations in the Foreign Exchange Market lead to NPAs	0.76				
	F11: Legislative Frictions					
LF 55	Delayed loan recovery due to prolonged legal proceedings leads to willful Dereliction.	0.75	1.65	4.33	53.95	0.69
LF 56	Ineffective legal measures due to Statutory protections available to willful defaulters lead to NPAs	0.79				
LF 57	A Slew of laws has slow down the process of judicial remedy leading to NPAs	0.75				
	F12: Natural Fallbacks					
NF 60	Loss Due to Natural Calamities leads to NPAs	0.78	1.92	5.05	58.99	0.69
NF63	No/Inadequate insurance coverage leads to NPAs	0.79				
NF 64	Making a large number of provisions in order to pay damages ends up the fiscal with a reduced profit leading to NPAs	0.78				

Factor analysis and reliability analysis were conducted to identify the main constructs and dimensions in the survey dataset and evaluate the constructs' performance. To achieve this, the data set was assessed for univariate and multivariate normality, and exploratory factor analysis (EFA) was performed using the five methodological steps outlined by Fabrigar et al., (1999). Factor analysis based on major components was utilized to extract the highest range of variance possible from the data, and the Varimax rotation criterion was used to flip the effects. The findings revealed 12 factors that could account for 64% of the overall variance, with all items demonstrating strong convergent and discriminant validity. While the Kaiser criterion suggests retaining only eight of the original elements, research by Jolliffe (1986) cited by Field (2009) found that factors with eigenvalues as low as 0.70 could be retained. In this study, Kaiser's Factor Discarding Criterion was used to retain 12 factors, and the total variances are explained in Table 5.19.

5.4 Discussion on Extracted Constructs

5.4.1 Bureaucratic Intricacies

The high level of non-performing assets (NPAs) in India is primarily attributed to bureaucratic intricacies. This construct plays a significant role, explaining 4.90 percent of the variance in the dataset with an Eigen value of 1.86. This indicates its substantial influence compared to other factors. The variables comprising this construct, including un-collateralized lending (.77), compromised loans (.81), and bureaucratic procedures that delay timely intervention when there are signs of incipient sickness (.76), play a significant role, explaining 4.90 percent of the variance in the dataset with an Eigen value of 1.86. This indicates its substantial influence compared to other factors.

MSMEs and commercial enterprises were to be supported during the COVID-19 epidemic by the Emergency Credit Line Guarantee Scheme (ECLGS), which was introduced in May 2020. The programme helped 113.75 lakh MSME clients by offering 100% guaranteed loans without collateral. 111.04 lakh MSEs were guaranteed as of 31.3.2023, while 18.65 lakh customers were categorized as non-performing assets (NPAs). As of June 30, 2023, 5.45% of the overall quantity of financial assistance provided to MSMEs has defaulted, totaling Rs. 13,233 crore.

5.4.2 Allocation Impediments

The second factor contributing to the elevated status of NPAs in India is the inefficiency of banks in allocating their lending to MSMEs. This factor is composed of three attributes and accounts for 5.19% of the variance with an Eigenvalue of 1.97. The attributes consist of over/under financing (0.80) and the lack of specialized staff dedicated to MSMEs (0.79) (Table 5.19). As a result of relaxed lending norms, MSME borrowers often believe that they are not obligated to repay the bank, leading to an increase in willful defaulters (0.78). In some cases, borrowers who misuse funds may open multiple accounts at different banks to avoid repayment. This factor highlights the importance of efficient allocation of lending by banks and the need for specialized staff trained to handle MSME borrowers. It also underscores the significance of enforcing lending regulations to prevent willful defaulters and promote accountability among borrowers.

5.4.3 Faulty Credit Appraisal Skills

The third factor contributing to the elevated stage of non-performing assets (NPAs) in India is the faulty credit assessment skills of banks. This factor is made up of four statements and explains 6.25% of the variance with an Eigenvalue of 2.37, indicating its significance among other factors. The variable with the highest loading is the improper or insufficient interaction with borrowers, with a loading of 0.77. This is followed by faulty assessments of repayment capabilities with a loading of 0.76, ineffective market intelligence systems to collect information about borrowers with a loading of 0.76, and faulty post-disbursement monitoring of proposals with a loading of 0.71 (as shown in Table 5.18). This factor highlights the importance of proper credit appraisal skills for banks to accurately assess the payment capabilities of borrowers and monitor their proposals post-disbursement to reduce the risk of NPAs.

5.4.4 Discriminatory and Unethical Attitude

Another factor that is identified in this study is discriminatory and unethical attitudes. This factor is developed by four attributes and explains 5.94 percent of the variance with an eigenvalue of 1.74. The statements suggest that patronizing the borrowers leads to NPAs (0.65), compromising integrity while issuing loans to borrowers leads

to NPAs (0.73), overlooking deeds of hypothecation and mortgages in the hurry for disbursement leads to NPAs (0.67), and errors in the execution of the loan agreements lead to NPAs (0.79) in MSMEs.

5.4.5 Inefficient Financial Management

Another important factor is inefficient financial management, which is related to borrowers. This factor comprises cost overruns in project implementation (0.76), inadequate equity bases (0.80), and diversion of funds towards non-loan payments (0.77). This factor explained 4.78 percent of the variance and has an Eigen value of 1.82. This factor reveals when there is a brake in business; borrowers get into the mindset of deferring repayments to the bank, expecting a waiver or concession, and the compromised loans. Also, there is the problem of asset management on the borrowers' side, which has been a persistent problem among MSMEs in India. Weak project implementation can be a cause for poor business management.

According to World Bank financial estimates (2018), it was predicted that MSMEs will require a total of INR 87.7 trillion (USD 1.4 trillion) in debt and equity financing, of which INR 69.3 trillion (USD 1.1 trillion) will come from loans and INR 18.4 trillion (USD 283 billion) from equity.

5.4.6 Willful Dereliction

The next borrower-related factor is willful dereliction by the MSMEs. This factor is developed by four attributes and explains 6.01 percent of the variance with an eigenvalue of 2.28. The statements include the disposal of movable and immovable property used for taking a loan without the bank's consent (0.73), fund siphoning (0.75), and conscious unwillingness by borrowers (0.74), as well as government subsidies encouraging disciplined borrowers to default to avail themselves of future subsidies (0.77). The factor loading implies that if bankers are to be held accountable for the elevated levels of NPA, then the regulator is also responsible for willful dereliction. Furthermore, when banks offer more financing than what borrowers need, they divert the funds to other uses.

5.4.7 Infrastructural and Capacity Building Bottleneck

The next borrower-related factor is infrastructural and capacity-building bottlenecks in the MSME sector that led to NPAs. This factor is constituted by four attributes and explains 6.50 percent of the variance with an eigenvalue of 2.47. The statements include viz; lack of access to the infrastructure needed by entrepreneurs (0.75), lack of awareness of government schemes (0.73), lack of entrepreneurial quotient (skills) (0.76), and lack of managerial, legal, and operational skills (0.77). The assumption from the factor loading is that borrowers (MSMEs) of bank loans lack entrepreneurial and managerial skills, which ultimately reflects in inadequate efficiency and management of the business and its assets. The Government and the banks also need to increase information outflow towards borrowers regarding schemes, benefits, and limitations of loan assets and their management. This factor elucidates that much of the NPA problem stems from borrowers' lack of entrepreneurial skills and experience in business ventures. Although borrowers can obtain access to bank funding with the help of an auditor, their shortcomings become apparent afterward, rendering them unable to comprehend the bigger picture and leading them to pursue unsuitable projects. These factors combined lead to a significant increase in the NPA levels in India, which in turn has a detrimental impact on the country's financial system.

5.4.8 Regulatory Framework

The next factor that leads to NPAs in the MSME sector is the regulatory framework. This factor is constituted by three attributes and explains 4.52 percent of the variance with an eigenvalue of 1.72. The statements included in this factor are: Granting loans to priority segments of the economy based on government commands rather than commercial imperatives leads to NPAs (0.77); liberal government policies, i.e., providing debts to MSMEs with minimal documentation, lead to NPAs (0.77), and prolonged regulatory forbearance leads to NPAs (0.77), which leads to MSME loan dereliction in India. This essentially means that banks and financial institutions are pressured to lend to the MSME sector as part of their priority segment lending targets, without fully assessing the creditworthiness of the borrower. As a result, many MSMEs may receive loans they are unable to pay back, leading to an increase in NPAs. The second attribute is the provision of loans with minimal documentation.

While this can make it easier for MSMEs to access funding, it can also lead to the misrepresentation of financials and fraudulent practices. Such actions can eventually lead to dereliction, contributing to the NPA problem in the sector.

Finally, prolonged regulatory forbearance is the third attribute of this factor. This refers to the practice of extending regulatory deadlines or allowing MSMEs more time to repay loans. While it may seem like a solution to prevent dereliction in the short term, it can actually exacerbate the problem in the long run. This is because prolonged forbearance can lead to further deterioration of the MSME's financial condition and increase the likelihood of default. Overall, the regulatory framework is a significant contributor to the NPA problem in the MSME sector. The prioritization of sector lending, the provision of loans with minimal documentation, and prolonged regulatory forbearance all have a role to play in this issue. Addressing these factors will require a coordinated effort from regulators, financial institutions, and MSMEs themselves to ensure sustainable growth and financial stability in the sector..

5.4.9 Political Facets

Another factor that is identified in this study is political facets. This factor is developed by four attributes and describes 5.65 percent of the variance with an eigenvalue of 2.15. The statements suggest that lack of political transparency (viz., issue of transparency in policy decisions) affects the endurance or nonappearance of SMEs in the competitive market, leading to NPAs (0.75), lack of implementation of MSMEs policies leading to policy paralysis, making the loans NPAs (0.75), political warfare and instability lead to NPAs (0.74), and failure to implement interactive policies as the change of administration leads to huge changes in the policies and laws eventually leading to NPAs (0.73). The first attribute of this factor is the lack of political transparency. This means that there is a lack of clarity and openness in the decision-making process, which can lead to corruption and favoritism. This can ultimately result in the allocation of loans to MSMEs with weaker financials, leading to a higher likelihood of dereliction. The second attribute is policy paralysis due to a lack of implementation. This refers to situations where policies are announced but not effectively implemented, leading to a lack of impact on the ground. In the context of the MSME sector, this can lead to a lack of access to the creditor support that the

policies were designed to provide. This, in turn, can contribute to the NPA problem in the sector. The third attribute of political facets is political warfare and instability. Political instability can lead to an uncertain business environment, which can be detrimental to MSMEs. It can also result in a lack of continuity in policy and decision-making, leading to confusion and a lack of direction for businesses. In addition, political warfare can lead to a diversion of resources away from the MSME sector, which can make it more difficult for businesses to access the funding and support they need to grow. Finally, failure to implement policy and legal changes is the fourth attribute of this factor. This means that policies or legal changes that are designed to support the MSME sector may not be effectively implemented or enforced, leading to a lack of impact on the ground. This can result in a lack of access to credit or other support that the policies were designed to provide, contributing to the NPA problem in the sector.

Thus, political facets are a significant contributor to the NPA problem in the MSME sector. Lack of transparency, policy paralysis, political instability, and failure to implement policy and legal changes all have a role to play in this issue. Addressing these factors will require a concerted effort from policymakers and regulators to create a more stable and supportive environment for MSMEs to grow and thrive.

5.4.10 Economic Frailties

Economic frailties have also been identified as a factor that leads to NPAs in the MSME sector. This factor is composed of three attributes and explains 5.83% of the variance with an eigenvalue of 2.21. The variables suggest that nationwide economic downturn (.75), international economic slowdown (0.74), and change in line and pattern of business lead to NPAs in India.

Alongside regulatory and political facets, economic frailties have also been recognized as an important contributor to the rise of non-performing assets (NPAs) in the MSME segment in India. The first attribute of this factor is a nationwide economic downturn. Economic downturns can lead to a decrease in demand for goods and services, which can affect the revenue streams of MSMEs. This can result in businesses struggling to repay loans, leading to a higher likelihood of dereliction and contributing to the NPA problem in the sector. The second attribute is an international

economic slowdown. This refers to a global economic downturn that can have a significant impact on the Indian economy, particularly on exports and foreign exchange earnings. This can, in turn, affect the financial health of MSMEs that rely on exports and foreign exchange earnings, leading to a higher likelihood of dereliction and contributing to the NPA problem in the sector. The third attribute of economic frailties is the change in the line and pattern of business. This refers to situations where MSMEs change their line of business or the pattern of their operations. Such changes can result in businesses facing unexpected challenges or encountering new competitors, which can affect their financial health and ability to repay loans. This, in turn, can contribute to the NPA problem in the sector. Therefore, economic frailties play an important part in the NPA problem in the MSME sector in India. A nationwide economic downturn, an international economic slowdown, and changes in the line and pattern of business can all contribute to businesses struggling to repay loans, leading to a higher likelihood of dereliction. Addressing these factors will require a focus on creating a more stable and supportive economic environment for MSMEs to operate in, which will require a coordinated effort from policymakers, regulators, and financial institutions.

5.4.11 Legislative Frictions

Legislative frictions have also been identified as a factor that leads to NPAs in the MSME sector. This factor is constituted by three attributes and describes 4.33 percent of the variance with an eigenvalue of 1.65. The variables suggest that delayed loan recovery due to prolonged legal proceedings gives rise to willful dereliction (.75), ineffective legal measures due to statutory protections available to willful defaulters (0.79), and a slew of laws slowing down the process of judicial remedy (0.75) lead to NPAs in India.

In addition to regulatory, political, and economic frailties, legislative frictions have also been identified as a contributor to the rise of non-performing assets (NPAs) in the MSME segment in India. The first attribute of this factor is the delayed loan revival due to prolonged legal proceedings, which can give rise to willful dereliction. This means that when legal proceedings take a long time to resolve, businesses may take advantage of the situation and delay the repayment of loans intentionally. This

can lead to a higher likelihood of dereliction and contribute to the NPA problem in the sector. The second attribute is ineffective legal measures due to statutory protections available to willful defaulters. This means that certain legal protections available to willful defaulters can make it difficult for financial institutions to recover loans. This can result in a lack of consequences for businesses that do not repay loans, leading to a higher likelihood of dereliction and contributing to the NPA problem in the sector. The third attribute of legislative friction is a slew of laws slowing down the process of judicial remedy. This refers to situations where the legal system is bogged down with many cases, which can slow down the process of judicial remedy. This can result in a lack of timely resolution of cases, leading to a higher likelihood of dereliction and contributing to the NPA problem in the sector. Overall, legislative frictions are a significant contributor to the NPA problem in the MSME sector in India. Delayed loan recovery due to prolonged legal proceedings, ineffective legal measures due to statutory protections available to willful defaulters, and a slew of laws slowing down the process of judicial remedy can all contribute to a higher likelihood of dereliction. Addressing these factors will require a focus on creating an efficient and effective legal system that can provide timely resolution of cases and encourage timely repayment of loans by businesses.

5.4.12 Natural Fallbacks

Natural fallbacks have also been identified as a factor that leads to NPAs in the MSME sector. This aspect is constituted by three attributes and explains 5.05 percent of the variance with an eigenvalue of 1.92. The variables suggest that loss due to natural calamities leads to NPAs (.78), no or inadequate insurance cover leads to NPAs (0.79), and Making a large number of provisions in order to pay damages ends up the fiscal with a reduced profit leading to NPAs (0.78) in India. The first attribute of this factor is the loss due to natural calamities. When natural disasters such as floods, earthquakes, or cyclones occur, they can cause significant damage to businesses, leading to a loss of income and revenue. This loss can make it difficult for businesses to repay loans, leading to a higher likelihood of dereliction and contributing to the NPA problem in the sector. The second attribute is no or inadequate insurance coverage. When businesses do not have adequate insurance coverage, they may not have the financial resources to recover from the losses caused

by natural disasters. This can make it difficult for them to repay loans, leading to a higher likelihood of dereliction and contributing to the NPA problem in the sector. The third attribute of natural fallbacks is making a large number of provisions to pay damages. When businesses are hit by natural disasters, they may need to make provisions to pay for the damages caused. This can include repairing or rebuilding damaged property or replacing equipment. Nearly 85% of the MSMEs in India are uninsured, according to data released by the Insurance Regulatory and Development Authority of India in 2020.

5.5 Confirmatory Factor Analysis

Even though EFA is a valuable opening technique for scale construction, CFA is considered a better method for scale validation due to its less preventive assumptions (Bagozzi, Yi, & Philipps, 1991). In CFA, the researcher has more control over the loadings and path coefficients of variables, allowing them to specify which variables explain every construct, resulting in a smaller number of loadings. Furthermore, within CFA, measurement errors for both latent and observed variables can be taken into account, and the assumptions of classical measurement theory can be directly examined. CFA provides improved parameter estimates that are likely to be closer to the actual population values (Byrne, 1998). Therefore, in the present study, CFA was conducted to verify the proposed factor structure from EFA, assess the convergent and discriminant validity of all latent constructs in the measurement model, and determine whether any considerable modifications were essential. The subsequent steps, as recommended by Hair et al. (2006), were: data grounding, model requirement, model structure recognition, assessment of parameter fit, assessment of overall fit, and model re-specification.

5.5.1 Validity Assessment

The present study assessed the validity of the measurement model through various methods, including content validity, within-method convergent validity, and discriminant validity. These assessments ensure that the measures used in the study are accurate and reliable, and can be used to draw meaningful conclusions about the construct being measured.

5.5.1.1. Composite Reliability and Average Variance Extracted (AVE)

Composite (or concept) reliability (CR) and average variance extracted (AVE) are

additional measures of convergent reliability (Hair et al., 2006). Contrary to Cronbach's coefficient alpha, CR does not presuppose equal reliability across items, allowing for sufficient reliability of composite scores even when the individual scale items have varying reliabilities (Gerbing & Anderson, 1988). The following is the Fornell and Larcker (1981) equation for determining a latent construct's composite reliability (CR):

$$CR = \frac{(\sum \lambda)^2}{(\sum \lambda)^2 + \sum \epsilon}$$

Where $\sum \lambda$ represents the sum of the standardized factor loadings for each item on the latent construct and $\sum \epsilon$ represents the sum of the error variances for each item. It is extensively acknowledged that the value of CR should be greater than 0.60 (Bagozzi & Yi, 1988). The AVE is used to determine the amount of variance captured by a dormant construct in relation to the amount of variance due to measurement error (Fornell & Larcker, 1981). The formula for AVE, as given by Fornell and Larcker (1981, p. 46), is:

$$AVE = \frac{\sum \lambda^2}{\sum \lambda^2 + \sum \text{Var}(\epsilon)}$$

Here, λ represents the standardized factor loading for item i on a factory, and $\text{Var}(\epsilon)$ represents the variance of ϵ , which is the respective error variance for item i . It is generally recommended that the AVE value be greater than 0.50 for adequate convergent validity (Bagozzi & Yi, 1988).

5.5.1.2 Discriminant Validity

The degree to which a statement does not connect with additional constructs from which it is theoretically meant to vary is known as discriminant validity (Malhotra, 2012). In contrast to measurement error, unmeasured impacts, or other constructs within the conceptual structure, it is assumed that a latent construct should account for more discrepancies in the observed objects linked to it (Farrell, 2010). The Fornell and Larcker (1981) norm (as cited in Lee et al., 2011; Sichtmann, van Selasinky, & Diamontopoulos, 2011) is a method frequently used to evaluate discriminant validity. It compares the extracted average discrepancy (AVE) of each latent construct with the squared correlations (i.e., the shared variance between constructs). If the AVE of every latent construct is higher than the squared correlations with all other latent constructs, discriminant validity is supported.

5.5.2 Results of Confirmatory Factor Analysis

When EFA was performed, confirmatory factor analysis was working using a sample of 316, and the model was made as shown in Figure 5.1. The study assessed item reliability using composite reliability (CR), which should ideally be above 0.70 (Hair et al., 2010). Each construct's variance shared between the indicators or observed variables was calculated as composite consistency. As per Table 5.20, all constructs had composite reliability above 0.70, indicating good reliability. The study also established convergent validity using the average variance extracted (AVE), which should ideally be 0.5 or higher, as suggested by Fornell and Larcker (1981). As shown in Table 5.20, the AVE values were all 0.5 or above, indicating that every dormant variable explains at least 50 percent of the variance of its particular indicators. To ensure content legitimacy, the study employed various methods such as reviewing relevant literature, conducting pilot surveys, and discusses with experts in the field while emerging the questionnaire.

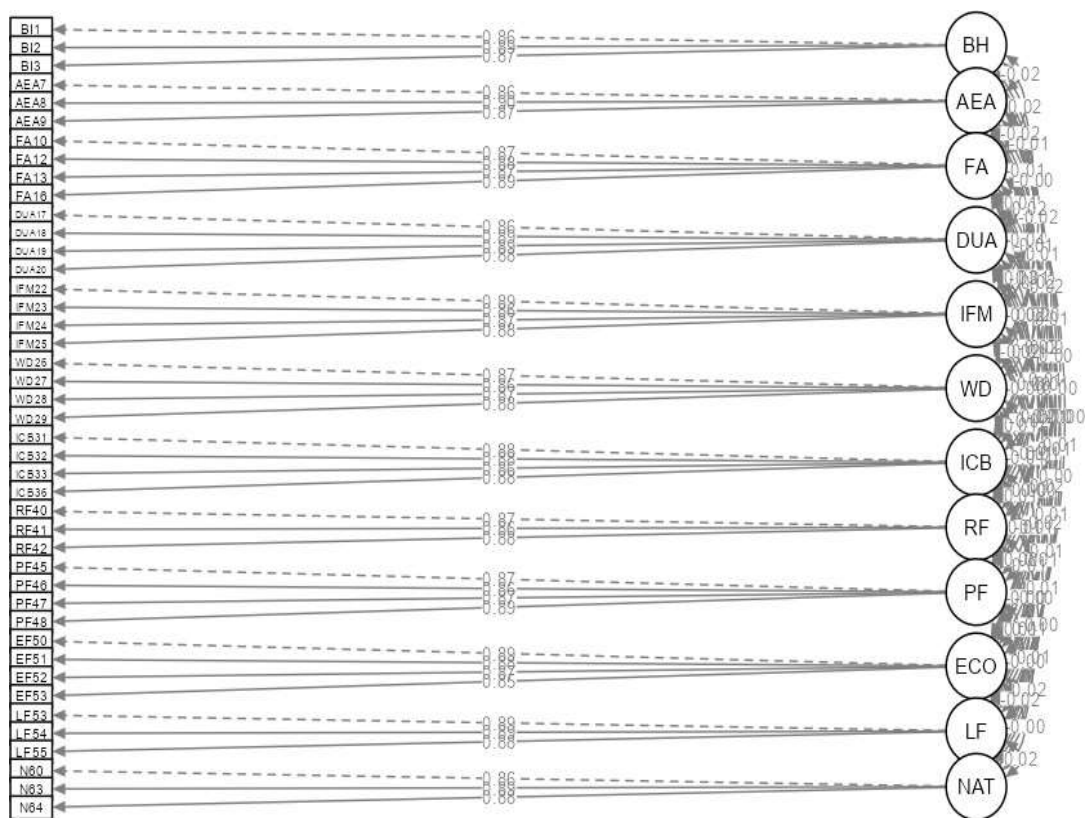


Figure 5.1 CFA Model

Source: Researcher's Computation

5.5.2.1 Composite Reliability and AVE Results

As proposed by earlier writers (such as Backhaus et al.2013; Hair et al., 2006) and consistent with approach literature in the relevant field (Hooper, Coughlan & Mullen, 2008; Hu & Bentler, 1999), many robust indices can be employed to evaluation the overall model fit.

Table 5.20: Composite Reliability & Average Variance Explained

Construct	Composite reliability (rho_a)	Average Variance Extracted
AEA	0.933	0.823
BI	0.936	0.83
EF	0.946	0.855
FA	0.951	0.83
ICB	0.938	0.791
IFM	0.939	0.838
LF	0.949	0.86
NF	0.937	0.832
PF	0.943	0.804
RF	0.937	0.833
WD	0.943	0.807
DU	0.957	0.825

5.5.2.2 Discriminant Validity Results:

Discriminant validity assesses the extent to which measures of different constructs are not highly correlated with each other (Malhotra, 2012). Discriminant soundness can be measured by investigating the correlations between constructs and ensuring that they are not too high (Hair et al., 2006). In the present study, discriminant validity was assessed by examining the correlation matrix between the constructs and ensuring that the correlations were not too elevated.

Table 5.21: Discriminant Validity (Fornell- Larcker Criterion)

	BI	AEA	FA	DUA	IFM	WD	ICB	RF	PF	ECO	LF	NF
BI	0.81											
AEA	0.63	0.82										
FA	0.67	0.69	0.75									
DUA	0.76	0.57	0.57	0.84								
IFM	0.75	0.81	0.66	0.66	0.81							
WD	0.52	0.65	0.64	0.52	0.63	0.80						
ICB	0.68	0.61	0.60	0.79	0.64	0.56	0.75					
RF	0.70	0.64	0.65	0.60	0.66	0.65	0.58	0.79				
PF	0.74	0.57	0.62	0.64	0.61	0.53	0.66	0.63	0.78			
ECO	0.45	0.64	0.61	0.50	0.56	0.55	0.52	0.51	0.51	0.83		
LF	0.78	0.66	0.73	0.71	0.70	0.60	0.63	0.69	0.77	0.54	0.75	
NF	0.67	0.73	0.71	0.70	0.60	0.63	0.68	0.76	0.54	0.79	0.69	0.70

In summary, the measurement model was evaluated using various fit indices and reliability measures. The value of chi-square was high and considerable, but this could be attributed to the large sample size and number of observed variables. The chi-square/df ratio was well below the recommended threshold. The RMSEA value indicated a satisfactory model fit, but a more rigorous higher edge suggested possible model re-specification. The SRMR value was within the acceptable range. The incremental fit indices (CFI and NNFI) indicated a good model fit, and the PNFI suggested a relatively good fit considering the loss of degrees of freedom. The combined reliabilities and average variance extracted values were all above the recommended thresholds, indicating good reliability and convergent validity. The questionnaire was also designed with content validity in mind, using input from experts in the field and a survey. Based on the information provided, the model developed appears to be a good fit. The chi-square statistic of 342.275 with 574 degrees of freedom and a value of p greater than 0.05 suggests that there is a statistically considerable dissimilarity between the observed and expected data, but this alone does not indicate a good or bad fit. The chi-square separated by degrees of freedom (χ^2/df) value of 1.801 is under the threshold limit of three, representing an acceptable fit.

Table 5.22: Fit Indices of Structure Model (Reasons for NPAs)

Correctness Indicator	Research Result
χ^2	342.275
Df	574
P	0.09
Normed χ^2	1.801
Goodness of Fit	
GFI	0.908
AGFI	0.887
CFI	0.952
Badness of Fit	
SRMR	0.045
RMSEA	0.068

Additionally, the value of the goodness-to-fit index is 0.908 and the value of the adjusted goodness-to-fit index is 0.887, which suggests that it is an acceptable model fit. The value of the root mean square error of the approximation is 0.068, and the value of the root mean square residual is 0.045, which points out that it is a good model fit. The Comparative Fit Index (CFI) value of 0.952 is above the threshold of 0.90, which is at present acknowledged as an indicator of a good quality fit, suggesting that the model will robustly fit the data.

5.6 Conclusion and Suggestions

Overall, the study highlights the multifaceted nature of NPAs in the MSME sector in India. Borrower-related factors, such as lack of repayment culture, siphoning off loan amounts, and inexperience in business ventures, coupled with intentional malefaction, are 11.63% contributors to the problem. On the other hand, banks' internal competencies, such as non-collateralized loans, aggressive lending, and laxity in credit risk assessment, also contribute significantly, overall explaining 22.28% of the total variance. Additionally, regulatory framework, political facets, economic frailties, and natural fallbacks all play a role in the NPA fiasco, explaining around 26% of the variance. To address the issue, the study recommends various measures,

such as proper training for banking staff, increased vigilance in credit risk assessment, and structural changes to mitigate the impact of economic frailties. Strengthening recovery measures is also suggested as a superlatively feasible method to decrease the NPA percentage. Overall, addressing the matter of NPAs in the MSME segment in India will require a multi-pronged approach that involves collaboration between borrowers, banks, regulators, and policymakers.

CHAPTER - VI

ADOPTION OF NON-PERFORMING ASSETS (NPA)

MANAGEMENT PRACTICES

The chapter attempts to focus on the recognition of various precautionary methods for NPA management in the MSME unit in the future. The primary data is associated with the actual management of protective measures. The data was analytically checked using frequency analysis based on a survey of 316 bankers from 10 sampled banks (5 selected from the public sector banks and 5 selected from the private sector banks). Thus, the ongoing chapter aims to shed light on the methods utilized to avert NPAs in MSMEs while taking into account the aspect of the bankers who have had direct involvement in lending opportunities. The recommendations focus on the key practices for steeping NPAs, which the banks must take into consideration while making the required constitutional conversion to their cure measures.

6.1 NPA Management Practices

NPA management starts with the awareness of a good selection, which necessitates better information on lending risks. The organization must decide on an approach while keeping in mind governing requirements, the industry surrounding it, its market stake, threats in the form of risks, accessible assets, and so on (Bhakare, 2017). Despite several methods to address NPAs, the problem has persisted over the last few decades. There are some curative practices proposed that are generally employed once an account is classified as an NPA. Well, known curative practices are, "One-time Settlement Scheme," "SARFAESI Act," "Debt Recovery Tribunal," "Strategic Debt Restructuring," "Sustainable Structuring of Stressed Assets (S4A)," and "BIFR" for Sick Units. Also, a new program called "Indradhanush" has been started in the banking industry to bring the whole industry back to life by putting in Rs. 70,000 crores from 2014–15 to 2018–19.

However, before an account is classified as an NPA, the loan may be improved by remedial measures. Bhaskaran et al., (2016) stated that the banks must be proactive in constructing a realistic and organized NPA management policy that prioritizes the avoidance of NPAs. Branch managers and NPA personnel should adopt preventative

steps to avoid account conversions. Even though the RBI has required all bank branches to adopt preventive measures, NPA is still on the rise; hence, stakeholders must check and monitor if the branches are taking the required steps.

6.2 Overview of Curative Practices

6.2.1 Debt Recovery Tribunal

For the Revival of Credits Outstanding to Banks and Financial Institutions, the Banks and Financial Institutions Act (RDDBFI Act), 1993 established the Debts Recovery Tribunals (DRTs) and Debts Recovery Appellate Tribunals (DRATs) with the specific goal of providing expeditious judgment and recovering credits (Gupta, 2017). Presently, 38 DRTs and 5 DRATs are functioning in India. Appeals against Debts Recovery Tribunal (DRT) orders are heard by the Debts Recovery Appellate Tribunal (DRAT). India has five DRATs Delhi, Allahabad, Mumbai, Chennai, and Kolkata each have a DRAT. It holds circuit hearings in places where it has appellate authority.

The primary purpose of these tribunals is to help banks and other financial organizations collect from their clients who owe money. Cases involving loans in dispute above Rs. 10 lacs can be referred to DRTs by banks. DRTs were able to process a high volume of cases in a short amount of time compared to traditional court processes. DRTs have affected the recovery front, but their effectiveness has come under scrutiny in the face of a growing number of nonperforming assets (NPAs).

The prolonged resolution time is the primary problem with DRTs for debt recovery (settling debts and finding an end to defaults). DRTs, like many other forms of debt collection, take a long time to resolve outstanding claims. As of the end of 2016, more than 93,000 cases were pending before DRTs around the country. According to the World Bank, the average time it took to resolve insolvency under the previous legislation in India was 4.3 years, which was more than twice as long as in China. In India, the average recovery rate was only 25.7% of the initial investment. Among economies of a comparable type, this ranks at the bottom.

The administration has taken many steps to improve the situation. The 2016 change to the RDDBFI Act of 1993 is a major one. The Insolvency and Bankruptcy Code gives

authority to the DRTs to review Chapter 7 and Chapter 13 bankruptcy petitions filed by individuals and limited liability companies. The following are the most significant revisions to the RDBBFI Act that were passed in 2016 but have not yet been implemented. Timelines for various stages of the adjudication procedure before the debt collection tribunals are provided in the amendment.

The deadlines for submitting written statements, issuing orders, filing appeals, etc., have been shortened. The Act authorizes the central authority to establish consistent routine regulations for the operations of the debt recovery courts and the appellate tribunals. This change permits financial institutions to submit cases in DRTs with authority over the location of the branch where the arrears are due, rather than in DRTs with jurisdiction over the location of the defendant's domicile or place of business. In addition, the Debt Recovery Tribunal Act requires that borrowers drop not more than 25% of the outstanding sums with the DRAT before filing an appeal. The SARFAESI Act is the first piece of legislation to mandate such a clause.

6.2.2 Lok Adalat

The name "Lok-Adalat" translates to "People's Court." Both "Lok" and "Adalat" may be translated as "people" and "court," respectively. India's alternative court system is called Lok Adalat. Lok Adalat is a "forum where the voluntary endeavor is made to bring about the settlement of conflicts between the parties via conciliatory and pervasive efforts," according to the definition. Lok Adalats can be used by banks to collect loans of up to Rs 20 million as per RBI regulations. It is also believed that cheque bounce cases and automobile insurance issues have been taken up. Financial institutions can seek the assistance of a Lok Adalat institution to mediate clashes in the "doubtful" and "loss" category, with a pending balance of at least Rs. 5 lakhs, for a settlement solution under Lok Adalat. For NPAs exceeding Rs. 10 million, debt collection tribunals can hold a public hearing called a Lok Adalat and issue a ruling.

There is a lot of evidence to suggest that this system works well for delivering swift justice and recouping minor loans. It is anticipated that in the next few years, progress along this route will speed up significantly. To put it simply, Lok Adalats are forums where parties to a lawsuit or a dispute in the pre-litigation stage can get together to work out their differences in an informal setting. Under the Legal Services

Authorities Act of 1987, Lok Adalats are recognized as legal entities with authority equivalent to that of a civil court. Awards are final and cannot be challenged by any party.

The main characteristics of Lok Adalat are as under:

1. There is no Court Fee.
2. It settles down banking disputes worth up to Rs. 20 lakhs.
3. It has the authority to obtain cognizance of any present suit pending in Civil Court/DRT "Court.
4. If no case of a consensus is there, the participants may continue with Civil Court/DRT "proceedings.
5. Passed declarations have legal standing and are compulsory for all, and no petition against the award shall lie to any Court.
6. Settlement of cases through this channel will save money and time, which is otherwise, a time-consuming process.

6.2.3 One-Time Settlement Schemes

To avoid legal action from financial institutions, a borrower in default may enter into a "one-time settlement scheme" by agreeing to pay off a portion of the debt at once. When the borrower is unable to pay back the bank in full due to mounting interest payments, this plan of action may be put into action. For businesses with a high probability of default, such as micro, small, and medium-sized organizations, a "one-time settlement" may be an appropriate resolution. However, in the case of retail customers, the bank may take a single payment to end all recovery efforts. The Reserve Bank of India (RBI) stipulates that for a bank to enter into an OTS contract with a borrower, the borrower must consent to the bank making accessible the whole outstanding sum in the account as of the day the account was designated nonperforming. Once OTS is complete, we may settle everything at once. If the borrower is incapable of reimbursing the whole balance in full, he will be given the option of paying 25% down and the remaining 75% over a year, with interest accruing from the date the account was designated as non-performing until the date

payment was made in full.

A monthly report on the status and specifics of settlements should be reported by the relevant authority to the next higher authority and their central office, and banks must adhere to the RBI's standards for the OTS of all NPAs included under the plan without favoritism. To encourage eligible defaulting borrowers to take advantage of the chance for a one-time settlement of their outstanding dues under these guidelines, banks may make a public announcement and send out notices by the date specified by the RBI. Every three months, banks must update the Board of Directors on the status of the one-time settlement of chronic NPAs. To be on the safe side, you may additionally send RBI a copy of each quarterly report.

Banks today often turn to OTS schemes to recoup nonperforming loans. Due to the unsatisfactory outcomes of other methods of cleaning up their balance sheets, such as the sale of bad loans and restructuring, banks are placing their hopes in one-time settlements (OTSs) to increase bad loan recovery (Archana, 2017). Bankers anticipate that their industry may recoup between 50% and 55% of its losses through the OTS Scheme, 40% through the sale of bad loans to asset reconstruction businesses, and the outstanding 10% through legal action.

6.2.4 SARFAESI Act, 2002

The other strategic reform is the execution of Narasimham Committees I & II and the Andhyarujina Committee by the Central Government, and they have taken into account the necessity for adjustments to the legal system concerning these sectors. These committees have issued recommendations for new securitization laws, including allowing financial firms and banks to take custody of securities and sell them without the involvement of a court in this country.

The provisions of this Act apply to non-performing loans (NPAs), with outstanding loans exceeding Rs. 1 lakh. The SARFAESI Act does not apply to:

1. "NPA accounts not more than 20% of the principal and interest in total."
2. "Security or amount issued under the Indian Contract Act or the Sale of Goods Act."

3. "Any unpaid seller who is not paid under section 47 of the Sale of Goods Act, 1930."
4. "Any contract executed under the hire-purchase, sale, and lease agreement in which no security "interest" is created."
5. "Any asset which is not attached or sold under section 60 of the Civil Procedure Code of 1908."

The goals of the SARFAESI Act are to increase securitization, facilitate the pooling of nonperforming assets to recognize them and shorten security interest transfers. At first glance, the SARFAESI Act of 2002 appears to be a boon for banks seeking to combat the problem of nonperforming loans (NPLs) outside of the judicial system. At first glance, the SARFAESI Act 2002 appears to be a boon for banks seeking to combat the problem of nonperforming loans (NPLs) outside of the judicial system. However, in 2018, South Indian MSME trade groups called for the repeal of the SARFAESI Act because it was "causing chaos" in the MSME sector. According to the industry body, the administration should repeal the SARFAESI Act, or at the very least exempt units up to a loan limit of Rs 2 crore, as it will help MSMEs survive in the face of severe crises," industry bodies demanded.

6.2.5 Insolvency & Bankruptcy Code 2016

MSMEs are vital to the Indian economy; hence, their preservation and growth must be promoted. These businesses are the backbone of our economy and should be rewarded. In consideration of these opinions, the best way to support MSMEs and grant them relief is to exclude or soften some insolvency procedure restrictions. The Insolvency and Bankruptcy Code provides an extensive framework for the rapid response to insolvency and bankruptcy of corporate entities, limited liability partnerships, individuals, partnerships, and sole proprietorship firms to maximize asset value. The Code, on the other hand, makes no explicit or distinct provision for MSMEs' resolution. Because the majority of MSMEs are partnerships or sole proprietorships, the standard corporate insolvency resolution process must be followed. However, these businesses are exempt from the penalties imposed by Section 29A of the code.

The MSMED Act of 2006 does deal with the problem of late payments; however, the procedure has been called into doubt because of the council's enforcement. According to the MSMED Act, the council can swiftly address outstanding issues. The IBC is not a debt collection tool but rather a dispute resolution system. The term "corporate debtors" is not usually used to refer to small and medium-sized enterprises (SMEs).

In many bankruptcies, the 'operational creditors' are the business creditors who run the day-to-day operations of the company. The debtor might be liquidated, and the operational creditor could end up with very little if they choose the IBC route. Despite the financial hardship caused by the suspension of Sections 7, 9, and 10 and the financial delays caused by the epidemic, MSMEs can still use the power of the MSMED Act to guarantee that some sort of debt collection is possible.

The IBC may be new, but constant modifications have caused complexity in its application. Due protection and maintenance of MSMEs' rights would encourage entrepreneurs to start and maintain their businesses by reducing their fear of fraud, boosting the economy. Section 29A changed the corporate insolvency resolution procedure and had economic effects. The limited relief offered to MSMEs under the IBC system is in keeping with India's economic strategy of protecting, conserving, and encouraging entrepreneurship.

6.3 Overview of Preventive Practices

The emphasis has switched in recent years from "Keeping the Stressed Account from Deterioration" to "Preventing the Account from Falling to Stress Level.". There are many factors contributing to the escalating nonperforming loans of Indian banks. One of the numerous causes of rising NPAs includes lending to priority sectors. Though prior studies in the field of NPA were confined to identifying the causes or grounds for NPA, the present study attempted to determine bankers' perspectives on preventive measures, which mostly originate internally. A number of NPA management practices have been used by commercial banks to recover and reduce NPAs. Mainly, two types of practices are necessary to control NPAs: curative and preventive (Meher et al., 2020). The goal of the corrective steps is to increase recoveries so that bank monies trapped in NPAs can be released for reuse. Preventive measures are to prevent the asset from becoming a nonperforming asset. Collins

(2011), Reddy (2002), Rao & Patel (2015), Singh (2013), Gupta (2012), Zafar et al. (2013), Tiwari et al., (2013), Shanmugasundaram and Selvaraj (2015), Singh, (2016), and Pati (2010) talked about the relevance of curative/corrective measures and preventive measures in tackling the issue of NPAs.

It is crucial to think about preventive measures in addition to cleaning up the balance sheets of banks by lowering or eliminating problematic loans. It is well known that credit evaluation and risk management can solve the NPA problem (Chakraborty, 2012). If NPA loans are created by difficulties within the bank, it is the bank's responsibility to remedy these concerns. Otherwise, it will lead the banks to take legal action, which is typically considered a last resort. There is an urgent need to review present procedures and revise them in accordance with cutting-edge methodologies employed in industrialized economies. Both components are crucial to a strong NPA management mechanism. There aren't many studies on preventive management measures, and none of them base their conclusions on evaluations of the methods used to stop NPAs. This work adequately fills this research need. There are seven major preventive management practices, namely, maintaining the quality of assets through

- (A) Proper credit appraisal;
- (B) Scrutiny and processing of such applications;
- (C) Post disbursement monitoring;
- (D) Taking effective measures to prevent those accounts whenever symptoms of deterioration in quality are observed;
- (E) Rehabilitation and restructuring of Assets;
- (F) Development of an effective EWS; and
- (G) Development of an effective Relationship Management System.

The study's goal is to determine how frequently commercial banks in the Haryana District use these preventive measures when dealing with MSME loans.

6.4 Data Analysis and Results

6.4.1 Practices to Maintain the Quality of Assets through Proper Credit Appraisal

Credit appraisal is the ability to adapt certain precautions when granting a new sanction, renewing, or increasing an existing limit. Credit appraisal has evolved as a crucial sub-function in Indian banks and refers to an evaluation by a banker before giving any fund in the form of a loan or project amount (Kanungo et al., 2001). The economic, monetary, managerial, and technical feasibility of the projected plan is evaluated. It refers to the estimation of diverse threats that may affect loan reimbursement or creditworthiness. In other words, it determines whether or not the loan will be repaid. The appraisal process can be simple or complex, depending on the purpose and amount of the loan. Banks establish a methodical credit appraisal tactic that is continuously updated in light of changing circumstances (Meher et. al., 2020; Agarwala, 2019; Singh, 2013). In this process, assessing the borrower's truthfulness, reputation, business capability and field experience, administrative ability, and monetary resources corresponding to the extent of the upcoming project is important. Some of the important practices of credit appraisal are identified as follows (Punjab National Bank 2020; Yes Bank 2020):

1. The manager will inspect the prospective borrower's workplace as the first step in the appraisal process. The manager should pay a visit to the borrower's factory or business, as well as his or her residence.
2. The bank manager must conduct a credit investigation on the prospective borrower in addition to the unit inspection. Credit investigation entails determining the borrower's and guarantor's business reputation and creditworthiness.
3. Information obtained from outside sources, such as meeting with the borrower including existing and previous employees.
4. Analysis of financials to determine the economic strength and weaknesses and it demonstrates how resources are contributed and the investment is assigned.
5. The bank's credit officer must examine non-financial papers along with the appraisal of financial papers.

Banks always get the Adhaar cards of borrowers to obtain full information about them. Collecting and feeding the mobile and phone numbers in CBS and contacting the borrowers over the phone regularly help in the credit appraisal process. (Unique Identification Authority of India, (Government of India). Charges pertaining to insurance, equitable mortgage, and processing charges are due to be paid on time to banks by borrowers. Scrutiny of the CIBIL report of the prospective borrowers, thorough and proper pre-sanction process, and bank statements for 6–12 months to ascertain the existing income, actual salary, and assessment of projected income help in preventing NPAs and also help the banks during the credit appraisal of borrowers (ICICI Bank Rehabilitation Policy for Distressed MSMEs). After this process, banks prepare opinion reports. Qualitative appraisal of financial statements, understanding the unhealthy developments in accounts and the working of the units, and independent valuation of property offered as collateral security to ascertain the actual possession of applicants are the measures taken by the banks before sanctioning loans (Banking Law and Practice 2014).

Credit appraisal, which is critical to a bank's asset management, provides a chance to increase not only the trading volume but also the earnings from assets. On the other hand, a strong credit appraisal persuades the banks to give credit to those who deserve to be reimbursed. To lessen the defaulter's risk, banks must strengthen their internal credit appraisal system. Simultaneously, the banker should strive for an external credit appraisal mechanism.

The appraisal standards are significant to maintaining a strong credit flow and, as a result, avoiding NPAs. In the past, one of the major causes of current NPAs was irresponsible loans given by banks, ignoring proper credit appraisal (Sharma 2005). Before the bank proceeds with lending, the evaluation yardsticks must be updated, and an autonomous technical feasibility study of the project should be conducted. Sanctioning of loans, ignoring due carefulness and consideration of the customer's business, as well as a lack of knowledge or ignorance, are other important factors that contribute to NPAs. As a result, it is possible to conclude that superior credit appraisal reduces the likelihood of borrower default and, NPA's of the bank. Because credit appraisal is a well-balanced mixture of many procedural steps, each move must be

followed to avoid new slippage of standard assets to NPAs (CANARA Bank, 2023).

Borrowers must be carefully selected to maintain asset quality. As a result, all borrowers/promoters/directors/guarantors' past credit histories must be scrutinized in order to be satisfied with their documentation and to ensure conformity with KYC and AML guidelines (RBI/2022-23/10 DOR.STR.REC.8/13.07.010/2022-23). The promoters and management should be given proper attention considering their experience, proficiency, truthfulness, vision, meeting track record, trading experience, history of strategic initiatives, authoritative practices, etc. Therefore, the first and most important aspect of any credit cycle is the selection of borrowers and the quality of the appraisal. Excess liquidity and banks' overeagerness to increase lending could result in poor asset quality due to poor borrower selection and the potential danger of adding to the stock of NPAs. As a result, banks must improve their skills as bankers and credit appraisal officers in order to assess the borrower and his credit ratings (Gupta 2010). Sometimes a staff shortage is cited as one of the main causes of past-due assets at a bank, or it is predicated that if the staff is given incentives, productivity will increase. However, bankers believe that skills, not a cash boost, are what increase a bank's asset quality (Sanjeev 2007; Chakraborty 2012).

Due to declining asset quality, it is crucial to improve due diligence to reduce and alleviate the issues caused by rising NPA (Chawla and Rani, 2022). Before deciding on a proposal for a credit facility, opening an account, or engaging in any activities, one must exercise due diligence, which is nothing more than the verification of facts and numbers (Kadanda 2018). It is the process of evaluating all relevant facts, including the borrower's and the guarantor's financial, legal, and compliance elements. According to RBI Rules, a bank must conduct enhanced due diligence on all of its high-risk clients (RBI 2004). If due diligence is carried out in an organized manner, many issues connected to contaminated portfolios could be avoided (Sahoo 2019).

Table 6.1: Frequency of Maintenance of Quality of Assets through Proper Credit Appraisal

Statements	Never		Rarely		Sometimes		Often		Very Often		Total	
	PSB	PVSB	PSB	PVSB	PSB	PVSB	PSB	PVSB	PSB	PVSB	PSB	PVSB
Visiting the factory or business place and residence of the borrower.	0	0	0	0	30	12	60	63	68	83	158	158
Credit investigation of the prospective borrower	0	0	0	0	31	20	64	66	63	72	158	158
External sources of information such as meetings with the borrower and his employees.	0	0	0	0	37	20	67	72	54	66	158	158
Use of Financial statement analysis to determine company's financial strength and weaknesses.	0	0	0	0	23	15	81	76	54	67	158	158
Examination of the non—financial parameters	0	0	0	0	44	33	62	65	52	60	158	158
Obtaining due diligence report of the borrower	0	0	0	0	78	22	19	47	61	89	158	158
Generation of CIBIL of Borrowers	0	0	0	0	42	27	38	40	78	91	158	158
Check RBI defaulter list	0	0	0	0	53	20	50	64	55	74	158	158
Credit risk rating – internal	0	0	0	0	55	35	51	56	52	67	158	158
Enhancing skills of credit appraisal officers	0	0	0	0	37	20	40	50	81	88	158	158

Source: Researchers' Computation from collected Primary Data

From the perusal of Table 6.1, it is clearly visible the frequency of protection of the quality of assets through proper credit appraisal. It consists of statements related to the quality of assets through proper credit appraisal, such as visits to borrower's premises, credit investigations, information from outsiders, analysis of financial and non-financial information, CIBIL score, RBI's defaulter list, credit risk rating, etc. It is clearly visible that the maintenance of the quality of assets through credit appraisal is superior in the case of private sector banks compared to public sector banks. In comparison to PSB's, private bank officers usually rely on credit investigation, information from outsiders, analysis of financial and non-financial information, CIBIL score, RBI's defaulter list, and credit risk rating. In the case of PSBs, there has undoubtedly been an instance of adverse selection, which may be partially attributed to the push from above. This push is absent in the case of private banks, where decisions are made more on the basis of business motives. As a result, the PSBs must accept responsibility for their ineffective evaluation of potential clients (Business Line 2023). While PSBs have been under constant pressure to reach goals to support this sector, it has also been discovered that they exercise less due diligence when evaluating lending (Business Line, 2023). Nevertheless, private banks, which carry out identical types of lending required by priority sector regulations and are able to maintain a cleaner portfolio through more due diligence, do not share this situation. Because PSBs are now ultimately owned by the government and must therefore work towards shared objectives, lending decisions must be made with more caution because they are more vulnerable than private banks. The Reserve Bank has also advised the banks to put in place a robust credit risk management system that is sensitive and responsive to various factors affecting credit risk. The guidelines entail the involvement of top management, including the board of directors of the bank, in actively managing the credit risk of the bank. Banks are required to put in place proactive credit risk management practices like annual/half-yearly industry studies and individual obligor reviews, credit audits, which entail periodic credit calls that are documented, periodic visits to plant and business sites, and at least quarterly management reviews of troubled exposures / weak credits.

6.4.2 The Practice of Maintaining the Quality of Assets through Scrutiny and Processing of such applications:

Before providing loans to borrowers, senior and field officers should deeply study the loan application presented by borrowers. The loan application should fulfill the terms and conditions without confusion. Terms and conditions should be in the favor of both parties and easily acceptable. Banks should check the viability of the project, market coverage of borrowers, and demand for the product (Rehabilitation Policy of HDFC Bank for MSMEs). There should be no possibility of over- or under-financing. Sufficient and timely finance should be given to them. Borrowers must provide proper and correct documents to them so that application processing through a computer can be possible. If the loan distribution is accelerated by swiftly completing the legal paperwork, the funded projects can bear fruit on schedule (Chawla and Rani, 2022). The bank obtains post-dated cheques (PDC) and ECS mandates for all loans. All the parameters, including gestation and moratorium details, are fed into the system (RBI/2013-14/359 DNBS.PD/CC.NO.359/03.10.001/2013-14). Bankers usually obtain a realistic and time-bound commitment from the borrower or guarantee to initiate the necessary steps to arrest the deterioration in the loan quality and replace loans wherever necessary with due approval. They check the documentation, including the revival position, charge creation/registration, insurance cover, and so on, and any inadequacies must be corrected immediately. It is also verified, whether charges about insurance, equitable mortgages, and processing charges are due to be paid. The capture and clearance of security by Indian banks is a noteworthy challenge in loan screening and managing risk management (Jose, 2014).

Table 6.2: Frequency of Maintenance of Quality of Assets through Scrutiny and Processing of Such Application

Statements	Never		Rarely		Sometimes		Often		Very Often		Total	
	PSB	PVSB	PSB	PVSB	PSB	PVSB	PSB	PVSB	PSB	PVSB	PSB	PVSB
Independent valuation of property offered as collateral security and ascertaining the actual possession by the applicant	0	0	0	0	50	25	53	63	55	70	158	158
Adherence to the KYC norms	0	0	0	0	8	10	74	72	76	76	158	158
Furnishing full details in loan application	0	0	0	0	31	37	50	59	77	62	158	158
Proper and correct documentation	0	0	0	0	27	22	59	67	72	69	158	158
Advising all terms and conditions before disbursement and ensuring their compliance	0	0	0	0	42	27	58	68	58	63	158	158
Timely and adequate finance	0	0	20	30	40	32	48	39	50	57	158	158
Obtaining Post Dated Cheques (PDC) mandates for payments	0	0	0	0	0	0	69	70	89	88	158	158

Source: Researchers' Computation from collected Primary

After perusal of Table 6.2, information about the maintenance of the quality of assets and the scrutiny and processing of such applications is depicted. This section consisted of statements related to the valuation of property, KYC norms, loan application details, documentation, terms and conditions compliance, etc. It is clearly visible that the maintenance of the quality of assets through scrutiny, and application processing is superior in the case of PVSBs than PSBs. All Indian banks usually prepare KYC profiles. Private bank officers usually give much importance to the above-mentioned documentation procedures in comparison to PSBs (Apanga et al., 2016; Owino, 2013; Bessis, 2011; Nzoka, 2015)

6.4.3 The Practice of Maintaining the Quality of Assets through Post Disbursement Monitoring

Credit monitoring is a crucial component of the loan process. Maintaining asset quality and timely collection of interest and other debts are major responsibilities for banks. Even though sufficient measures are taken during loan assessment and approval, a lender needs to be even more watchful once the loan has been approved. The bank often uses a successful post-sanction method to maintain efficient and effective management of credit and the percentage of standard assets (Nugroho et al., 2018). The broad categories of follow-up, supervision, and monitoring comprise the post-sanction phases (Ramu 2009). For efficient recovery and identification of genuine borrowing problems, constant and persistent effort day by day is the fundamental principle. Post-disbursement monitoring forms a substantial part of the monitoring function at the bank. By requesting operational data at regular intervals, it should be possible to track the borrowers' actual performance. Prior to loan approval, the information provided by the borrowers must be compared to the expected performance. It is important to maintain regular inspections and stock audits. The most crucial aspect of post-disbursement monitoring is the analysis of the audited financials and review of the account, which should be done at least once annually. It is crucial to promptly identify accounts displaying signs of stress and place them under observation for ongoing monitoring. Continuous monitoring of the borrower's account will make it easier to identify issues and take preventative action before they have a negative impact. In order to maximize profits for the banks, effective credit

monitoring will ensure the correct use of loan funds and minimize loan losses. It's crucial to monitor your credit to prevent fraud on your accounts. Any questionable conduct must be found out right away.

Accordingly, the timely support can be forwarded to an acceptable mismatch in the financials. Post-disbursement credit's main goal is to make sure that the assumptions established at the time of sanction are strictly adhered to and that the asset's quality confirms the creation of income for both the bank and the borrower (MSME Policy of ICICI Bank). Aside from this, the sanctioned/disbursed credit limit cannot be diverted in any way. This is done in order to prevent slippage of accounts into NPA, guarantee that all funds are used for their intended purpose, and boost the unit's productivity, profitability, and operational efficiency. Funds, if used for unproductive or speculative purposes, may create serious problems. Credit monitoring will guarantee proper use of loan money, lower loan losses, and ultimately increase returns to banks (The Rehabilitation Policy for MSME of the State Bank of India).

A good credit monitoring strategy can assist banks in reducing losses by ten to twenty percent, resulting in higher returns (source: McKinsey & Company). By requesting operational data at regular intervals, it should be possible to track the borrowers' actual performance. It is important to maintain regular inspections and stock audits. After disbursement, monitoring also includes inspection of the account and analysis of the audited financials. Continuous monitoring of the borrower's account will make it easier to identify issues and take preventative action before they have a negative impact. Useful site inspections, audits, thorough financial analysis, receivables audits, and other measures that may assist the lender in tracking the credit sanctioned if it is not distributed and monitored appropriately, a good sanction can turn negative. The importance of credit monitoring has increased in light of system-driven NPAs. To check the utilization of loans and limits, post-sanction visits are conducted by bank officials at the business places of the borrower.

The assets financed are properly verified as per the given specifications of the sanction plan (MSME Policy of Axis Bank). Further, on an ongoing basis, the cash credit limits, which are of a running nature, are monitored by keeping a tab on the operations in the account and by obtaining monthly stock reports. The drawing power

of the borrower is allowed strictly as per the stock book debts, etc. Banks also monitor the sanction limit by way of periodical inspections of monitoring officers' reports, quarterly information systems, etc. On a yearly basis, banks conduct a full review of the sanction limits, whether term loans, cash credit, or other limits (Popli and Puri 2013).

Post disbursement thus constitutes a significant portion of the bank's monitoring function. By requesting operational data at regular intervals, it should be possible to track the borrowers' actual performance. Prior to loan approval, the information provided by the borrowers must be compared to the expected performance. It is important to maintain regular inspections and stock audits. The most crucial aspect of post-disbursement monitoring is the analysis of the audited financials and review of the account, which should be done at least once annually. It is crucial to promptly identify accounts displaying signs of stress and place them under observation for ongoing monitoring.

Table 6.3: Frequency of Maintaining the Quality of Assets by through a Proper Monitoring Mechanism

Statements	Never		Rarely		Sometimes		Often		Very Often		Total	
	PSB	PVSB	PSB	PVSB	PSB	PVSB	PSB	PVSB	PSB	PVSB	PSB	PVSB
Ensuring proper end use of funds	0	0	26	25	42	26	48	41	42	66	158	158
Relating the account outstanding to the assets level	0	0	32	23	41	7	31	34	54	94	158	158
Periodic assessment Measures	0	0	26	22	16	33	65	33	51	70	158	158
Ensuring the recovery of principal installments in the case of term loans as per the scheduled repayment program	0	0	9	5	22	30	58	57	69	66	158	158
Looking for 'incipient sickness' and initiate proactive remedial Measures	0	0	0	0	43	27	46	49	69	82	158	158

Source: Researchers' Computation from collected Primary Data

Table 6.3 shows the frequency of maintaining the quality of assets through a proper monitoring mechanism. The table specifies that almost all the banks considered in the study, whether private or PSBs are rigorously following credit monitoring practices; however, PVSBs are seen using these practices more frequently since most of the responses fall into the categories of often and very often. In all the practices of Ensuring proper end use of funds, Periodic assessment measures, Ensuring the recovery of principal installments in the case of term loans as per the scheduled repayment programme, Ensuring compliance as per internal and external reporting requirements, Ensuring effective follow-up of advances to maintain good asset quality, Ensuring effective follow-up of advances to maintain good asset quality, Verification of assets, Inspection by branch functionaries, regular contact with the borrowers over the phone, and the use of robust MIS are very often practiced by PVSBs.

6.4.4 Practices to prevent those accounts whenever symptoms of deterioration in quality are observed

This section covers the effective measures to manage those accounts whenever signs of a decline in quality are observed. According to the Rehabilitation And Revival Policy for MSMEs of Bank of Baroda and Kotak Mahindra Bank, several preventive measures are practiced whenever symptoms of deterioration in quality are observed, such as reviewing and reporting problem loans to the authorities; taking proactive action like guidance, nursing, and problem resolving mechanism; verifying correctness of documents relating to revival, insurance cover, etc.; feeding all relevant details in the mechanized system correctly; informing the borrower regarding deterioration of asset quality and calling upon him to regularize their account; passing the information of defaulters, etc.

Table 6.4 Frequency of Effective Measures whenever Symptoms of Deterioration in Quality are observed

Statements	Never		Rarely		Sometimes		Often		Very Often		Total	
	PSB	PVSB	PSB	PVSB	PSB	PVSB	PSB	PVSB	PSB	PVSB	PSB	PVSB
Seizure/Attachments and disposal are warranted	15	17	26	25	35	25	58	53	24	38	158	158
Review and reporting of problem loans	20	18	12	13	33	21	81	70	12	36	158	158
Verification of correctness of documentation pertaining to revival position, charges, insurance cover etc., to be made and deficiencies if any have to be rectified Immediately	20	15	38	21	23	18	39	48	38	56	158	158
Feeding all parameters including gestation/moratorium details in the system correctly	27	8	42	27	14	18	35	42	40	63	158	158
Proactive action like guidance, nursing, problem resolving from the bank side.	10	9	28	25	45	32	25	24	50	68	158	158
Bring the deterioration in asset quality to the notice of the borrower and call upon him to regularize the Account	13	9	32	20	39	20	28	39	46	70	158	158
Obtain realistic and time bound commitment from the borrower/guarantor	10	11	28	30	35	28	41	36	44	53	158	158
Compromise or use of various settlement schemes.	8	9	25	36	35	28	44	42	46	43	158	158
Actively circulate information of defaulters.	24	13	34	31	26	22	35	45	39	47	158	158

Source: Researchers' Computation from collected Primary Data

Table 6.4 shows that both public and private sector banks take necessary corrective measures. However, the practice of proactive action like guidance, nursing, and problem resolution from the bank side is more prevalent in PVSBS. PVSBS are behind PSBs in the compromise or usage of various settlement practices. However, in practices of verification of the correctness of documentation about the revival position, charges, insurance cover, etc. to be made, and deficiencies if any have to be rectified immediately, PVSBS lead PSBs. All credit institutions had been mandated by the RBI to become members of all credit information companies (CICs) and submit credit information, including historical data, about borrowers to CICs, and the data were to be updated regularly and to be shared with other credit institutions (The Hindu 2022). Debtor mortifying, which entails designating uncooperative borrowers as "willful defaulters" and publishing the names of defaulters, is an important aspect of managing NPAs (Chawla and Rani, 2022).

6.4.5 Practice of Re-Phasement, Rehabilitation and Restructuring of Assets

MSMEs frequently need quick corrective action to regain their lost momentum. The assumptions that underpin business operations frequently diverge from reality. Borrowers can experience real difficulties that prevent them from meeting their obligations on time and as expected. As a result, the account's quality will decline. Timely proactive action will undoubtedly aid the borrowers in getting out of trouble. Techno-economic viability (TEV) research may be used as the foundation for evaluating the likelihood of revival. After a thorough evaluation of the viability and promoter's intentions, and when the bank is confident that turnaround will occur within a specified time frame, restructuring should be tried. As per the Policy on Restructuring and Rehabilitation for the revival of potentially viable sick micro and small units, HDFC Bank, when it comes to completely unviable units, as determined by the bank or consortium, it is preferable to take action to pay back the bank's debts and, if necessary, use legal methods to dispose of the security in order to collect what is feasible before the security worsens. An important preventive strategy for viable units is their rehabilitation within the time frame. Reducing the number of NPAs would be made easier with prompt mitigation and relief plans for the impacted borrowers and the start of time-bound remedial action, including rehabilitation and

restructuring. In order to avoid default, borrowers in financial difficulties renegotiate and change the conditions of their loans with their lenders. It aids in maintaining consistency in debt servicing and provides borrowers with some leeway to regain financial stability (IIBF 2021). Restructuring is a process in which a lender makes concessions to a borrower due to financial or legal considerations related to the borrower's financial trouble. Restructuring typically entails changing the terms of the advances or securities, which typically include, among other things, modifications to the repayment period, repayable amount, amount of installments, rate of interest, rollover of credit facilities, approval of additional credit facilities, augmentation of existing credit limits, and compromise settlements when there is a longer than three-month payment period for the settlement amount (RBI 2017).

RBI updated its current rules for the rehabilitation of ill micro and small businesses (MSE) via Ref. No. RPCD CO.MSME & NFS. BC.40/06.02.31-2012-13, dated November 1, 2012.

These guidelines included, among other things, the following:

- i. Early detection of unit sickness;
- ii. Extending handholding after detecting symptoms of sickness;
- iii. Early implementation of corrective measures through restructuring exercise;
- iv. Provision for the borrower to present his case for restructuring to the higher authority in case the same is deemed non-viable by the delegate under whose power it otherwise falls.

Also, the repayment of the unpaid interest part amount due may be appropriately rephrased in order to correspond with the predicted repayment capability under the restructuring package (RBI 2021). The purpose of the rules is to ensure that viable MSMEs with debt concerns can restructure their debts in a timely and transparent manner outside of the scope of BIFR, DRT, CDR, and other legal actions.

As per the rehabilitation and revival policy of sick MSMEs of ICICI Bank and Bank of India through an organized, planned, and preventative restructuring program or rehabilitation package, the framework will specifically endeavor to preserve viable MSMEs that are impacted by certain internal and external circumstances and limit

losses to lenders (the Bank) and other stakeholders. To ease corporate stress, the government halted the initiation of fresh insolvency proceedings under sections 7, 9, and 10 of the IBC for defaults originating on or after March 25, 2020, to March 25, 2021. Along with a loan moratorium from March 1, 2020, to August 31, 2020, the RBI also announced an asset classification exemption and a special resolution framework for stressed assets related to COVID-19. Lenders have the option of granting an additional moratorium of up to two years under the resolution plans that may be used during the aforementioned window. Additionally, under certain restrictions, MSME accounts that were classed as Standard and had an aggregate exposure of banks and NBFCs of \$25 billion or less as of March 1, 2020, were allowed to restructure without a downgrade in asset classification.

Hence, in deserving cases, the priority in NPA management would be possible prevention through replacement, restructuring, or rehabilitation of the borrower's business (RBI/2014-15/74DBOD.No.BP.BC.9/21.04.048/2014-15). The viability studies must be conducted on a case-by-case basis if the branch-level review points out that the business issues are not temporary. Checking the business viability and the stake of the borrowers are the basic requirements for the bank to perform realignment or recovery. This category includes accounts where the borrower wishes to repay his debts to the bank but lacks the funds to do so right away. So, the branch must investigate the source of the illness and recommend a course of action.

1. The rehabilitation option shall be considered in cases where there appears to be prima facie scope for restoring the business's viability.
2. The plan shall be implemented in cases where it is probable to get the business back in good condition by offering the lowest additional funds and marginal concessions so that the unit may meet its requirements for up to 5-7 years.
3. If the borrower is financed through a consortium, a decision on rehabilitation/restructuring must be made after extensive consultation with the consortium banks (RBI 2014).

Therefore, to rehabilitate the unit, the following steps may be taken:

- Interest revision and/or installment rescheduling.
- Making available additional funds based on need.

Table 6.5: Frequency of Re-Phasement/Restructuring/Rehabilitation of Assets

Statements	Never		Rarely		Sometimes		Often		Very Often		Total	
	PSB	PVSB	PSB	PVSB	PSB	PVSB	PSB	PVSB	PSB	PVSB	PSB	PVSB
Re-phasement of loans	42	67	45	48	20	16	22	18	29	9	158	158
Restructuring of advances	55	45	57	41	20	31	12	31	14	10	158	158
Rehabilitation to restore the viability of the business	69	42	33	56	30	31	13	22	13	7	158	158

Source: Researchers' Computation from collected Primary Data

The results from Table 6.5 show that the practice of replacement, restructuring, and rehabilitation is much less frequently used by banks. It demonstrates how the banks' help for restructuring and rehabilitation is insufficient. It is consistent with IIBF 2021 findings that the banks were unable to provide assistance to MSMEs during a time of financial hardship. Banks typically don't consider the business potential of the unit, but simply the actual performance over the course of the financial year. The aforementioned unit intends to carry on with its operations and make a profit to cover any outstanding debts to the bank. Yet, they do not wish to put into practice the RBI instructions for MSMEs' rehabilitation; they are only interested in a hard-core recovery. They merely want their money back from struggling MSMEs, with no assistance whatsoever, only a sudden lowering of working capital limitations.

6.4.6 Practices of Identifying the Weaknesses of Assets through Early Warning Signals(EWS)

An ideal early warning system anticipates potential risks and assists bank management in forecasting default before it is too late. It enables them to implement the measures required to make sure that loans are recovered on time, thereby

sustaining the bank's asset quality. Given the rising trend of NPAs in credit institutions, even regulatory bodies are calling for the deployment of Early Warning Systems (EWS) to detect potential loan defaults early (Joseph & Prakash 2014). The Reserve Bank of India came up with the concepts of Early Warning Signals (EWS) and Red Flagged Accounts (RFA) for early detection and prevention of fraud. The RBI's regulations have been evolving from rule-based monitoring to an early warning identification approach over the last two decades (PWC Annual Report 2019). A Red Flagged Account (RFA) is one where a suspicion of fraudulent activity is thrown up by the presence of one or more Early Warning Signals (EWS) (www.indiaforensic.com).

These signals in a loan account should immediately put the bank on alert regarding a weakness or wrongdoing that may ultimately turn out to be fraudulent. The EWS so compiled by a bank would form the basis for classifying an account as an RFA. It is believed that having all-in-one NPA management software with an integrated early warning solution can significantly reduce NPA in banks (Rehabilitation and Revival Policy of Bank of India and Yes Bank). Siraj K. (2012) also emphasized the usage of digital technologies to manage NPA. According to India's chief economic advisor, Krishnamurthy V. Subramanian (Vasudevan, 2022), to determine the best model for large corporate lending, the Indian banking sector must make investments in technology and data analytics. This will encourage investment and enable the economy to expand to \$5 trillion in size.

When it came to corporate lending, many defaults could have been prevented if Indian banks had applied data analytics. Banks must have a computerized system in place to monitor customers' credit standing. An Early Warning System (EWS) driven by machine learning (ML) as well as artificial intelligence (AI) will operate around the clock and be able to monitor occurrences that are early signs of trouble (Naveenan, 2016). Banking institutions must spend money on IT systems to automate tasks like risk management and monitoring for problematic loans. These systems will aid in the effective provision of early warning signals to reduce NPA. When a loan is on the verge of becoming delinquent or has already become one, certain warning signs appear. These signs can be classified into geographic, behavioral, financial,

perception, and industry types based on the tendencies noted (Goswami & Gulati, 2022). To identify loans that may go bad, a bank must separate and describe the EWS indicators that are specific to their portfolio. This can be determined by a variety of factors, such as customer segments, industry/sector, type of investment, repayment capacity, and so on. As per the MSME Rehabilitation and Revival policy of Yes Bank and Punjab National Bank, an Early Warning System can do the following:

1. Reduce the likelihood of future NPAs
2. Regularly evaluating customer portfolios;
3. Limit the accumulation of NPA stocks;
4. Assist in making effective decisions to limit exposure in default-prone segments
5. Maximize loan recovery through timely action.
6. Make good use of capital.

It is only a matter of time before financial institutions are unable to effectively monitor and manage credit risks. Digital technologies today are disrupting and repositioning the lives of every banker and customer (Dinesh et al., 2020). Many banks are now functioning on EWS, which mainly involves the use of big data and analytics technology to generate dashboards on specific issues. Banking organizations in India need to move from an essentially compliance-driven post facto mechanism to a proactive control-based digital system to monitor credit risk (PWC Annual Report 2019). The combination of RPA and EWS analytics can enhance and fortify EWS response time. Alliance for security valuation, notice of common resolution and revival strategy, and so on could be improved at the resolution stage by considering big data points such as alike transactions, zonal prices, buying history, and so on (Norov et al., 2022). Price baselining and registry searches could be highly transparent, data-driven, dependable, and accessible using RPA and block chains.

Based on unique identifiers, big data, natural language processing, and the use of low-cost technologies such as geo-tagging and NFC, appropriate algorithms and analytic models should be able to easily decode patterns of fund siphoning from multiple

points in the banking and financial system (Sardana & Singhania 2018). Blockchain technology is being used to improve the efficiency of certain business banking products for credit decisions, the timely generation of red flags, and so on. (Dashottar & Srivastava, 2021). According to Vikram Babbar, executive director of Fraud Investigation & Dispute Services, EY, banks are increasingly asking forensic audit companies to look at accounts that have not defaulted but may be beginning to exhibit some early warning signals of problems (Business Standard 2023). Lenders began requesting this when they were under pressure from subpar loans. According to forensic auditors, banks typically use these services after businesses default on payments. But now, lenders keep a close eye on things if they anticipate difficulties, rather than waiting for a default to occur. According to Crumbley (2003), forensic science is the application of natural law to human law.

Forensic accounting, according to Zysman (2001), is the merger of accounting, auditing, and investigative skills. The science that is being discussed here is accounting science, which analyses and interprets economic data to provide a truthful picture. It has been discovered empirically that forensic accountants are becoming more important and that they play a substantial role in lowering NPAs in Indian banks (Mishra et al., 2020). One of the most reliable ways to identify any asset-related difficulties and spot warning signs relating to financial imbalances and gaps is by using financial indicators. Financial concerns such as late loan payments, exceeding the operational loan limit, missed or late employee payrolls, or returned checks issued on a customer's account can also be indicated by financial indicators.

Banks typically take into account the potential future growth of a customer's firm to reduce the risk associated with corporate loans. Many industrial indicators are measured and examined for this (Kaaya & Pastory, 2013). Credibility and trust are two of the guiding principles of the banking industry. Banks must take into account behavioral indicators that reveal information about the moral character and technical proficiency of the individuals managing the corporation when disbursing huge quantities of money, particularly to corporations. Financial, behavioral, geographic, and industry categories all have early warning signs for bad lending. These indicators for corporate credit risk include:

Table 6.6: Indicators for Corporate Credit Risk

Financial Indicators	Industry Indicators	Behavioral Indicators
Customer's Creditworthiness	Industry Growth Rate	Delayed financial reporting requirements
Operating Loan Utilization	Industry Regulation	Deception/misrepresentation of facts
Expense Management	Ability to control costs/rising input prices	Lack of responses
Cash Flow Requirements	Emerging Market Trends	Providing Irrelevant Information
Covenants & Collateral Tracking	Changing Customer Behavior	Mis-presented or Destroyed Records
Account Receivables and Debt Ageing		Lack of Stakeholders interest in business strategy and planning
		Too much change in accounting personnel or procedures.
		Creating take or shell entities

Source: Vasudevan, 2020

Table 6.7: Identification of the Weaknesses of Assets through Early Warning Signals

Statements	Never		Rarely		Sometimes		Often		Very Often		Total	
	PSB	PVSB	PSB	PVSB	PSB	PVSB	PSB	PVSB	PSB	PVSB	PSB	PVSB
Case by case study and analysis in respect of overdue accounts	25	25	10	25	14	21	86	49	25	38	160	158
Use of technology and data analytics to detect the early warning signals.	29	15	25	13	45	24	17	52	31	54	158	158
Use of forensic audits to know the borrower's intent	19	31	14	39	26	35	46	24	53	29	158	158
Pre-Examination of External Non- Controllable factors	21	19	80	51	21	33	14	37	21	19	158	158
Identification of behavioral patterns to examine red flags as early warning signals.	59	50	46	18	3	23	30	58	21	9	158	158
Assessment of Financial indicators to detect the financial conditions of borrowers.	2	0	6	12	7	6	63	65	80	75	158	158
Evaluation of Industry-specific warning signs	49	53	4	18	54	39	33	12	18	35	158	158
Communication with the borrowers to know the present debt-related security concerns and financial conditions.	46	18	41	20	19	3	21	58	31	59	158	158

Source: Researchers' Computation from collected Primary Data

Table 6.7 reveals the frequency of examining the weaknesses of assets through early warning signals. The findings of our study depict more usage of technology by the private sector for data analytics and EWS detection. Both public and private banks are applying early warning signals such as analysis in respect of overdue accounts, application of technology and data analytics to detect the early warning signals, use of forensic audits to know the borrower's intent, branch or region-wise information of NPA's, including increase/decrease, identification of behavioral patterns to examine red flags, and assessment of financial indicators to detect the financial conditions of borrowers. It is exhibited from Table 5.7 that PSBs are following traditional practices and PVSb banks are adopting an advanced monitoring approach, viz., a digital credit risk monitoring framework, to capture such early warning signals (Sharma 2016). The studies also showed that the private sector communicates frequently with the borrowers to learn about their current financial and security worries and debt-related problems (Psillaki et al., 2010)

6.4.7 Practices of Relationship Management

This section covers the effective measures relating to relationship management considered by the bankers through connections with villagers or self-help groups, village elders or opinion leaders, government agencies, business facilitators or recovery agents, liaison with customers regarding utilization of services, and links with them through social networking sites (Kadanda & Raj 2018). This section highlights the multiple ways banks can leverage various mediums to enhance customer relationships. Table 6.8 exhibits that both PSBs and PVSbS maintain good rapport and relationships with customers, villagers, government agencies, etc. However, PVSbS are more active in building good relationships with customers (A. J. and P. K. 2013). It is a good step for bankers to recover and manage NPA's. The requirements and wants of today's consumers are substantially different from those of even ten years ago, despite the fact that the banking industry has always tried to preserve a connection that is focused on the customer. Customers' expectations and their relationships with banks are changing quickly; Capgemini says that as a result of the emergence of social media platforms like Facebook and Twitter during the past few decades, more individuals use social media. Consumers now more than ever anticipate banks providing services through these channels (Swami et al., 2018). If banks are to continuously engage with their customers, they have to make efforts to leverage this rapidly emerging technology. Our study finds that PVSbS are more active in the usage of social media to enhance relationships with customers.

Table 6.8: Frequency of Relationship Management Practices

Statements	Never		Rarely		Sometimes		Often		Very Often		Total	
	PSB	PVSB	PSB	PVSB	PSB	PVSB	PSB	PVSB	PSB	PVSB	PSB	PVSB
Participation in Village or SHG meetings	22	24	29	28	37	32	35	32	35	34	158	158
Maintaining good rapport with village elders and opinion leaders	23	31	25	31	29	30	35	32	46	35	158	158
Maintaining good rapport with government agencies.	32	30	33	35	31	31	31	29	31	33	158	158
Meeting with business facilitators or recovery agents regarding utilization of services.	31	32	33	27	30	31	35	36	30	32	158	158
Linking Customer through social networking sites	40	29	44	30	29	30	23	32	22	37	158	158

Source: Researchers' Computation from collected Primary Data

Table 6.8 shows the frequency of maintaining relationship management through various methods. It can be seen that the practice of participation in village or SHG meetings and maintaining good rapport with village elders, opinion leaders, and government agencies is more prevalent in PSBs. However, the use of social networking sites to link with customers is often and very often used by PVSBs. Private banks and wealth managers are not only boosting their operations on these platforms as more clientele and prospects have an active social media presence, but they are also developing communities that are clientele-focused.

6.5 Conclusion

In the current changing scenario, banks need to exercise prudence while granting credit to avoid future recovery issues. It is essential to focus on credit assessment at all stages, including pre-sanction, disbursement, and post-disbursement. To prevent NPAs and ensure a strong financial system, it is crucial for both lenders and borrowers to actively participate in preventive practices for credit appraisal and monitoring. The study found that maintenance of the quality of assets through credit appraisal is more frequent in the case of PVSBs than PSBs. The majority of bankers concurred that the CIBIL score was the most crucial piece of technology they employed to avert NPA (Dinesh et al., 2020). Moreover, private bankers usually give much more importance to documentation procedures in comparison to PSBs. The private bank officers usually rely heavily on credit investigation, information from outsiders, analysis of financial and non-financial information, the CIBIL score, the RBI's defaulter list, and the credit risk rating. Credit risks are tracked using a variety of techniques, including audits, financial statement analysis, physical examinations by bank managers, and risk questionnaires (Tamimi and Mazrooei, 2007).

Also, the study has lessons for PSB banks in that they must thoroughly investigate the business for which they are providing money. PSBs need to work on rebuilding administrative power, an increase in knowledge, and a rise in credit value appraisal. Loans to failing enterprises will prevent enough money from being available for great investments. Hence, once signs of a decline in quality are noticed, both sector banks prefer to take the appropriate preventative and corrective measures. The list of defaulters' names is made public by both bankers. This instills a fearful feeling and

serves as an incentive. After making a loan, the banks have also been keeping an eye on the company's performance and are attempting to predict whether it will eventually fail. Only with a valid credit assessment and risk management component can the NPA problem be solved in the long run (Chakraborty, 2012). To change the way credit is evaluated in banks, credit arrangements, and reviews must be documented as soon as authorization is given.

When there is a lack of liquidity, the managing an account framework is ready to increase lending while compromising resource quality, which raises concerns about adverse results and the potential threat of the stock of NPAs rising. The findings show that nearly all of the banks taken into consideration for the study, whether private or public sector banks, strictly adhere to credit monitoring practices. PVSBs are, however, observed using these practices more frequently; the majority of responses fall into the categories of often and very often. The results also found that the practice of replacement, restructuring, and rehabilitation is much less frequently used in the case of PSBs as well as PVSBs. Also, all banks have been recognizing asset issues through early warning signs.

To capture such early warning signs, PVSBs have adopted an advanced monitoring strategy and a digital credit risk monitoring framework. According to our survey, PVSBs are more active users of social media to strengthen customer interactions. The prospective and borderline cases require prompt identification and treatment so that they do not enter the NPA categories. As a result, the key assumption behind formulating preventive NPA management strategic planning is that investing resources in generating solid plans for preventive NPA management practices will significantly increase the chances of effective and efficient implementation and therefore prevent the occurrence of NPAs (Mintzberg, 2000). This study will signal practical steps at the regulator level to reduce the massive weight of NPAs in MSMEs.

CHAPTER VII
EFFECTIVENESS AND EFFICIENCY OF NPA MANAGEMENT
PRACTICES

In this chapter, bankers' opinions on effectiveness and efficiency are analyzed using the RIDIT methodology. Here we have taken 12 practices, i.e., 5 legal (curative) and 7 preventive components that may be considered by the bankers in the selection of an NPA management strategy. In addition, there are two parameters to evaluate the performance of NPA management practices: effectiveness and efficiency. Here, effectiveness is associated with improved credit or recovery, and efficiency is associated with lower cost and lesser resolution time..

7.1 Effectiveness

Assessing the effectiveness of interventions is crucial for determining their success or failure in achieving their intended objectives. The evaluation process generally involves examining the intervention's outputs, outcomes, and impacts. The outputs refer to the immediate tangible results of an intervention, such as the number of participants trained or the number of services provided. The outcomes refer to the changes resulting from the intervention, such as improvements in knowledge, attitudes, or behavior. Finally, the impacts refer to the broader effects of the intervention, such as improvements in health, income, or social status (Ebrahim, 2010).

To assess effectiveness, the results chain needs to be specified as part of the intervention's design. The results chain, also known as the results framework or logical framework, outlines the causal relationships between the inputs, activities, outputs, outcomes, and impacts of an intervention (Bryson, 2004). The results chain is a critical reference point for management, monitoring, and evaluation, as it helps to ensure that the intervention's objectives are clear and measurable, and that progress towards achieving those objectives can be tracked and evaluated.

Effective monitoring and evaluation require clear and measurable indicators for each level of the results chain. Indicators are used to track progress toward achieving the

objectives and to determine whether the intervention is achieving its intended results. Indicators should be specific, measurable, achievable, relevant, and time-bound (SMART) to be useful for monitoring and evaluation purposes (OECD, 2002). Therefore, assessing the effectiveness of interventions requires a clear specification of the results chain, including the outputs, outcomes, and impacts of the intervention. Effective monitoring and evaluation rely on clear and measurable indicators at each level of the results chain. By using the results chain and appropriate indicators, evaluators can determine whether an intervention has achieved its intended results and make recommendations for improving future interventions.

Also, assessing the effectiveness of an intervention can be challenging if the objectives or planned results are vague, ambiguous, or have shifted over time without proper documentation or restructuring. Evaluators need to understand the logic behind changes in the intervention to determine the extent to which the new objectives were relevant and effectively reached. To do so, evaluators may need to consult intervention documents or interview stakeholders to reconstruct the changes in the intervention's objectives and design (USAID, 2015).

In adaptive programs, where changes are made relatively based on feedback from stakeholders, emerging results, and changes in the context, evaluating effectiveness is crucial. The design and implementation of an intervention may go through numerous incremental changes over time in adaptive programs. Evaluators should review the theories of change and results frameworks concerning the wider systems in which the intervention is located to ensure that they reflect the current objectives. Any records of changes made should also be taken into account to inform evaluations of effectiveness (USAID, 2013).

Furthermore, in the context of adaptive programs, the traditional linear approach to monitoring and evaluation may not be effective. Instead, a more flexible approach that can accommodate changes in the intervention's design and objectives may be required. The use of adaptive management approaches can help evaluators identify emerging issues and trends, make necessary changes, and continuously improve the intervention's effectiveness (USAID, 2015). Hence, assessing the effectiveness of interventions can be challenging when objectives are unclear or have shifted over time.

Evaluators need to reconstruct the logic behind changes in the intervention to determine whether the new objectives are relevant and effective. In adaptive programs, it is important to review the theories of change and results frameworks and take into account any records of changes made to inform evaluations of effectiveness.

Evaluating effectiveness involves not only establishing observable changes in the target group or environment over the intervention's implementation but also establishing the causality of the observed changes. The evaluator needs to determine whether the changes were caused by the intervention or whether other environmental factors or alternative interventions were responsible. This requires the use of appropriate methodologies to allow the evaluator to draw out how results came about and identify the reasons (explanatory factors) for achievement or non-achievement.

By establishing causality, evaluators can determine the degree to which the intervention was effective in achieving its intended results. This is important for understanding whether the intervention was successful and for identifying areas for improvement. It is also important for demonstrating accountability and for informing decisions about whether to continue or expand the intervention. To establish causality, evaluators may use a range of methods, such as statistical analysis, comparative case studies, or participatory approaches that involve stakeholders in identifying the factors that contributed to or hindered the achievement of results. The choice of method will depend on the type of intervention, the complexity of the context, and the available data and resources.

In addition to assessing the intended results of an intervention, evaluating unintended effects can also provide valuable insights for improving future interventions. For example, an intervention aimed at increasing agricultural productivity may unintentionally lead to environmental degradation or social inequalities. Evaluators should examine the potential for unintended effects during the design phase and identify any monitoring mechanisms that could detect such effects during implementation (OECD, 2002). When evaluating unintended effects, it is important to consider the context in which the intervention was implemented and the potential for spillover effects on other sectors or groups. Evaluators should also consider the potential risks and benefits of these unintended effects and how they align with

broader development goals and objectives. Overall, assessing unintended effects can contribute to a more comprehensive understanding of the intervention's effectiveness and help ensure that future interventions are designed and implemented with a more nuanced understanding of potential risks and benefits.

7.2 Efficiency: How well are resources being used?

The extent to which the intervention delivers, or is likely to deliver, results in an economic and timely way. Here, efficient NPA reforms are associated with a shorter cost and lesser resolution time.

7.2.1 What is Efficiency and why is it important?

Efficiency evaluations are important to ensure that resources are being used effectively and that there is value for money in the interventions. Evaluators assess whether the intervention has been implemented using the least possible resources to achieve the expected results. Efficiency evaluations may include an analysis of the costs associated with the intervention, such as operational costs and staff costs, and how these costs compare to the benefits achieved.

For example, a study by the European Court of Auditors evaluated the efficiency of European Union development aid to Sub-Saharan Africa, concluding that "the EU's support to the region is only partially efficient" and that "the costs of operations are generally high, and procurement is often slow and cumbersome" (European Court of Auditors, 2018). The study recommended that the European Commission improve the efficiency of its development aid by streamlining procedures, reducing fragmentation, and increasing the use of local systems.

Efficiency evaluations may also include an assessment of the sustainability of the intervention, i.e., the extent to which it can be continued after the initial investment has been made. For instance, an evaluation of a health intervention in Nigeria found that while the intervention had achieved significant improvements in health outcomes, its efficiency was limited by the high operational costs and lack of local ownership and sustainability (Russo et al., 2019).

Efficiency is a crucial aspect of interventions, as it affects feasibility and implementation. Resources are often limited, and managers must make the most of

them to achieve the desired outcomes. Evaluation of efficiency is necessary to improve managerial incentives and ensure that programs are well-conducted. This includes holding managers accountable for their decisions and risk management practices (Baltussen et al., 2012). By measuring efficiency, the interventions can identify areas for improvement and optimize resource allocation to increase their impact (Baltussen et al., 2012; Tcherny-Lessenot et al., 2020).

There are several important assumptions and points to note:

1. Resources should be viewed in their broadest context, taking into account all associated costs (including time, money, the environment, and human labour). It differs from the program budget or the amount of money spent. The term "results" should be used to refer to the entire results chain, including outputs, outcomes, and impacts. Some organizations, depending on the evaluation type, solely consider efficiency in terms of outputs; nevertheless, the criteria are developed and conceptualized here to encourage considering efficiency in terms of higher-level effects, such as impacts, even if this is frequently difficult. Resources should be understood in the broadest sense and include full economic costs (human, environmental, financial, and time). It is not the same as the program budget or the money spent.

2. Results should also be understood in a comprehensive sense, covering the whole of the results chain: outputs, outcomes, and impacts. Depending on the type of evaluation, some organizations associate efficiency without puts only; however, the criteria are defined and conceptualized here to encourage evaluating efficiency about higher-level effects such as impacts, though this can often be challenging.

3. Evaluability: What may be said about efficiency depends on the ability to evaluate effectiveness, impact, coherence, and sustainability

4. Efficiency is all about making a decision between feasible solutions that, given the resources at hand, may yield results that are similar. It is necessary to find alternatives that are possible and comparable in terms of quality and outcomes before cost-effectiveness comparisons can be undertaken. Examining economic efficiency, operational efficiency, and timeliness are three crucial components of efficiency

evaluation

7.2.2 Economic Efficiency

The primary element for analyzing efficiency is economic efficiency, which refers to minimizing waste and converting inputs into results in the most cost-effective way possible (UNDP, 2011). This involves evaluating the efficiency of results at all levels of the results chain, including outputs, outcomes, and impacts (UNDP, 2011; Tcherny-Lessenot et al., 2020). In addition, it is important to assess the appropriateness of choices and trade-offs made during the design and implementation stages. These choices include the allocation of resources between target groups and periods, as well as the purchasing of inputs based on market conditions (UNDP, 2011; Baltussen et al., 2012). By evaluating economic efficiency, interventions can identify areas of waste and improve resource allocation to maximize the impact of the intervention.

7.2.3 Operational Efficiency

Operational efficiency is a critical element to consider when assessing the effectiveness of an intervention. It focuses on how well resources are utilized during implementation and whether the program adheres to the planned budget and timeline (Tcherny-Lessenot et al., 2020). To evaluate operational efficiency, several questions can be asked, such as whether human and financial resources were appropriately utilized and redirected as needed, whether risks were effectively managed, and whether decisions were made to enhance efficiency in response to new information (UNDP, 2011). In addition, assessing the optimality of logistics and procurement decisions is also important to ensure that resources are obtained at the right time, place, and price (Tcherny-Lessenot et al., 2020). By evaluating operational efficiency, interventions can identify areas for improvement and make necessary adjustments to optimize resource utilization and improve the intervention's impact. Additionally, operational effectiveness considers how effectively resources are put to use throughout implementation. Inquiries to consider while examining operational effectiveness include: Were the human and financial resources used properly, according to plan, and to their full potential, or were they misallocated and the budgets underutilized or overspent? When needs changed, were resources redirected?

Were risks managed? In reaction to fresh information, were choices made that improved efficiency? Were the logistics and purchasing choices the best ones?

7.2.4 Timeliness

Timeliness is closely related to both economic and operational efficiency and refers to the extent to which the intervention achieves results within the intended time frame (Tcherny-Lessenot et al., 2020). Evaluators must assess whether the timeframe was realistic or appropriate and whether it was reasonably adjusted during the intervention to account for external factors and changes to the program (UNDP, 2011). In addition, it is essential to evaluate whether efforts were made to overcome obstacles and mitigate delays as the situation evolved during implementation (Tcherny-Lessenot et al., 2020). It is essential to evaluate timeliness since it sheds light on the effectiveness of the intervention and shows whether its goals were met within the anticipated time range. It is also an opportunity to determine whether the original timeline was reasonable or suitable. Additionally, considering that external circumstances and programme modifications are probable for many interventions, was it properly modified during the intervention? As the situation changes, evaluators must determine if attempts were made to overcome challenges and lessen delays in how the intervention was managed.

For these reasons, context analysis should be a strong foundation for efficiency analysis, as it may be more expensive in a particular situation to reach the intended beneficiaries but also more significant and justifiable in terms of development impacts.

7.3 RIDIT Analysis

Bross (1958) presented RIDIT as a distribution-free approach for evaluating variables assessed by the Likert scale," following the analogy with other statistical transformations like probit and log. Wu (2007) has proposed a step-wise method for calculating RIDIT scores. This method is commonly employed for quantitative data analysis in various fields such as management, psychology, and behavioral research (Sharma et al., 2022; Murray & Gopalakrishnan, 2023). It offers a well-established procedure for ranking Likert scale items in either increasing or decreasing order, ultimately revealing the relative relevance of specific scale elements (Bhattacharya, 2019).

RIDIT analysis remains relevant in contemporary research across various fields for assessing and ranking attributes or factors with ordered qualitative measurements. Recent applications include healthcare research (Kim and Kawachi, 2021), education (Ping and Oshio, 2023), customer satisfaction surveys (Mahmood and Manzoor, 2021), environmental studies (Rivera, 2020), economic research (Calabrese et al., 2022), social sciences (Sakakibara, 2023), and public policy evaluation (Chen et al., 2023). Researchers continue to use RIDIT analysis to gain insights into the relative effectiveness or efficiency of different elements within a set in these domains (Das & Dye, 2024). In social science research, RIDIT analysis can be utilized to evaluate and rank the impact of social programs, policies, or interventions on various societal factors (Singh & Arora, 2023). Governments and policymakers are applying RIDIT analysis to assess the effectiveness of public policies, such as healthcare reforms, education initiatives, or environmental regulations (Thakkar et al., 2023) Given its applicability in assessing and ranking attributes or factors with ordered qualitative measurements, RIDIT analysis is highly relevant in evaluating and ranking non-performing asset (NPA) management strategies based on their efficiency and effectiveness. In the context of the banking sector and NPA management, RIDIT analysis can be effectively applied by the banking sector to assess, rank, and continuously improve their NPA management strategies (Kaur et al., 2023). By applying RIDIT scores to different strategies, banks can enhance their ability to control NPAs efficiently, minimize losses, and maintain the quality of their loan portfolios.

The data collected from bankers' perceptions regarding the effectiveness and efficiency of various NPA management practices is ordinal. In other words, it represents a ranking or order of preference rather than precise numerical measurements. RIDIT analysis is well-suited for analyzing such ordinal data. Furthermore, RIDIT scores are easy to interpret. They provide a clear indication of where each category stands in terms of effectiveness or efficiency, making it suitable for conveying results to a non-technical audience (Kanoujiya et al., 2023). RIDIT analysis allows for a comparative analysis of different practices. It can help identify which practices are perceived to be more or less effective or efficient in managing NPAs, which is valuable for decision-making. In perception surveys, there can be

extreme responses or outliers. RIDIT analysis is robust to outliers and provides a more stable estimate of central tendency (Rajput & Prasad, 2023). RIDIT analysis is designed to be sensitive to the ranks assigned to different categories. It takes into account the relative position of each category within the distribution, which is important when comparing perceptions of effectiveness and efficiency. Likert scale data often does not follow a normal distribution, which is a key assumption of many statistical tests. RIDIT analysis does not require this assumption and can be applied to non-normally distributed data effectively.

RIDIT analysis is deemed suitable for analyzing Likert scale data to determine the relative relevance of particular indicators (Wu, 2007). In addition, this method is commonly employed for quantitative data analysis in management, psychology, and behavioral research (Sharma et. al., 2022). This approach provides a well-established procedure for ranking the Likert scale items in an increasing or decreasing pattern (Bhattacharya, 2019). Therefore, the outcome of the RIDIT analysis reveals the relative relevance of particular scale elements (Sharma et al., 2022). RIDIT analyses data based on three-point or more rating scales that adhere to accepted norms (Beder & Hein, 1990). The answer category weights assigned in absolute values make up the RIDIT value, which spans from 0.00 to 1.00. These figures represent the likelihood that that answer category will appear in the standard distribution. All replies are converted into the dependent variable's RIDIT value once the RIDIT values for each range of the linked variable have been finalized. Finally, rather than using the answer fractions for the dependent variable to evaluate a category, this approach instead uses its mean RIDIT value. For the purification of ordinal data or data that are on an ordered scale but not an interval scale, the use of RIDIT computation and investigation has been advised. The RIDIT analysis works by assigning a "RIDIT" or score to each category from an assigned population with the same categories. This score for each category is calculated by dividing the total number of items across all lower categories by the population size. It represents the percentile rank of a given item in the attributed population. Following the determination of the RIDITs for each category, the dependent variable values for the comparison groups are taken, and the normal distribution is applied (Flora Jr., 1974). Using the steps provided by Chien-Ho Wu (2007), let's say there are m items and n sorted categories listed from the most to

the least favored on the scale.

The steps of RIDIT analysis are as follows:

1. "Select a population set to serve as a reference sample data set. In case the population cannot be easily recognized then the total response set for the survey might be considered as the reference data set."
2. "Calculate frequency f_j for each group of responses, where $j=1, \dots, n$."
3. "Calculate the mid-point collected frequency F_j for each group-wise of responses."

$$F_1 = \frac{1}{2} f_1$$

$$F_j = \frac{1}{2} f_j + \sum_{k=1}^{j-1} f_k, \quad \text{where } j = 2, \dots, n$$

4. "Compute RIDIT value R_j for each category of responses in the reference dataset."

$$R_j = \frac{F_j}{N}, \text{ where } j = 1, 2, \dots, n.$$

"N is the total number of responses from the Likert scale survey of interest. By definition, the expected value of R for the reference dataset is always 0.5."

5. "Compute RIDITS and mean RIDITS for comparison datasets. Note that a comparison dataset is comprised of the frequencies of responses for each category of a Likert scale item. Since there are m likert scale items in this illustration, there will be m comparison datasets."

6. "Compute RIDIT value r_{ij} for each category of scale items."

$$r_{ij} = \frac{R_j \times \pi_{ij}}{\pi_i}, \text{ where } i = 1, \dots, m.$$

7. " π_{ij} is the frequency of category j for the i th scale item, and π_i is a short form for the summation of frequencies for scale item i across all categories, i.e,"

8. "Compute mean RIDIT ρ_i for each Likert scale item."

$$p_i = \sum_{k=1}^n r_{ik}$$

9. “Compute confidence interval for ρ_i . When size of the reference dataset is very large relative to that of any comparison data set, the 95% confidence interval of any ρ_i is:”

$$p_i \pm \frac{1}{\sqrt{3\pi i}}$$

10. “Test the following hypothesis using Kruskal-Wallis statistics W :”

$$\begin{cases} H_0 : \forall i, & p_i = 0.5 \\ H_a : \exists i, & p_i \neq 0.5 \end{cases}$$

$$W = 12 \sum_{i=1}^m \pi_i (p_i - 0.5)^2$$

11. “ W follows a χ^2 distribution with $(m-1)$ degree of freedom. If H_0 cannot be accepted, examine the relationships among confidence intervals of ρ .

The general rules for interpreting the values of ρ are shown below.

1. A scale item with its ρ_i value statistically deviating from 0.5 implies a significant difference in the response patterns between the reference data set and the comparison data set for the particular scale item. If the confidence interval of ρ_i contains 0.5, then it is accepted that the ρ_i value is not significantly deviate from 0.5.
2. A low value of ρ_i is preferred over a high value of ρ_i because a low value of ρ_i indicates a low probability of being in a negative propensity.
3. The response patterns of scale items with overlapped confidence intervals of ρ are considered, among the respondents, to be statistically indifferent from each other.”

Table 7.1: Curative and Preventive Practices Under Study

Code	Practices
	<i>Curative Practices</i>
LM1	Lok Adalats
LM2	Debt Recovery Tribunals
LM3	One Time Settlement/ Compromise Schemes
LM4	SARFAESI ACT 2002
LM5	Insolvency & Bankruptcy Code 2016
	<i>Preventive Practices</i>
PR1	Practices to maintain the quality of assets through proper credit appraisal
PR2	Practices of maintaining the quality of assets through scrutiny and processing of such applications
PR3	Practices of maintain the quality of assets through post disbursement monitoring
PR4	Practices to prevent those accounts whenever symptoms of deterioration in quality are observed
PR5	Practice of rephasement, rehabilitation and restructuring of Assets
PR6	Practices of identifying the weaknesses of assets through early warning signals (EWS)
PR7	Practices of Relationship Management

There is no need for advanced statistical software for RIDIT's implementation. To test the RIDIT model in the present research, we utilized Microsoft Office Excel 2019. To satisfy the need for a normal distribution, the skewness and kurtosis analyses were performed. A normality test is a necessary condition to establish whether or not our study sample accurately reflects the features of the population. The descriptive statistics for each strategy are presented in Table 7.2.

Table 7.2: Skewness and Kurtosis Analysis

Effectiveness	Mean	Kurtosis	Skewness
LM1	2.93	-1.30	0.10
LM2	2.90	-1.27	0.07
LM3	2.93	-1.33	0.04
LM4	2.94	-1.32	0.04
LM5	2.90	-1.26	0.07
PR1	2.85	-1.28	0.15
PR2	3.09	-1.27	-0.08
PR3	3.14	-1.27	-0.08
PR4	2.92	-1.33	0.05
PR5	2.98	-1.32	0.06
PR6	2.91	-1.23	0.09
PR7	3.08	-1.41	-0.01
Efficiency			
LM1	3.03	-1.33	-0.06
LM2	3.12	-1.27	-0.14
LM3	2.87	-1.33	0.16
LM4	2.88	-1.30	0.07
LM5	2.98	-1.27	0.03
PR1	2.95	-1.32	0.05
PR2	2.88	-1.39	0.08
PR3	3.09	-1.35	-0.07
PR4	2.99	-1.36	0.02
PR5	2.98	-1.30	-0.10
PR6	2.93	-1.34	0.06
PR7	3.10	-1.31	-0.10

To determine whether our real-time dataset is normal, we ran skewness and kurtosis tests using Microsoft Office Excel 2019. Skewness and kurtosis test results showed that these variables' values are quite close to zero. The skewness index is between -

1.41 and -1.26, while the kurtosis index is between -0.10 and 0.16, indicating that the normalcy hypothesis appears to be valid (Kline, 2010). After gathering the factual data, we created a Microsoft Office Excel dataset that contained the opinions of bankers regarding the effectiveness and efficiency of curative and preventive practices to control NPAs.

The following formula is used to get the mean RIDIT of 0.2657 for the "**least effective**" category in the contrasting dataset (see Table 7.3):

- $65 * 0.051 / 316 = 0.010$; where 65 is the frequency of SD for LM1 and 0.051 is the RIDIT value for LM.

Likewise, for the other comparison datasets the RIDIT values were calculated.

- The mean RIDIT i.e *pi* for LM1 is calculated in the following manner:

$$(0.010 + 0.069 + 0.084 + 0.121 + 0.228) = 0.512,$$

The RIDIT scores for all other practices were calculated in the same way as shown in Table 7.3.

- The LB (Lower Bound) and UB (Upper Bound) for LM1 were calculated in the following manner:

$$1) \quad LB = 0.512 - 1/\sqrt{(3 * 316)} = 0.478$$

$$2) \quad UB = 0.512 + 1/\sqrt{(3 * 316)} = 0.544$$

The LBs and UBs were calculated for other practices in the same manner.

Since the Kruskal-Wallis W is calculated to be considerably greater than $\chi^2 (12-1) = 9.675$ in all the cases, it can be incidental that the opinions about the scale items among the respondents are statistically dissimilar in some way. This might be an additional step to verify or complement the findings obtained from the RIDIT analysis, to provide more compelling evidence of the differences in opinions among the groups. The use of multiple statistical methods can help to build a stronger case for the findings, as each method might have its own set of assumptions and limitations. By showing consistency in results across different methods, the researchers can argue more persuasively that the observed differences in opinions are real and not artifacts of the analysis method chosen.

**Table 7.3: Comparison Dataset of RIDIT Values and` Rankings for the identified NPA Control Practices' Effectiveness
(All banks)`**

All Banks	Least Effective	Less Effective	Fairly Effective	More Effective	Most Effective	RIDIT Score (pi)	LB	UB	Rank
LM1	0.010	0.069	0.084	0.121	0.228	0.512	0.478	0.544	10
LM2	0.010	0.068	0.101	0.121	0.194	0.494	0.461	0.526	9
LM3	0.009	0.058	0.109	0.143	0.197	0.516	0.484	0.549	11
LM4	0.011	0.061	0.099	0.141	0.171	0.484	0.451	0.516	8
LM5	0.008	0.064	0.109	0.132	0.214	0.527	0.495	0.560	12
PR1	0.012	0.064	0.107	0.119	0.163	0.465	0.432	0.497	1
PR2	0.011	0.065	0.106	0.146	0.149	0.476	0.443	0.508	3
PR3	0.011	0.066	0.101	0.152	0.146	0.476	0.443	0.508	2
PR4	0.011	0.066	0.107	0.117	0.183	0.483	0.451	0.516	7
PR5	0.012	0.061	0.096	0.150	0.163	0.481	0.449	0.514	6
PR6	0.011	0.065	0.089	0.157	0.157	0.479	0.447	0.512	4
PR7	0.010	0.072	0.104	0.146	0.149	0.480	0.447	0.512	5
Fi	781	791	746	734	740				
0.5*fi	390.5	395.5	373	367	370				
Fj	195.25	1176.5	1945	2685	3422				
Rj	0.051	0.310	0.513	0.708	0.902				

Source: Researcher's Computation

Table 7.4: Comparison Dataset of RIDIT Values and Rankings for the identified NPA Control Practices' Effectiveness (Public Sector Banks)

PSBs	Least Effective	Less Effective	Fairly Effective	More Effective	Most Effective	RIDIT Score (pi)	LB	UB	Rank
LM1	0.0073	0.0632	0.1018	0.1527	0.195	0.520	0.487	0.552	10
LM2	0.0073	0.0520	0.1272	0.1661	0.166	0.519	0.486	0.551	9
LM3	0.0076	0.0594	0.0891	0.1886	0.178	0.522	0.490	0.555	11
LM4	0.0100	0.0483	0.1145	0.1302	0.195	0.498	0.465	0.530	8
LM5	0.0085	0.0502	0.0954	0.1527	0.223	0.530	0.498	0.563	12
PR1	0.0124	0.0576	0.1113	0.1078	0.155	0.444	0.411	0.476	1
PR2	0.0100	0.0706	0.0923	0.1482	0.143	0.464	0.432	0.497	3
PR3	0.0097	0.0799	0.0986	0.1122	0.155	0.455	0.423	0.488	2
PR4	0.0082	0.0687	0.1177	0.0898	0.212	0.496	0.464	0.529	7
PR5	0.0091	0.0594	0.0986	0.1841	0.137	0.489	0.456	0.521	6
PR6	0.0109	0.0539	0.1018	0.1437	0.166	0.476	0.444	0.509	4
PR7	0.0088	0.0594	0.1368	0.1302	0.143	0.478	0.446	0.511	5
Fi	362	389	404	380	361				
0.5*fi	181	194.5	202	190	180.5				
Fj	90.5	556.5	953	1345	1715				
Rj	0.048	0.294	0.503	0.709	0.905				
Kruskal-Wallis W = ; $\chi^2 (12-1) = 19.675$									

Source: Researcher's Computation

Table 7.5: Comparison Dataset of RIDIT Values and Rankings for the identified NPA Control Practices' Effectiveness (Private Sector Banks)

PVSBs	Least Effective	Less Effective	Fairly Effective	More Effective	Most Effective	RIDIT Score (pi)	LB	UB	Rank
LM1	0.007	0.063	0.102	0.153	0.195	0.520	0.487	0.552	10
LM2	0.007	0.052	0.127	0.166	0.166	0.519	0.486	0.551	9
LM3	0.008	0.059	0.089	0.189	0.178	0.522	0.490	0.555	11
LM4	0.010	0.048	0.115	0.130	0.195	0.498	0.465	0.530	8
LM5	0.008	0.050	0.095	0.153	0.223	0.530	0.498	0.563	12
PR1	0.012	0.058	0.111	0.108	0.155	0.444	0.411	0.476	1
PR2	0.010	0.071	0.092	0.148	0.143	0.464	0.432	0.497	3
PR3	0.010	0.080	0.099	0.112	0.155	0.455	0.423	0.488	2
PR4	0.008	0.069	0.118	0.090	0.212	0.496	0.464	0.529	7
PR5	0.009	0.059	0.099	0.184	0.137	0.489	0.456	0.521	6
PR6	0.011	0.054	0.102	0.144	0.166	0.476	0.444	0.509	4
PR7	0.009	0.059	0.137	0.130	0.143	0.478	0.446	0.511	5
Fi	362	389	404	380	361				
0.5*fi	181	194.5	202	190	180.5				
Fj	90.5	556.5	953	1345	1715.				
Rj	0.048	0.294	0.503	0.709	0.905				
Kruskal-Wallis W = ; $\chi^2 (12-1) = 19.675$									

Source: Researcher's Computation

Table 7.6: Comparison Dataset of RIDIT Values and Rankings for the identified NPA Control Practices' Efficiency (Public Sector Banks)

PSBs	Least Efficient	Less Efficient	Fairly Efficient	More Efficient	Most Efficient	RIDIT Score (pi)	LB	UB	Rank
LM1	0.01	0.048	0.121	0.121	0.21	0.51	0.478	0.543	8
LM2	0.011	0.054	0.079	0.108	0.267	0.517	0.485	0.55	10
LM3	0.006	0.052	0.135	0.134	0.227	0.554	0.521	0.586	11
LM4	0.008	0.079	0.075	0.161	0.187	0.51	0.478	0.543	9
LM5	0.007	0.048	0.095	0.099	0.335	0.583	0.551	0.616	12
PR1	0.012	0.086	0.095	0.139	0.068	0.401	0.368	0.433	1
PR2	0.01	0.082	0.118	0.103	0.131	0.444	0.412	0.477	3
PR3	0.014	0.079	0.072	0.09	0.17	0.424	0.392	0.457	2
PR4	0.008	0.075	0.115	0.134	0.165	0.496	0.464	0.529	7
PR5	0.008	0.067	0.135	0.134	0.148	0.492	0.459	0.524	6
PR6	0.009	0.067	0.138	0.126	0.136	0.475	0.443	0.508	4
PR7	0.009	0.069	0.128	0.094	0.182	0.482	0.449	0.514	5
Fi	364	420	398	322	392				
0.5*fi	182	210	199	161	196				
Fj	91	574	983	1343	1700				
Rj	0.048	0.303	0.518	0.708	0.897				
Kruskal-Wallis W = ; $\chi^2 (12-1) = 19.675$									

Source: Researcher's Computation

Table 7.7: Comparison Dataset of RIDIT Values and Rankings for the identified NPA Control Practices' Efficiency (Private Sector Banks)

PVSBs	Least Efficient	Less Efficient	Fairly Efficient	More Efficient	Most Efficient	RIDIT Score (pi)	LB	UB	Rank
LM1	0.007	0.051	0.128	0.149	0.179	0.515	0.482	0.547	8
LM2	0.006	0.059	0.119	0.158	0.179	0.52	0.488	0.553	10
LM3	0.007	0.064	0.074	0.203	0.173	0.521	0.489	0.553	11
LM4	0.007	0.051	0.128	0.145	0.185	0.516	0.483	0.548	9
LM5	0.005	0.053	0.109	0.172	0.213	0.553	0.52	0.585	12
PR1	0.011	0.073	0.067	0.158	0.133	0.442	0.41	0.474	1
PR2	0.006	0.116	0.074	0.108	0.156	0.459	0.427	0.492	3
PR3	0.007	0.099	0.071	0.163	0.115	0.455	0.422	0.487	2
PR4	0.008	0.042	0.125	0.194	0.144	0.513	0.481	0.546	7
PR5	0.007	0.068	0.099	0.149	0.173	0.497	0.464	0.529	6
PR6	0.011	0.066	0.064	0.158	0.162	0.46	0.428	0.493	4
PR7	0.006	0.088	0.128	0.113	0.127	0.462	0.43	0.495	5
Fi	323	453	370	414	336				
0.5*fi	161.5	226.5	185	207	168				
Fj	80.75	549.5	961	1353	1728				
Rj	0.043	0.29	0.507	0.714	0.911				
Kruskal-Wallis W = ; $\chi^2 (12-1) = 19.675$									

Source: Researcher's Computation

Table 7.8: Ranking of Practices based on Efficiency & Effectiveness among Bankers

Code	Strategies	Efficiency	Effectiveness
		All	All
Curative Strategies			
LM1	Lok Adalat	8	10
LM2	Debt Recovery Tribunals	10	9
LM3	One Time Settlement/Compromise Schemes	11	11
LM4	SARFAESI ACT 2002	9	8
LM5	Insolvency & Bankruptcy Code 2016	12	12
Preventive Strategies			
PR1	Practices to maintain the quality of assets through proper credit appraisal	1	1
PR2	Practices of maintaining the quality of assets through scrutiny and processing of such applications	3	3
PR3	Practices of maintain the quality of assets through post disbursement monitoring	2	2
PR4	Practices to prevent those accounts whenever symptoms of deterioration in quality are observed	7	7
PR5	Practice of rephasement, rehabilitation and restructuring of Assets	6	6
PR6	Practices of identifying the weaknesses of assets through early warning signals (EWS)	4	4
PR7	Practices of Relationship Management	5	5

Source: Researcher's Computation

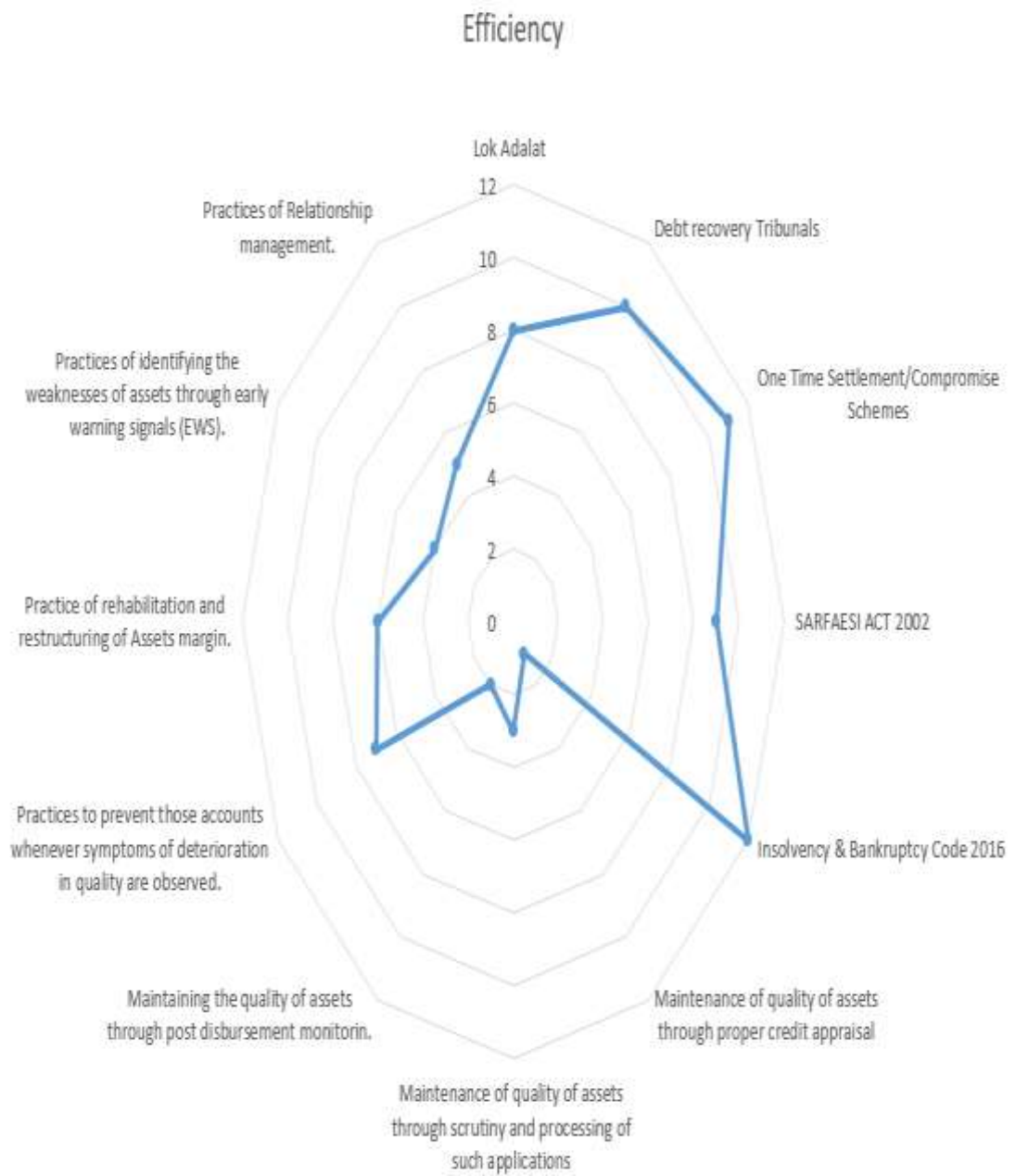


Figure 7.1: Radar Map of Efficiency of Practices

Source: Author's Computation

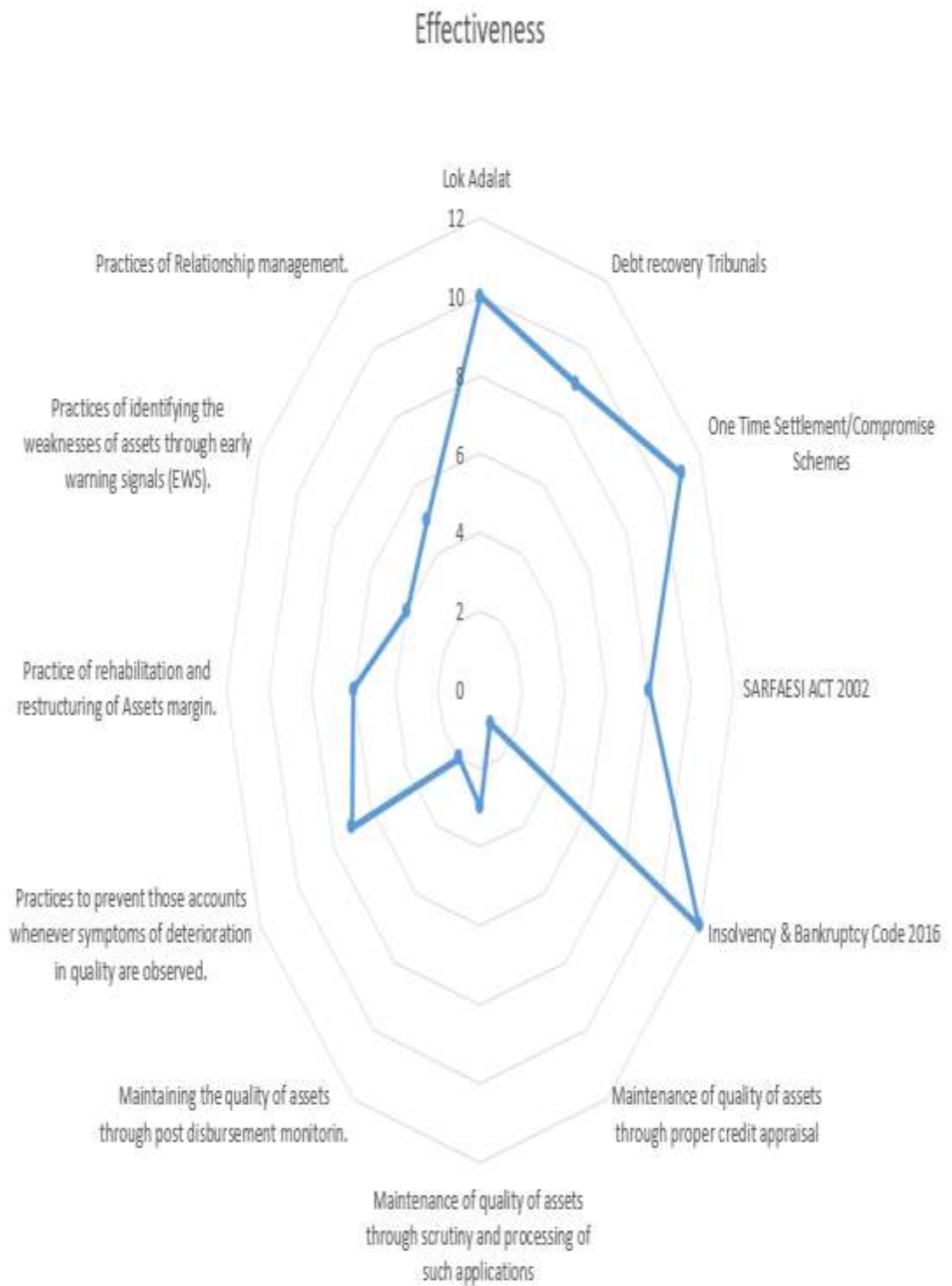


Figure 7.2: Radar Map of Effectiveness of Practices

Source: Author's Computation

7.4 Discussion of Results

Opinion regarding the effectiveness of various legal (curative) and preventive practices has been captured on a 5-point Likert scale, and the RIDIT scores on efficiency and effectiveness fronts are displayed from Table 7.3 to Table 7.7. Table 7.8 presents the comparative study of the ranked opinions of public and private bank managers regarding their agreeableness as to the effectiveness and efficiency of the NPA Management Strategy.

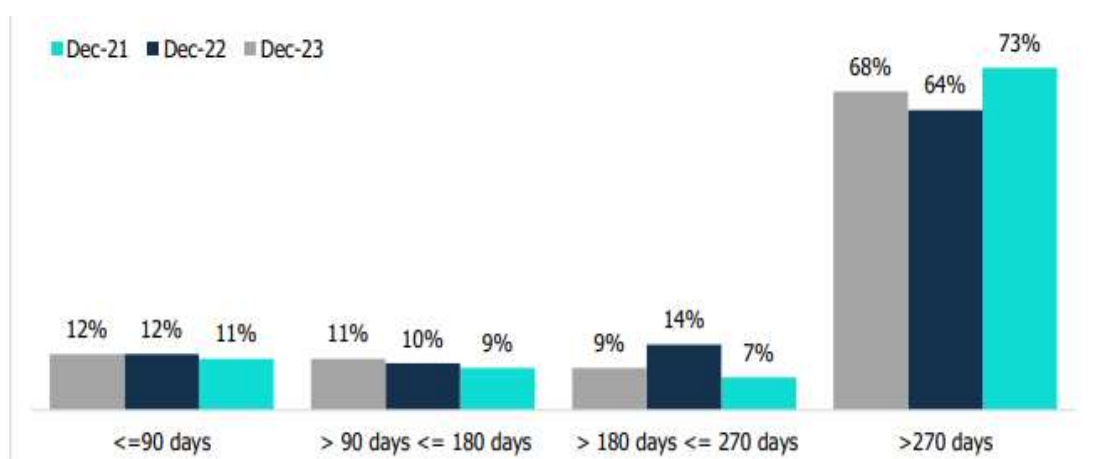
The overall ranking as per the RIDIT score shows the superiority of preventive practices over curative practices on both the parameters of efficiency and effectiveness. Preventive practices effectively control the occurrence of non-performing assets as well, and these are cost- and time-efficient to control with less cost and less time. The upper ranking of preventive practices shows that bankers have noticed that the NPA problem must be handled before an MSME account falls into NPA. This necessitates a risk appraisal by the lenders and red flagging the premature symbols of a probable default. The problems of non-performing assets and their recovery have been a significant threat for the banking sector in India. In recent years, the regulatory and administrative authorities have taken numerous actions to address the problem of NPAs and improve the recovery process. The focus has been on preventive practices, including early identification and resolution of stressed assets, to reduce the number of NPAs. The RBI introduced the Prudential Framework for Resolution of Stressed Assets in June 2019, which provides a limited time period agenda for their solution of stressed assets. The framework aims to encourage early identification and reporting of stressed assets by banks and to provide a structure for the resolution of such assets. In addition to the regulatory framework, the government has also introduced several laws to address the issue of NPAs. The Insolvency & Bankruptcy Code of 2016 (IBC) provides for a limited-time resolution process for strained assets and has been successful in improving the recovery process. Under the IBC, a creditor initiates insolvency proceedings against a defaulting borrower, and a solution plan must be approved within a specified time frame. According to a report by the Press Trust of India (PTI), scheduled commercial banks (SCBs) in India recovered ₹ 8,60,369 crore from NPAs between FY 2014 and FY 2022. This recovery was made

possible through the implementation of the statutory provisions available to lenders, including the Recovery of Debts and Bankruptcy Act of 1993, the Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act of 2002, and the IBC. However, despite these measures, the recovery of NPAs through legal channels remains a challenge, as seen in the low recovery rate of 14 percent in FY 21. Therefore, banks must continue to focus on preventive practices and the early identification of frazzled assets to minimize the number of NPAs and promote the recovery process. According to Rao (2023), the invocation of the SARFAESI Act and debt recovery tribunals have proven to be more competent in enforcing recovery when compared to other legal modes. The SARFAESI Act was found to be the most competent means, recovering 41 percent of claims lodged, as it is time-efficient and allows secured creditors to rescue their debts without court interference (Fatima and Ashraf, 2020). The SARFAESI Act was successful in reducing and controlling the non-performing assets of PSBs (Mishra and Aspal, Gupta 2017). This is because banks can initiate action under this ordinance without any loss of time, especially for unviable units. In addition, banks are encouraged to use this legal remedy when they encounter malfeasance on the part of promoters or borrowers. Furthermore, Shah (2023) found that expenses incurred under the SARFAESI Act for recovery purposes are lower than the cost of their solution process under the IBC. Therefore, it is recommended that banks take advantage of the SARFAESI Act, which has proven to be a competent and cost-efficient legal remedy for the recovery of non-performing assets. The study further found that debt recovery tribunals (DRTs) have proven to be the second most effective legal channel for recovering bad loans, following the SARFAESI Act (Samir et al., 2010). In 2018, the limit for filing applications in DRTs was doubled to Rs. 20 lakh, which has helped them concentrate on high-value matters and expedite the healing of dreadful loans (ET 2018). This revision is expected to free up DRTs and enable the SARFAESI Act to concentrate on high-value concerns, leading to a faster recovery of NPAs, according to Financial Services Secretary Rajiv Kumar (ET, 2018). Moreover, the establishment of new DRTs may also have contributed to expediting the recovery process. By increasing the number of DRTs, the workload is distributed, and cases can be heard and resolved more quickly. This can also reduce the backlog of cases in the DRTs, which is a significant issue that affects

the effectiveness of the recovery process. Therefore, the establishment of new DRTs, coupled with the increase in the limit for filing applications, has contributed to the quicker recovery of bad loans. Amongst legal practices, Lok Adalat is ranked third for effectiveness and efficiency in NPA recoveries. The number of stressed accounts reported to Lok Adalats by banks has increased significantly in 2021–22, as the cost of recovery through this path is less than through DRTs or SARFAESI. However, the recovery rate through this route has been very low, at 2.3% in 2021–22 and 4% in 2020–21. This is because it is challenging to recover loans from defaulters in the small-ticket loan segment. Lok Adalats were established to supply an agreeable resolution of controversy, including those related to monetary issues such as the revival of NPAs, under the Legal Services Authorities Act of 1987. It is a complementary assistance and can be utilized to resolve pre-litigation frictions and cases pending in a court of law, making it cost-efficient. The limit for settling loan amounts using Lok Adalats has been increased from ₹ 5 lakh to ₹ 20 lakh in 2004 (Insights, 2023). Over the last 15 years (from 2006 to 2021), Lok Adalats have grasped over three crore cases involving loans worth ₹ 3.2 lakh crore. However, only around 6% of this amount has been recovered (Insights, 2023). Whereas Lok Adalats have grasped the maximum number of cases compared to any other debt resolution system, their recovery ratios are not paramount, and therefore, they are not considered effective practices for NPA recovery. While this means that Lok Adalats have handled the highest number of cases compared to any other structure of debt resolution, they evidently do not have the best recovery proportions. Acharya and Dutt (2019) suggest that the hindrance in accepting cases to the National Company Law Tribunal (NCLT) is causing banks to select for one-time settlements for small and mid-sized companies. This is because one-time settlements are preferred over the Insolvency and Bankruptcy Code (IBC) when it comes to managing non-performing loans in the MSME sector. In fact, according to the RIDIT score, IBC is considered the least effective and efficient strategy for NPA management, not only in curative practices. The Alvarez & Marsel India report (2020) identifies several factors that may contribute to the ineffectiveness and inefficiency of IBC. These factors include issues with various stakeholders, legacy matters within the system, a lack of governmental clarity, and inefficiencies among market participants. The timelines and results of proceedings under IBC remain

volatile, causing probable investors to be hesitant. Delays at various phases of the insolvency resolution procedure further exacerbate the challenges of using IBC.

Of the approximately 1,900 current CIRPs, 68% of them will not be completed by December 2023 due to delays of over 270 days, compared to 73% in December 2021 and 64% in December 2022. In general, the proportion has shifted to the tier with more days. Additionally, we can see that the segment labeled "more than 180 days but less than 270 days" is the lowest, emphasizing the fact that although more cases are being added and older cases are progressing, they appear to be taking longer to complete. Furthermore, while the final segment, which is fewer than 90 days, has decreased, the share of the "more than 90 days but less than 180 days" section has increased. (Acharya and Dutt, 2019).



Source: IBBI

Figure 7.3: Timeline of Ongoing CIRPs

Source: BFSI Research, 2024

The releases of the Standing Committee on Finance identified several reasons for the delay in the resolution of cases under the Insolvency and Bankruptcy Code (IBC). These include the respite in accepting cases to the National Company Law Tribunal (NCLT), unwanted bids external to the process that defers resolution, succeeding lawsuits after the resolution plan has been permitted, and the shortage of staff at NCLT due to their handling of cases relating to corporate transactions, mergers, and acquisitions, etc. The setbacks in the closure of the Corporate Insolvency Resolution

Process (CIRP) and similar processes of liquidation apply to different stakeholder categories, however, the corporate debtor segment resolves more quickly than the other two stakeholder categories of financial and operational creditors (Standing Committee on Finance Report, 2021). Figure 7.4 shows the pendency even for cases that have been placed into liquidation, with around 55% of cases remaining unresolved for longer than two years and an additional 18% remaining unresolved for longer than a year but less than two years.

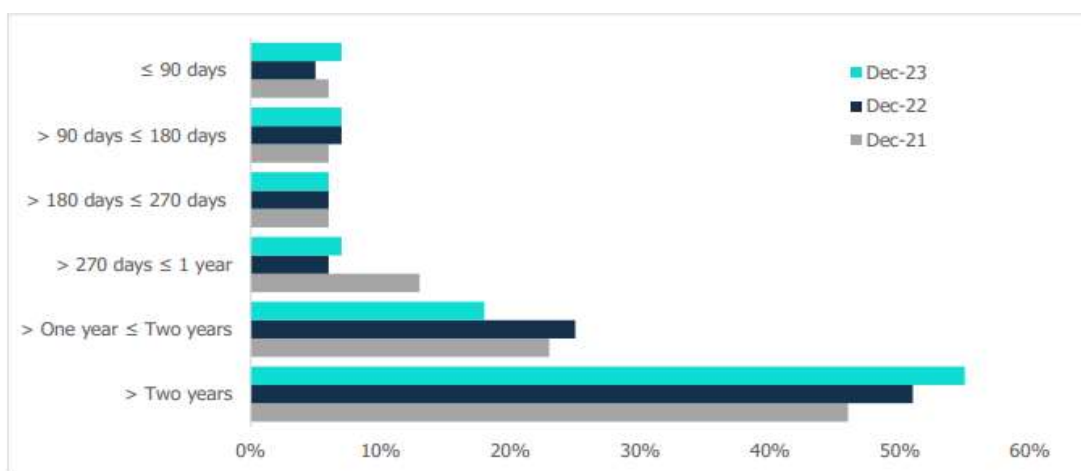


Figure 7.4: Timeline of Cases under Liquidation

Source: BFSI Research, 2024

Addressing the critical issues surrounding NPA resolution is crucial for improving economic outcomes and timelines on a global scale. While there have been legal successes in restoring the potency of the banking sector through the endorsement and modification of various statutes, effective and efficient operation is essential to changing the game (Devprakash 2023). It was found that not all preventive practices are uniformly successful in controlling nonperforming loans. The most effective and efficient preventive measures perceived by both selected public and private sector banks are maintaining the quality of assets through proper credit assessment followed by post-disbursement monitoring, scrutinizing and processing applications to maintain the asset quality, identifying asset weaknesses through early warning signals, relationship management practices, rehabilitation and restructuring of asset margins, and preventing accounts whenever signs of worsening in quality are observed.

Pre sanction credit appraisal is a crucial step in the lending process, and it can help

prevent potential NPAs; hence, it is the most effective and efficient strategy in the perception of bankers. Credit appraisal begins with the early step of illuminating a probable borrower through proper due diligence, market and industry reports, scanning of financials, credit ratings, and reports, as well as observance of government and regulators' policies and guidelines, including adherence to the norms & standards of the board-approved monitoring policy of the bank. This stage of pre-sanction credit monitoring should therefore be used by bankers since it involves no cost and is also effective in early rejection of unviable applicants. If we don't keep an eye on the loan accounts from the very beginning of the credit, we might not be able to prevent them from becoming NPAs, which would be detrimental to the interests of the banks and investors. Through proper due diligence, banks can assess the borrower's credit worthiness and ability to repay the loan, as well as identify any potential risks or red flags. By rejecting unviable applicants early on, banks can save time and resources that would otherwise be spent on monitoring and recovering bad loans. Effective pre-sanction credit appraisal can also help banks mitigate risks and make informed lending decisions, ultimately improving the overall quality of their loan portfolio. Post disbursement credit monitoring has also proved to be a very effective strategy for MSME loans to maintain asset quality. Post disbursement credit monitoring involves continuous monitoring of a borrower's account after the credit has been disbursed. This helps in ensuring that the borrower is utilizing the credit as per the agreed terms and conditions, making timely repayments, and maintaining the required creditworthiness. It also helps in identifying any signs of financial distress or default at an early stage, which can then be addressed through timely intervention and remedial measures to avoid the account turning into an NPA. Therefore, post disbursement credit monitoring is an essential tool for maintaining the asset quality of MSME loans and controlling NPAs. Post-disbursement monitoring is effective and efficient in controlling the NPAs in that it ensures that credit is disbursed in accordance with established procedures, that the lent amount is safe, that the account is managed as would be expected, and that the account continues to be a performing loan. Therefore, maintaining a close eye on the borrower's account from a variety of angles can be a useful strategy for reducing NPAs. In addition to this, the study finds that the installation of early warning signal systems is quite effective and efficient for

reducing the possibilities of future NPAs, as these detect risk flags early in the process that suggest possible collection concerns. The vast majority of bankers firmly concur that the most important technology employed by lenders to prevent NPA was the CIBIL score. The use of credit scores and credit information bureaus like CIBIL is an important preventive measure to control NPAs. This helps banks assess the creditworthiness and repayment capacity of borrowers before approving loans. By analyzing the credit score and credit history of a borrower, banks can recognize any probable credit risks and take suitable measures to alleviate them. This reduces the possibility of future NPAs and ensures that the loans are given only to creditworthy borrowers. Relationship management has fallen to the fifth rank in terms of efficiency because the commission involved in availing the services of recovery agents, which is 3.5% to 4% of NPA, makes it cost-inefficient. In the case of rehabilitation and restructuring, this practice has not been proven to be very effective or efficient. Given that there are more SMEs with smaller sizes, fewer reporting requirements, and a greater reliance on collateral than larger companies, SME loan restructuring is more expensive and risky for banks. Additionally, restructured loans can negatively impact the credit score of MSMEs (Bhasin, 2021).

7.5 Conclusion

Based on these findings, it can be concluded that the issue of non-performing loans can be tackled at the initial stage of credit evaluation by implementing a robust and suitable credit appraisal process, which is perceived as the most effective and efficient strategy by bankers. In the current changing scenario, banks need to exercise prudence while granting credit to avoid future recovery issues. It is essential to focus on credit monitoring at all stages, including pre-sanction, disbursement, and post-disbursement, to promote a culture of preventing NPAs and ensure a strong financial system. It is crucial for both lenders and borrowers to actively participate in preventive practices for credit appraisal and monitoring. However, given the failure of financial institutions and banks to control NPAs, the Indian Government has implemented strict provisions of the Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002, and other banking laws to maintain a secure and sound banking system and control NPAs. Among legal

practices, the SARFAESI Act has proven to be a competent and efficient means of recovering NPAs. Bankers typically focus on enforcing security through the SARFAESI Act as the first line of defense in cases of financial distress. Other loan recovery channels should also be effective and efficient to recover the excellence of assets. The study highlights that the current insolvency procedures under the IBC system pose challenges for micro and small enterprises due to their complexity, lengthiness, and high costs. Therefore, the focus should be on preventive measures, as they are more effective than curative measures. In the absence of an efficient legal mechanism for insolvent MSMEs, bankers have little incentive to pursue legal processes. Creditor passivity is a common occurrence when the cost of participating in the insolvency process outweighs the expected return. As a result, bankers should continue to focus on preventive practices to control NPAs. By doing so, Indian banks can maintain their tendency to refine the superiority of their assets. In order to preserve the efficient and successful trend of raising the quality of their assets, Indian banks should continue to be laser-focused in their efforts to recover non-performing assets. Generally, the outcomes of this study demonstrate that bankers tend to prefer out-of-court settlement methods, such as SARFAESI, rather than resorting to judicial interventions, such as Lok Adalats, DRTs, and IBC. SARFAESI is particularly suitable for MSMEs, as the amount involved is usually small and the cases are relatively simple. With the increasing number of cases pending in the judicial system, bankers are discovering it more practical to seek solutions outside of courts or tribunals. Bankers tend to prefer Lok Adalats, DRTs, and one-time settlements (OTS) over IBC due to the problem of excessive hindrance in the resolution process under IBC. The lengthy timeline often discourages lenders from taking the IBC route and drives them towards pre-NCLT settlements. Additionally, bilateral settlements enhance the chances of resolution as they involve the direct involvement of lending banks and MSMEs, unlike IBC, where promoters have to step down and hand over control of the company. Above all, preventive practices have proven to be more effective and efficient in the management of NPA by taking precautions at the time of granting loans before the accounts roll NPA.

CHAPTER - VIII

SUMMARY AND CONCLUSION

The micro, small, and medium enterprise (MSME) sector of India, a pivotal driver of economic development, is second only to agriculture in employment generation. Its widespread presence adds considerable depth to the nation's economy, facilitating job creation and regional development. However, the sector remains vulnerable to both local and global marketplace shifts (Chary and Rao, 2016). Banks, motivated by socio-economic objectives like priority sector lending (Kumar et al., 2016), face rising non-performing assets (NPAs) tied to MSMEs. RBI data reveals that by the second quarter of 2019, 16% of all Public Sector Bank MSME credits were NPAs, a rate nearly triple that of private banks and NBFCs (RBI, 2019). With the RBI pushing for enhanced MSME lending, the challenge of managing these NPAs intensifies. Both public and private banks grapple with this issue, especially given the recent surge in NPAs in states like Haryana, Assam, and Tripura (NABARD Annual Report 2021). As of March, 2022, Haryana's MSME NPA sum reached Rs. 5,179 crore, reflecting the sector's pressing challenges (State Level Bankers Committee, Haryana 2022).

.8.1 Changing Definition:

India will now classify MSMEs according to investment and yearly turnover; however, global trends in MSMEs classification reveal that micro, small, and medium units have frequently used the number of employees as a variable to describe MSMEs. The MSME Development, 2006 (MSMED Act) defines MSMEs using an earlier definition on the basis of investment in plant and machinery, or apparatus, to categorize MSMEs. The maximum investment allowed varied depending on whether the sector was manufacturing or services. In terms of financial restrictions, these constraints were incredibly modest. The economy has changed significantly since then. The government has suggested changing the present investment-based definition of MSMEs with a turnover-based definition in order to make conducting business easier. The revised definition and criteria were announced by the Union Ministry of Micro, Small, and Medium Enterprises and took effect on July 1, 2020. The distinction between the manufacturing and service sectors was also dropped from the new definition.

Table 8.1 Revised Classification of MSMEs Applicable with the fact on July 1, 2020

Composite Criteria: Investment in Plant & Machinery/Equipment and Annual Turnover

Classification	Micro	Small	Medium
Manufacturing Enterprises & Enterprises Rendering Services	Investment: Not more than Rs. 1 crore & Turnover; not more than Rs. 5 crore.	Investment: Not more than Rs. 10 crore & Turnover; not more than 50 crore.	Investment: Not more than Rs. 50 crore & Turnover; not more than Rs. 250 crore.

Source: Ministry of Micro, Small and Medium Enterprises

8.2 Growth

India currently has one of the world's rapidly expanding economies. India's MSME unit is probably going to keep contributing considerably to the growth of the Indian economy. The MSME sector has shown tremendous growth over the past 10 years in terms of factors including quantity produced, employment, and exports. This industry can offer much more if the proper support structures and enabling environment are in place, allowing it to realize its enormous potential. In India, MSMEs are playing a critical role in falling provincial shortcomings and assuring a more impartial allocation of worth and revenue by industrializing rural and underdeveloped areas while offering substantial employment chances at capital costs that are comparably lower than those of large industries. As per the National Sample Survey (NSS) 73rd round, which was carried out in 2015-16 by the Ministry of Statistics & Program Implementation's National Sample Survey Office, there are 634 lakh unincorporated non-agricultural MSMEs operating throughout the nation and employing more than 111 million people in India.

8.3 NPA in the MSME Sector

In India, it wasn't until the early 1990s that the scope of the bad loan issue was first understood. There is still widespread unease about the reduction of NPAs on bank balance sheets, but there doesn't seem to be agreement on the best strategy to take to address this issue. Therefore, the biggest challenge the banking industry faces is

managing NPAs. Public and private sector banks are increasingly run as pure-play businesses with a profit focus. They are under unheard-of pressure to increase service volume while gradually reducing prices. They are the guardians of public funds; therefore, they must simultaneously become more responsible, customer-focused, and responsive to stakeholders and the government banks in the public and private sectors are also stressed by the NPA issue.

Even though micro, small, and medium-sized enterprises are the backbone of the economy and the main forces behind employment, production, economic growth, entrepreneurship, and financial enclosure, MSMEs still require capital to operate, which they can obtain either in the form of funding from governmental agencies or loans from financial institutions..

MSMEs account for approximately 30% of GDP; therefore, maintaining good health and fitness is essential if India is to meet its lofty \$5 trillion economic goal as soon as possible. MSMEs require quick, simple, and digital access to capital to thrive and develop (Kumar, 2023). Bankers may be reluctant to offer formal loans to MSMEs, though, due to the growing threat of NPAs from MSME loans.

These MSMEs may be more susceptible to financial shocks if they have trouble obtaining the right kind of financing in the right amount at the right time. It is important to note that while small businesses are increasingly seen as the foundation of many economies, difficulties in obtaining official forms of financing may cause them to go bankrupt, which would have a depressing effect on the expansion of an economy as a whole. The following findings can be used to show the necessity for research on NPAs in MSMEs:

1. There has barely been any orderly valuation of handling the problem from the perspective of loans sanctioned to MSMEs. Bad loans to micro, small, and medium enterprises have risen in recent times.
2. In order to meet the demand for micro and small businesses, the MSME sector has a credit deficit of about \$530 billion out of \$819 billion, according to a 2022 study. (Financial Express, April 2023).

3. In March 2010, 17.3% of total bank credit was arranged to MSMEs but in March 2019 this was limited to 13.6%.
4. The MSME sector may also be becoming susceptible to the NPA issue that has suffering the Indian economy.
5. Approximately 5,200 businesses with credit disclosures totaling more than Rs 5 Cr have been confirmed as non-performing assets (NPAs) till December 2021. (Economic Times, March 2022).
6. In June 2019 quarter, 16% MSME credit of all public sector banks was NPAs almost three times the rates in private banks and NBFCs.
7. U.K. Sinha report states that around 41% of all stressed loans in the MSME sector.

8.4 MSME Sector in Haryana

The Hon'ble Chief Minister has given the growth of MSMEs top importance as the catalysts for economic development in the Haryana state, with an exceptional concentration on manufacturing and service firms, employment generation, and equitable regional development. As a result, the Haryana Enterprise Promotion Policy 2020 outlines a transformative plan for Haryana's industrial development, with MSMEs serving as the primary focus of important mediation. The state's priority industries, which include traditional clusters such as scientific apparatus, metal, plywood, and light engineering, rural functional clusters such as textile, apparel, footwear, and dairy, and core clusters such as textiles, and food processing, are highlighted particularly in the Haryana EPP 2020. The largest MSME footprint is in the automotive, food & beverage, textiles, engineering, and metals sectors, which together employ more than 10 lakh people and have cumulative investments of over Rs. 20,000 crore. The state's manufacturing MSME sector includes both modern medium-sized businesses (mostly based in Panipat, Faridabad, and Gurugram) and a significant number of established micro- and small businesses (mostly based in Panchkula, Ambala, Karnal, Rohtak, Kaithal, etc.). For industries, especially MSMEs, the Haryana Enterprise Promotion Policy 2020 provides a regulatory framework and financial incentives. The MSME sector, however, is hampered by a lack of

infrastructure, technology, credit, and policy outreach, as well as by a lack of market access. MSMEs also require additional help, particularly in areas with a lack of industrial development. The highest priority is the expansion of investor-friendly infrastructure capacities to leverage the benefits of agglomerations, especially with planned industrial projects of nationwide importance like the Delhi-Mumbai Industrial Corridor, Amritsar-Kolkata Industrial Corridor, and Kundli-Manesar-Palwal global corridor. Parallel to this, there will be a big focus on supporting startups and opening incubation facilities to provide a supportive environment for MSMEs. The "Haryana MSME Policy-2019" aims to increase the competitiveness of MSMEs across the state's force sectors by creating state-of-the-art infrastructure, promoting comprehensiveness through provincial balanced development, generating beneficial employment, and nurturing improvement in order to create a setting that is conducive to MSMEs' growth.

The study is only focused on the state of Haryana. In terms of "Ease of Doing Business," Haryana placed third overall in India and first in north India in 2017–18. As a result, MSMEs are entering Haryana in large numbers. There are 1,00,000 MSMEs in Haryana. However, Haryana's MSMEs are experiencing an increase in NPAs. According to the most current NABARD data, states like Tripura, Meghalaya, and Uttar Pradesh (UP), followed by Assam, with NPA levels of 33.3% and 50.1%, respectively, were found to have the highest levels. According to the information given by the Haryana State-Level Bankers' Committee in February 2018, the MSME advances NPA amount up to December 2018 was Rs 4,412 crore, which increased by 9.1% to Rs 4,814 crore by December 2019.

8.5 Objective Wise Findings

8.5.1 Objective I

To examine the quantum, trend, and composition of non-performing assets of MSMEs in selected public and private sector banks in Haryana.

Findings:

This objective demonstrated the quantum, trend, and composition of non-performing assets of MSMEs in selected public and private sector banks in Haryana:

1. The data reveals a substantial and consistent growth in the number of MSME loan accounts and outstanding loan amounts across both private and public sector banks from March 2015 to March 2022.
2. Private sector banks, particularly HDFC Bank, have played a pivotal role in extending credit to MSMEs. HDFC Bank stands out with the highest magnitude of increase in both loan accounts and outstanding loan amounts.
3. Public sector banks, such as Punjab National Bank, State Bank of India, and Canara Bank, have also significantly increased their engagement with the MSME sector, contributing to the overall growth in MSME loans.
4. HDFC Bank and Axis Bank out of selected private sector banks exhibited pronounced upward trends, with HDFC Bank maintaining dominance throughout the period, while Axis Bank saw substantial growth, especially in recent years.
5. Among public sector banks, SBI remained a major player despite a brief decrease in loan accounts, showcasing a strong upward trend in outstanding loan amounts. PNB and Canara Bank also displayed notable growth.
6. HDFC Bank and SBI emerged as leaders in terms of both the number of MSME loan accounts and outstanding loan amounts among private and public sector banks, respectively. This data underscores the ongoing commitment of banks, both private and public, to support the MSME unit, which plays an important role in the Indian economy.

7. Overall, the data illustrates a positive trend in credit flow to the MSME sector, highlighting the vital role of banks in fostering the prosperity and development of small and medium-sized units in India.
8. On observing NPA accounts and amounts against MSME Loans Outstanding in PSBs as well as PVSBs, it is found that there has been a noticeable increase in both NPA accounts and amounts in both PSBs and PVSBs over the years. PNB consistently had a high share of NPA accounts and amounts in PSBs, while HDFC Bank stood out in PVSBs. The NPA percentages varied across banks, with some showing increasing trends and anomalies, highlighting the need for effective risk management and recovery measures. PSBs generally had a higher share of NPA percentages compared to PVSBs. Effective risk assessment and management strategies are crucial to maintaining the quality of MSME loan portfolios in banks, ensuring their financial health and sustainability.
9. The data reveals that PSBs exhibited varying degrees of success in managing NPAs arising from collateral-free MSME loans. While some PSBs managed to reduce their NPA percentages and amounts over the years, others faced challenges, with fluctuations and varying magnitudes. For example, Punjab National Bank and Bank of Baroda reduced their NPA percentages over time, while Canara Bank showed significant improvement by reducing their NPA percentage to zero in recent years.
10. In contrast, PVSBs generally exhibited more effective NPA management in collateral-free MSME loans, with many banks reporting 0% NPA percentages and amounts throughout the period. Except for HDFC Bank and ICICI Bank, remaining banks consistently maintained a clean record in this regard, indicating strong risk management practices.
11. These findings emphasize the critical attention of practical risk management in lending to the MSME sector, especially when collateral is not required. Banks that maintained low or zero NPA percentages and amounts demonstrated that rigorous risk assessment and monitoring can lead to better asset quality in this segment.

12. A positive outcome is that several banks, both PSBs and PVSBSs, showed a trend of reducing NPA percentages and amounts in recent years. This is beneficial for the MSME sector as it ensures that more funds are available for lending to deserving businesses without the burden of NPAs weighing down the banking system.
13. The data underscores the need for continuous vigilance and effective risk management by banks when offering collateral-free MSME loans. Successful NPA management is important to support the prosperity and sustainability of the MSME sector and maintain the financial health of both PSBs and PVSBSs.
14. The composition of nonperforming assets in the MSME sector in Haryana highlights fluctuations in the Non-Performing Loan amounts across Micro, Small, and Medium Enterprises (MSMEs) over the observed period from March 2017 to March 2022. Notably, Micro Enterprises consistently bear the highest share of NPA amounts within the MSME advances, demonstrating a greater financial vulnerability or risk within this category, followed by Small and Medium Enterprises. Peaks in NPAs were notably seen in March 2018 across all three categories. The majority of MSMEs in India fall under the 'micro' classification, which often includes sole proprietorships and enterprises with one operator. Small occupations may have more than one holder, several staff, and an ad hoc organizational structure. The "medium" firms at the other end of the spectrum may differ significantly from their micro and tiny counterparts, employ hundreds of people, and still not be corporatized.
15. When evaluating the NPA ratios, which represent the percentage of nonperforming assets in relation to the total assets, Medium Enterprises exhibit the higher NPA ratios among the three categories, despite being the smallest category in terms of numbers. This indicates a higher proportion of distressed assets in Medium Enterprises, necessitating focused risk management interventions. Over the years, however, a significant decline in the NPA ratio for Medium Enterprises has been noted, suggesting possible improvements in financial management or the effectiveness of remedial measures taken.

8.5.2 Objective II

To discover the factors contributing to the rise in non-performing assets of MSMEs in selected banks in Haryana.

Research Methodology:

Various government papers on MSMEs were examined for this reason. Many novel factors were discovered after deliberating with bankers. A questionnaire was constructed after studying reports and conducting interviews with bankers to capture their perceptions of factors leading to enhanced NPAs in the MSME sector. Factors are summarized using exploratory and confirmatory factor analysis on 316 responses as bank-related, borrowers-related, and market-related factors.

Findings:

Overall, the study highlights the multifaceted nature of nonperforming assets in the MSME unit in India. Borrower, bank, and general scenario-related factors are identified as the three main causes of the NPA crisis in MSMEs, and the researchers have outlined steps to address the problem based on their findings.

1. Infrastructural and Capacity Building Bottlenecks are the most important factor that explains 6.5 percent of the variance of the dataset along with an Eigenvalue of 2.47 and indicates its supremacy over other factors. The variables constituting this factor are lack of access to the Infrastructure needed by entrepreneurs leads to NPAs (Expert Committee MSMEs 2019) (.826), lack of awareness about the government schemes leads to NPAs (Expert Committee MSMEs 2019) (.815), lack of entrepreneurial vision, tendencies and lack of managerial, legal, and operational skills leads to NPAs (Expert Committee MSMEs 2019) (.679). This factor clarifies that borrowers' lack of entrepreneurial skills and inexperience in business ventures are major causes of NPAs. With the aid of an auditor, borrowers are successful in obtaining bank financing, but once this happens, their weaknesses become apparent, preventing them from seeing the big picture and leading them to frequently pursue the wrong projects. There is a need for strategic action plans to provide support services under infrastructure facilities including power, water, roads,

etc., and skill development. Overall, borrowers-related factors explain most of the variability in the data which is 17.29 percent of the variance.

2. Other borrower-related factors, such as inefficient financial management in the form of diversion of funds for a purpose other than the loan granted, an inadequate Equity base leading to financial extension which makes the loans vulnerable to defaults (Interview with Bankers), Cost overrun in project implementation (Report of International Finance Corporation on Financing India's MSMEs 2018), Loan raised for Showy Projects lead to NPAs (Interview with Bankers), coupled with intentional malefaction such as siphoning off loan amounts, lack of repayment culture, etc are significant contributors to the problem.
3. On the other hand, banks' internal incompetence, such as faulty credit appraisals, also contributes significantly to the occurrence of NPAs. It is the second largest factor that explains 6.25 percent of the variance of the data set, along with an Eigenvalue of 2.43, and indicates how important credit appraisal is. The accounts becoming NPAs have been attributed primarily to inadequate evaluation and tardy monitoring. The RBI has periodically investigated and documented the failures of the branches to monitor the accounts (Lenka 2019). Considering other factors such as bureaucratic intricacies comprising items like non-collateralized loans, bureaucratic procedures delays, compromised loans, and allocation inefficiency, comprising items like over/underfinancing, lack of specialized staff focused on MSMEs leading relaxed lending norms, banker-related factors overall explain 22.28% of the variance. To address the issue, the study recommends various measures, such as proper training for banking staff, increased vigilance in credit risk assessment, and fewer government influences.
4. Further, regulatory risks, political stability risks, legislative friction, macroeconomic risks, and natural risks play a role in the NPA's fiasco. To address the issue, the study recommends various structural changes to mitigate the impact of legal, political, and macroeconomic risks. Legislative Frictions have proved to be an important contributor to the NPA problem in the MSME

sector in India explaining 4.33% of the variance. Delayed loan recovery due to prolonged legal proceedings (Michael, 2014) (Narayan & Surya, 2014) (Interview with Bankers), ineffective legal measures due to statutory protections available to willful defaulters, and a slew of laws slowing down the process of judicial remedy can all contribute to a higher likelihood of defaults. Strengthening legal recovery measures is thereby suggested as the best likely way to diminish the NPAs ratio. Political instability (Mittal & Suneja , 2017), (Interview with Bankers) can lead to an uncertain business environment, which can be detrimental to MSMEs. It can also result in a lack of continuity in policy and decision-making, leading to confusion and a lack of direction for businesses. In addition, political warfare can lead to a diversion of resources away from the MSME sector, which can make it more difficult for businesses to access the funding and support they need to grow. Finally, failure to implement policy and legal changes is the fourth attribute of this factor. This means that policies or legal changes that are designed to support the MSME sector may not be effectively implemented or enforced, leading to a lack of impact on the ground. Political stability and economic growth are seen as complimentary factors that should receive special consideration when developing policies for MSMEs. The general recommendations are to have a favorable attitude toward political, legal, and economic policy-making aspects for the endurance and development of MSME enterprises after analyzing the market-related issues influencing the survival of SMEs.

5. All the factors under consideration, borrower-related, banker-related, and market-related accounted for 59% of the variance.
6. Overall, addressing the issue of NPAs in the MSME segment in India will require a multi-pronged approach that involves collaboration between borrowers, banks, regulators, and policymakers.

8.5.3 Objective III

To identify the NPA management practices adopted by the selected banks to fell the level of NPAs in MSMEs

The rising concern about NPAs from the MSME sector has stressed the whole banking organization. There is an insistent requirement to expand and understand a widespread approach to handling NPAs arising from MSMEs. It would certainly be difficult for the banking sector given the notable rise in non-performing loans and willful defaults during the last five years, as well as the direction of the Reserve Bank of India to improve the granting of loans to prime sectors like MSME. As a result, it prompts rigorous questions about the NPA management's methods. Two essential issues must be focused on in NPA management policies: primarily, how to stop it from occurring against this magnitude? And subsequently, how can NPAs that were previously in continuation be improved? In place of managing NPAs, after they have occurred, anticipatory steps must be applied to handle them (Meher et al. 2020). Undoubtedly, the government has stated remedial actions in the form of the SARFAESI Act, Lok Adalats, DRTs, IBC, etc., and NPA avoidance must occur as soon as possible given the latent unconstructive effects that the increasing occurrence of NPAs may have. However, a variety of challenges influence the preservation of the trait of assets in the Indian banking system. They must be refined individually, with a focus on means such as (A) proper credit judgment; (B) examination and dispensation of such applications; (C) post-disbursement monitoring; (D) taking valuable actions to avoid those accounts whenever signs of worsening in quality are detected; (E) replacement, rehabilitation, and restructuring of assets; (F) growth of an efficient relationship management scheme; and (G) growth of an efficient relationship management scheme.

Up until recent times, the greater part of the central authority and the Reserve Bank of India had been paying attention to the management of the presented NPAs. The objective was to recognize techniques to diminish the harshness of NPAs. This was forced by the view that bank balance sheets wanted to be corrected and cleaned up. It is essential to believe in protective measures in addition to cleaning up the balance sheets of banks by lowering or eliminating challenging loans.

Protective actions are usually structural. These mechanisms are essential to a strong NPA management system.

This objective is practical and focuses mainly on bankers' perspectives on NPA deterrence practices being followed in selected banks. The purpose is secondary in the sense that it identifies a variety of deterrent practices being followed in selected banks by doing content analysis of their relevant MSME policies, and after that, it becomes most important in the sense that on the enlisted deterrent practices, the responses of 316 bankers have been collected to comment on how commonly these practices have been adopted by these bankers. Therefore, this objective uses both primary and secondary data.

Findings:

1. Upholding of quality of assets through credit evaluation is more frequent in the case of PVSBS than the PSBs. In comparison to PSBs, private bank officers usually rely more on credit investigation, information from outsiders, analysis of financial and non-financial information, CIBIL score, RBI's defaulter list, and credit risk rating. The majority of bankers concurred that the CIBIL score was the most crucial piece of technology they employed to avert NPA (Dinesh et al., 2020). PVSBS can maintain a cleaner portfolio through more due diligence. Therefore, the study has lessons for PSB banks that they must thoroughly investigate the business they are providing money. PSBs need to work at their building of administrative power, an increase in knowledge, and a rise in credit value appraisal.
2. Moreover, under safeguarding of the quality of assets through scrutiny and processing of such applications private bankers usually give much importance to documentation procedure in comparison to PSBs. It is visible that the maintenance of the quality of assets through scrutiny and application processing is followed more frequently in the case of PVSBS than the PSBs.
3. Further, all the banks considered in the study, whether private or PSBs are austere following credit monitoring practices however PVSBS are seen using these practices with more frequency since most of the responses fall in

the category of often and very often. PVSBS more frequently follow all the practices of post-disbursement monitoring such as ensuring proper end use of funds, periodic assessment measures, ensuring the recovery of principal installments in the case of term loans as per the scheduled repayment program, ensuring compliance as per internal and external reporting requirements, ensuring effective follow up of advances to maintain good asset quality, etc.

4. So far as the practices to avoid those accounts whenever signs of worsening in quality are detected are concerned, both public and private sector banks are seen to take compulsory remedial procedures. On the other hand, the practice of Proactive action like assistance, nursing and problem resolving from the bank face is more widespread in private sector banks. PVSBS are in back PSBs in finding the middle ground or usage of a variety of resolution practice. However, in practices of confirmation of accuracy of documentation pertaining to revitalization position, charges, insurance cover, etc. to be made and deficiencies if any have to be solved right away, PVSBS lead PSBs.
5. The practice of replacement/ restructuring /rehabilitation is much less frequently used by all the banks.
6. PVSBS banks are seen adopting more frequently advanced monitoring approaches, viz., a digital credit risk monitoring framework, to detain such early warning signals.
7. It can be found that the practice of contribution in village or SHG meetings and maintaining good relationship with village elders, opinion leaders, and government agencies is more common in PSBs. However, practice of social platform to link with customers is often and very often used by PVSBS.

On the whole, in the present varying situation, banks need to implement prudence while providing credit to avoid future healing issues. It is important to focus on credit evaluation at all stages, including pre-sanction, disbursement, and post-disbursement. The study found that preservation of the quality of assets through credit evaluation is more common in the case of PVSBS than PSBs. The private bank officers usually rely

heavily on credit inquiries, information from outsiders, the study of financial and non-financial information, the CIBIL score, the RBI's defaulter list, and the credit risk rating. The study has instructions for PSB banks that they must systematically examine the business for which they are providing money. The findings show that almost all of the banks taken into consideration for the study, whether private or PSBs, rigorously adhere to credit monitoring practices. Private bankers usually give much significance to record procedures in comparison to PSBs. According to the survey, PVSBS are more energetic users of social media to facilitate customer interactions. The potential and mean cases require on-time detection and treatment so that they do not go into the NPA categories. This study will indicate realistic steps at the controller level to decrease the substantial weight of NPAs in MSMEs.

8.5.4 Objective IV

To evaluate the efficiency and effectiveness of NPA management practices for the MSME sector adopted by the selected banks.

Research Methodology

The performance of 12 practices, i.e., 5 legal (curative) and 7 preventive, has been evaluated on two parameters of effectiveness and efficiency. Here, effectiveness is associated with improved credit or recovery, and efficiency is connected with lesser cost and a slighter resolution time. Responses from 316 bankers (158 each from the public and private sectors) have been collected on a 5-point Likert scale to capture their perception of how effective and efficient these selected practices are in solving the NPA problem. The RIDIT approach provides a well-established procedure for ranking the Likert scale items in rising or sliding order (Bhattacharya, 2019). Consequently, the outcome of the RIDIT analysis reveals the relative relevance of particular scale elements (Sharma et al., 2022) top ranking as per the RIDIT score shows the superiority of a strategy over other practices.

Findings:

1. Preventive practices have proved to be more effective and efficient in the management of NPAs.
2. Based on RIDIT scores, the credit appraisal process is perceived as the most

effective and efficient strategy by bankers. The second rank is gained by the strategy of maintaining the quality of assets through post-disbursement monitoring. The prime goal of investigating is to ensure that credit is disbursed by established rules, that the amount lent is safe, that the account is managed as would be expected, and that the account continues to be a performing asset. Retail loans and priority sector loans make up a significant portion of the banking industry's loan portfolio, so necessary precautions should be taken from pre-approval to final repayment of the principal and interest borrowed. Therefore, strict and ongoing monitoring is essential right now (Kumar, 2019).

3. Amongst legal practices, the SARFAESI Act has proven to be the most effective and efficient means of recovering NPAs. Bankers tend to prefer out-of-court methods, such as SARFAESI, rather than resorting to judicial interventions, such as Lok Adalats, DRTs, and IBC. Bankers typically focus on enforcing security through the SARFAESI Act as the first line of defense in case of financial distress. Other loan recovery channels have proved to be less effective and efficient in improving the quality of assets.
4. The study observed that the effectiveness and efficiency of Lok Adalat in NPA recoveries is ranked low compared to the recovery channels of the SARFAESI Act and DRTs (Chepuri et al., 2017).
5. The study further highlights that Bankers tend to rank Lok Adalats, DRTs, and one-time settlements (OTS) above IBC. One-time settlements (OTS), for example, are seen to be among the effective techniques for recovering and managing NPAs by bankers outside of court (Chawla and Rani, 2022). The reason for IBC being ranked last can be the problem of unreasonable holdup in the resolution method under IBC. The lengthy timeline often discourages lenders from undergoing the IBC route and drives them toward pre-NCLT settlements. The current insolvency procedures under the IBC system pose challenges due to their complexity, lengthiness, and high costs. The cost of the recovery proceedings is a significant consideration when deciding whether to pursue such debt through the IBC method, taking into account the amount of

the debt, the recovery rate, as well as the time required to realize the amount (Financial Express, 2020).

6. In the absence of an effective and efficient legal mechanism for recovering NPAs, bankers may have little incentive to pursue legal processes. Therefore, the focus should be on preventive measures, as they are more effective than curative measures.

8.6 Implications of the Study

The present research study on MSMEs and NPAs holds great significance for policymakers in Haryana and the economy as a whole. The dominant implications of the presented empirical research are explained under:

1. The study highlights the structural bottlenecks and factors contributing to the NPAs from MSME loans. The implications are wide-ranging and broadly relate to, legislative changes, lending norms, political transparencies, infrastructure development, capacity building, and technological up-gradation, improving backward and forward linkages, improving financial support from formal sources, cover against natural calamities, credit appraisal, and deliveries.
2. So far as NPA management practices are concerned, bankers should invest resources in generating and implementing preventive management practices to reduce the number of NPAs (Mintzberg, 2000). Stressed loans can often be resolved with better asset quality. If difficult decisions are made while scrutinizing, bankers won't have to spend their time pursuing past-due loans or hopping from one legal action to another (Gandhi, 2015). Banks must think about predictive analysis to improve asset quality. Predictive measures concentrate on improving credit risk management and ongoing risk appraisal systems, which will lower the number of new NPAs that are currently being issued (Yamuna and Subramanian 2019). According to bankers, if the performing assets were closely watched and given aggressive follow-up, the NPA status would improve (PR3 viz. Maintaining the quality of assets through post-disbursement monitoring; proper end use of funds; internal and

external reporting; effective follow-up; robust MIS being ranked 2 in terms of both efficiency and effectiveness). Additionally, PR1 on Credit appraisals including visits to the locations of borrowers was encouraged by the literature on NPAs (Jayadev and Padma 2020).

3. High NPAs that are consistently present in PSBs highlight the need for improved risk management techniques. Through credit evaluation, documentation processes, credit investigation, outside information, analysis of non-financial and financial data, CIBIL score, RBI defaulter list, and credit risk rating, PSBs should be able to enhance the quality of their assets. PSBs must concentrate on regaining administrative authority, expanding their knowledge base, and improving their credit value evaluation. Furthermore, compared to PVSBS, PSBs apply the practices of replacement, restructuring, and rehabilitation far less frequently. To prevent the shutdown of MSMEs, private sector banks ought to return to this procedure. Social media is a tool that PSBs may utilize to improve customer relations.
4. Preferences for legal measures as an effective and efficient way are meager to resolve mounting bad loans. The legal recovery channels as established by RBI for loan recovery are still not up to the mark. On the content analysis of various reports and newspaper articles, it has been found that the legal recovery system has proved to be very time-consuming as well as complicated. The Government has framed numerous laws to recover NPAs but these have failed to address the issues of mounting NPAs. These laws require urgent amendment and some new laws should be framed which would be able to fulfill the task of NPA management (Kumar, 2017). This study therefore signals practical steps at the legislative level to reduce the massive weight of NPAs in MSMEs. The recovery process should be easy and completed with fewer complexities. This can accelerate the recovery process.
5. Lok Adalat has not been found as a considerable source of success in the recovery of NPA as compared to the SARFAESI Act and the debt recovery tribunals (DRTs). SARFAESI Act has been verified to be the most effectual and well-organized in terms of the amount improved among the different

officially permitted tactics of recovery for managing with lawful credits since it allows banks to sell off properties when borrowers are unable to pay back the money they borrowed, doing so helps banks reduce their overdue assets by implementing recovery methods. (Gupta 2017; Chepuri et al., 2017; Alamelumangai & Sudha, 2019). Therefore, measures should be used to enlarge the effectiveness and competence of Lok Adalats.

6. Despite the introduction of IBC by the government to recover NPAs, the recovery through IBC remains a challenge. IBC being the least effective and efficient in NPA recoveries surely needs the attention of legislators to make the provisions of the IBC law less complicated and time-consuming. There is a requirement to ensure quicker settlement of cases by strengthening the NCLT groundwork and announcing an alternating way of debt settlements and an exclusive groundwork for the MSME unit (Apte & Das, 2022).
7. Since Micro and Small enterprises account for most NPAs, there is a requirement for policy conversation on giving a structure if feasible, within the jurisdiction of the Insolvency and Bankruptcy Code, or otherwise to save non-corporate MSMEs.
8. On the whole, the country's load of nonperforming assets might be eagerly corrected by civilizing the workings of present legal modes.

8.7 Limitations of the Study/ Future Scope of Work

1. The current study provides important points about the Nonperforming problems faced by Public Sector Banks (PSBs) and Private Sector Banks (PVSBS) while recovering loans from Micro, Small, and Medium Enterprises. So there is a requirement to understand its limitations. The present study focused exclusively on preferred public sector banks and selected private sector banks but did not take into consideration Non-Banking Financial Companies as part of the analysis. The exclusion of NBFCs from the current study presents an avenue for future research. Exploring the NPA challenges faced by MSMEs in NBFCs could provide an extra extensive perspective of the overall NPA landscape in the MSME sector. This expanded scope would

enable researchers to compare the NPA trends, lending practices, and regulatory frameworks between banks and NBFCs, thereby offering a holistic view of the NPA problem and its implications on the MSME sector. Incorporating NBFCs into future studies would not only enhance the breadth of the research but also contribute to a more nuanced understanding of the difficulties and scope in MSME lending and NPA management across diverse financial institutions. Additionally, it would facilitate the formulation of more comprehensive policy recommendations to address the NPA issues faced by MSMEs, taking into account the entire spectrum of financial service providers.

2. Further, Efficiency and effectiveness are abstract terms and can be constructed by analyzing them on the grounds of removal of frictions, cost-effectiveness, repetition of organization, acceptance among the general public, scope, affordability, and the quality of integrity given by it (Rao 2018). The present study is just an evaluation based on bankers' perspective on overall effectiveness in terms of the amount of recovery of NPAs and efficiency in terms of lower cost and lesser resolution time. There are no specific questions asked that touch on different dimensions of efficiency such as economic efficiency, operational efficiency, timeliness, and effectiveness such as attainment of manifesto, and the changing importance of manifesto and results, as suggested by OECD evaluation criteria to resolve the merit or worth of an interruption (OECD 2021). Therefore, the study lacks comprehensive perspectives that together give a holistic picture of an intervention and its outcomes. Future researchers can cover comprehensively varied dimensions of effectiveness and efficiency.
3. To collect loans from Micro, Small, and Medium Enterprises, Public Sector Banks (PSBs) and Private Sector Banks (PVSBS) encounter nonperforming challenges. This study has considered bankers' opinions. Despite all efforts to ensure reliability, there is a chance that the respondent's bias affected this to some extent.
4. The opinions of borrowers who are directly impacted by non-performing loans

have not been included in this study.

5. Furthermore, qualitative evaluation can be supported by quantitative facts and figures on the amount of NPAs recovered and the time and cost involved through various preventive and legal measures. It's written in the limitation that we are restricting to qualitative not secondary.
6. So far as legal measures are concerned, the study restricts itself to five measures only. There are a plethora of schemes introduced to tackle the menace of NPAs since 2014 such as Pre-packaged insolvency resolution for MSMEs, Strategic Debt Restructuring, Joint Lenders' Forum 2014, 5/25 rule 2014, Assets Quality Review 2015, Identification of defaulting borrowers and regular reporting on weekly basis, Scheme for Sustainable Structuring of Stressed Assets 2016, Framework for accountability in banks by professionalizing PSBs, Issuance of NPA ordinance, Identification of stressed assets, Setting up of the Banks Board Bureau. Future researchers can consider these initiatives also to evaluate on effectiveness and efficiency front.

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Appendix
QUESTIONNAIRE

**EFFECTIVENESS AND EFFICIENCY OF NON PERFORMING ASSETS
MANAGEMENT PRACTICES; AN EMPIRICAL STUDY OF MSMES
SECTOR IN HARYANA**

Dear Sir/Madam

The questionnaire is designed for academic and research purpose. You are requested to fill the questionnaire. The information you provide will be kept confidential and will not be used for any other purpose. I thank you all in advance for sparing your valuable time for filling up this questionnaire.

Pooja Rani

Research Scholar

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Demographic Profile

1. Name of the Bank Branch: _____
2. Name of the Respondent: _____
3. Email-Id: _____
4. Work Experience: _____

Part A - FACTORS RESPONSIBLE FOR GENERATING NPAs FROM BANKERS PERSPECTIVE

Strongly Disagree-1, Disagree-2, Somewhat Disagree-3, Neutral-4, Somewhat Agree-5, Agree-6, Strongly Agree-7

Construct	Statements	1	2	3	4	5	6	7
Bureaucratic Intricacies	Un-Collateralized lending leads to NPAs							
	Compromised Loans lead to NPAs							
	Bureaucratic procedures delay the timely intervention when there are signs of incipient sickness, leading to NPAs							
Allocation Impediments	Over/ Under Financing leads to NPAs							
	Lack of specialized staff focused on MSMEs leading to poor lending decisions							
	Relaxed Lending Norms adopted by Banks lead to NPAs							
Faulty Credit Appraisal Skills	Faulty Assessments of repayment capabilities leads to NPAs							
	Ineffective Market Intelligence System to collect information about borrowers leads to NPAs							
	Improper or Insufficient Interaction with Borrowers leads to NPAs							
	Faulty post-disbursement monitoring of proposals leads to NPAs							
Discriminatory and Unethical Attitude	Compromising integrity while issuing loans to borrowers leads to NPAs							
	Overlooking deeds of hypothecation and mortgages in the hurry for disbursement leads to NPAs							

	Errors in the execution of the Loan agreements lead to NPAs							
	Attainment of targets for purposes of building up a record of achievements and reporting leads to NPAs							
Inefficient Financial Management	Diversion of Funds for the purpose other than loan granted leads to NPAs							
	An inadequate Equity base leads to financial over extending which makes the loans vulnerable to defaults leads to NPAs							
	Cost overrun in project Implementation leads to NPAs							
Willful Dereliction	Disposal of movable and immovable property used for taking term loan without the knowledge of bank leads to NPAs							
	Siphoning off the funds leads to NPAs							
	Conscious Unwillingness to repay loans leads to NPAs							
	Subsidies by government to the defaulters encourage even the disciplined borrowers for willful defaults in the future to avail themselves of the benefits of subsidies.							
Infrastructural and Capacity Building Bottlenecks	Lack of access to the Infrastructure needed by entrepreneurs leads to NPAs							
	Lack of awareness about the Government schemes leads to NPAs.							
	Lack of entrepreneurial vision, tendencies and innovation leads to NPAs							
	Lack of managerial, legal & Operational skills leads to NPAs							

Regulatory Framework	Granting Loans to Priority Sectors of the economy on the basis of Government directives rather than Commercial imperative leads to NPAs							
	Liberal Government Policies i.e. providing debts to MSMEs with Minimal Documentation leads to NPAs							
	Prolonged regulatory forbearance leads to NPAs							
Political Facets	Lack of political transparency (viz. issue of transparency in policy decisions) affects the survival or absence of SMEs in the competitive market Leads to NPAs							
	Lack of implementation of MSMEs policies leads to policy paralysis making the loans NPAs leads to NPAs							
	Political Warfare and Instability leads to NPAs							
	Failure to implement the interactive policies as the change of government leads to large changes in the policies and laws eventually leading to NPAs							
Economic Frailties	National Economic Downturns leads to NPAs							
	International Economic Slowdown leads to NPAs							
	Change in the Line and pattern of business leads to NPAs							
	Fluctuations in the Foreign Exchange Market leads to NPAs							

Legislative Frictions	Delayed loan recovery due to prolonged legal proceedings leads to willful Dereliction.							
	Ineffective legal measures due to Statutory protections available to wilful defaulters leads to NPA.							
	A Slew of laws has slow down the process of judicial remedy leading to NPAs							
Natural Fall backs	Loss Due to Natural Calamities leads to NPAs							
	No/Inadequate insurance coverage leads to NPAs							
	Making a large number of provisions in order to pay damages end up the fiscal with a reduced profit leading to NPAs							

Part B: Prevalent Preventive Practices

B.1: PRACTICE TO MAINTAIN THE QUALITY OF ASSETS THROUGH PROPER CREDIT APPRAISAL

Statement	Never	Rarely	Sometimes	Often	Very Often	Total
How often do you think visit to the factory or business place and residence of the borrower is arranged?						
How often do you do think the credit investigation of the prospective borrower is done?						
How often do you think external sources of information such as meetings with the borrower and his employees are explored?						
How often do you think the financial statement analysis to determine company's financial strength And weaknesses is done?						
How often do you think the non-financial parameters are examined?						
How often do you think due diligence report of the borrower is obtained?						
How often do you think CIBIL of borrowers is generated?						
How often do you think RBI defaulter list is checked?						
How often do you think credit risk rating is done internally?						
How often do you think skills of credit appraisal officers are enhanced?						

B.2. PRACTICE TO MAINTAIN THE QUALITY OF ASSETS THROUGH SCRUTINY AND PROCESSING OF SUCH APPLICATIONS

Statement	Never	Rarely	Sometimes	Often	Very Often	Total
How often Independent valuation of property (offered as collateral security) is made and the actual possession by the applicant is ascertained?						
How often adherence to the KYC norms is made?						
How often full details in loan application are advised to be furnished?						
How often proper and correct documentation is checked?						
How often all terms and conditions before disbursement are advised and compliance is ensured?						
How often timely and adequate finance is provided?						
How often Post Dated Cheques (PDC) mandates for payments are obtained?						

B.3. PRACTICE TO MAINTAIN THE QUALITY OF ASSETS THROUGH POST DISBURSEMENT MONITORING

Statement	Never	Rarely	Sometimes	Often	Very Often	Total
How often do you think proper end use of funds has been ensured?						
How often do you think account outstanding have been related to the assets level?						
How often do you think periodic assessment measures are undertaken?						
How often do you think the recovery of principal installments in the case of term loans as per the scheduled repayment programme is ensured?						
How often do you think 'incipient sickness' and initiate proactive remedial measures are looked for?						
How often do you think compliance as per internal and external reporting requirements has been ensured?						
How often do you think effective follow up of advances to maintain good asset quality has been ensured?						
How often do you think verification of assets is made?						
How often do you think inspection by branch functionaries are made?						
How often do you think the borrowers have been contacted over phone regularly?						
How often do you think use of robust MIS is made?						

B.4. PRACTICE TO PREVENT THOSE ACCOUNTS WHENEVER SYMPTOMS OF DETERIORATION IN QUALITY ARE OBSERVED

Statement	Never	Rarely	Sometimes	Often	Very Often	Total
How often do you think seizure /Attachments and disposal are warranted?						
How often do you think review and reporting of problem loans has been made?						
How often do you think verification of correctness of documentation pertaining to revival position, charges, insurance cover etc., to be made and deficiencies if any have to be rectified immediately?						
How often do you think all parameters including Gestation /moratorium details are fed in the system correctly?						
How often do you think proactive actions like guidance, nursing, problem resolving from the bank sides are under taken?						
How often do you think deterioration in asset quality has been brought to the notice of the borrower and call upon him to regularize the account?						
How often realistic and time bound commitment from the borrower/guarantor has been obtained?						
How often do you think compromise or use of various settlement schemes has been made?						
How often do you think information of defaulters is Actively circulated?						
How often do you think the advances have been recalled?						

B.5. PRACTICE OF REPHASEMENT, REHABILITATION AND RESTRUCTURING OF ASSETS

Statement	Never	Rarely	Sometimes	Often	Very Often	Total
How often the Re-phasing of loans is made?						
How often the Restructuring of advances is made?						
How often the Rehabilitation to restore the viability of the business is done?						

B.6. PRACTICE OF IDENTIFYING THE WEAKNESSES OF ASSETS THROUGH EARLY WARNING SIGNALS

Statements	Never	Rarely	Sometimes	Often	Very Often	Total
Case by case study and analysis in respect of overdue accounts						
Use of technology and data analytics to detect the early warning signals.						
Use of forensic audits to know the borrower's intent						
Pre-Examination of External Non-Controllable factors						
Identification of behavioral patterns to examine red flags as early warning signals.						
Assessment of Financial indicators to detect the financial conditions of borrowers						
Evaluation of Industry-specific warning signs						
Communication with the borrowers to know the present debt-related security concerns and financial conditions.						

B7. PRACTICE OF RELATIONSHIP MANAGEMENT

Statement	Never	Rarely	Sometimes	Often	Very Often	Total
How often do you think participation in village or SHG meetings are made?						
How often do you think good rapport with village elders and opinion leaders has been maintained?						
How often do you think good rapport with government agencies has been maintained?						
How often do you think Meeting with business facilitators or recovery agents regarding utilization of services is arranged?						
How often do you think links are established with the Customer through social networking sites?						

Part C: EFFECTIVENESS OF LEGAL AND PREVENTIVE PRACTICES IN MANAGING NPAs

Note: Effectiveness: Is the intervention achieving its objectives?

Name of the Practice	Least Effective	Less Effective	Fairly Effective	More Effective	Most Effective
LM1:To what extent Lok Adalats are effective in managing NPAs					
LM2:To what extent Debt Recovery Tribunal are effective in managing NPAs					
LM3:To what extent one time settlement schemes are effective in managing NPAs					
LM4:To what extent SARFAESI Act is effective in managing NPAs					
LM5:To what extent Insolvency and Bankruptcy Code is effective in managing NPAs					
PR1:To what extent practice to maintain the quality of assets through proper credit appraisal is effective in managing NPAs					
PR2:To what extent practice to maintain the quality of assets through Scrutiny and processing of such applications is effective in managing NPAs					
PR3:To what extent practice to Maintain the quality of assets through post disbursement monitoring is effective in managing NPAs					
PR4:To what extent practice to prevent those accounts whenever symptoms of deterioration in quality are observed is effective in managing NPAs					
PR5:To what extent practice of rephasement, rehabilitation and restructuring of assets is effective in managing NPAs					
PR6:To what extent practice of identifying the weaknesses of assets through early warning signals (EWS) is effective in managing NPAs					
PR7:To what extent practice of relationship management is effective in managing NPAs					

Part D: EFFICIENCY OF LEGAL AND PREVENTIVE PRACTICES IN MANAGING NPAs

Efficiency: How well intervention delivers in an economic and timely way?

Name of the Practice	Least Efficient	Less Efficient	Fairly Efficient	More Efficient	Most Efficient
LM1:To what extent Lok Adalats are efficient in managing NPAs					
LM2:To what extent Debt Recovery Tribunals are efficient in managing NPAs					
LM3:To what extent one time settlement schemes are efficient in managing NPAs					
LM4:To what extent SARFAESI Act is efficient in managing NPAs					
LM5:To what extent Insolvency and Bankruptcy Code is efficient in managing NPAs					
PR1:To what extent practice to maintain the quality of assets through proper credit appraisal is efficient in managing NPAs					
PR2:To what extent practice to maintain the quality of assets through scrutiny and processing of such applications is efficient in managing NPAs					
PR3:To what extent practice to Maintain the quality of assets through post disbursement monitoring is efficient in managing NPAs					
PR4:To what extent practice to prevent those accounts whenever symptoms of deterioration in quality are observed is efficient in managing NPAs					
PR5:To what extent ractice of rephasement, rehabilitation and restructuring of assets is efficient in managing NPAs					
PR6:To what extent practice of identifying the weaknesses of assets through early warning signals (EWS) is efficient in managing NPAs					
PR7:To what extent practice of relationship management is efficient in managing NPAs					



CERTIFICATE OF PUBLICATION OF PAPERS FOR PH.D.

This is to certify that Ms. Pooja Rani pursuing Ph.D. (**Part Time**) programme in Department of Finance with Registration Number 41900546 under the Guidance of Dr. Rupinder Katoch has the following Publications / Letter of Acceptance in the Referred Journals / Conferences mentioned thereby fulfilling the minimum programme requirements as per the UGC.

Sno.	Title of paper with author names	Name of journal / conference	Published date	Issn no/ vol no, issue no	Indexing in Scopus/ Web of Science/UGC-CARE list (please mention)
1.	A Frequency Assessment of Prevalent Preventive Strategies in order to manage Banks' NPAs in MSME Loan Dr. Rupinder Katoch Pooja Rani	International Journal on Recent and Innovation Trends in Computing and Communication	4 May, 2023	Volume11 Issue 4	Scopus
2.	COVID 19 and Remote Working for MSMEs: Need, Difficulties	Shodh Sanchar Bulletin	23 December, 2020	Volume 10 Issue:40	UGC Approved Care List Journal

	and Opportunities. Dr. Rupinder Katoch Pooja Rani				
3.	Digitalization and disruption in the banking sector. Dr. Rupinder Katoch Pooja Rani	Shodh Sanchar Bulletin	26 December, 2020	Volume 10 Issue:40	UGC Approved Care List Journal
4.	MSMEs Policies: Effective Weapons to Control the Impact of Covid-19 Dr. Rupinder Katoch Pooja Rani		24 December, 2020	Ref. No. CUPB/DES/ICSSR/IMPRESS/IC/2021/06	Book Chapter



41900546

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Signature of Candidate with Date, Registration No, Email ID



UID:24805

Signature of Guide with Date & UID

Signature of Co-Guide with Date & UID

Details of International Conferences

S.N o.	Topic Details	Theme	Organisers	Date of Attending
1.	“COVID 19 and Remote Working for MSMEs: Need, Difficulties and Opportunities”	“Remote Working Practices: Challenges, Opportunities & Future Trends”	DME Management School, Noida	21 -28 November, 2020
2.	“Problems and Solution Aspects for MSMEs during COVID 19”	Engineering Technology and Management in the Digital Era	Life Way Tech India and KL Research Association	December 15, 2020
3.	“Digitalisation and Disruption in the Banking Sector”	“Rethinking Business: Designing Strategies in the Age of Disruptions”	Mittal School of Business, Lovely Professional University Phagwara Punjab	December 19, 2020
4.	“Efficiency and Effectiveness of Non Performing Assets Management Strategies for MSMEs”	“Contemporary Business Trends (ICCBT-2021)”	Department of Humanities, Social Sciences & Management National Institute of Technology Srinagar (J&K)	January 16-17, 2021.
5.	“Contribution of Crowd- Funding in the Growth of MSMEs”	“Sustainable Business Management Practices and Social Innovation (ICSBMPSI-2021)”	Centre for Management Studies Jain (Deemed-to-be University) Bangalore	January 30,2021
6.	“MSMEs Policies: Effective Weapons to	ICSSR IMPRESS-	of Economics Studies,	December 18-19,

Workshops' Details

S.No.	Topic Details	Organizers	Date of Attending
1.	Data Analysis Using Excel	Inspira Research Association & Indian Accounting Association Jaipur	December 6, 2020
2.	Getting Aligned to the Publishing Process- Scopus + Science Direct	Science, Technology & Medical Journals, Elsevier Research Academy	September 28, 2020
3.	Two Day National Open Workshop on "Getting Aligned to the Publishing Process"- Author Workshop	Science, Technology & Medical Journals, Elsevier Research Academy	September 25, 2020
3.	Writing Research Paper & Bibliometric Analysis	Department of Commerce, Sant Baba Bhag Singh University, Punjab	December 12, 2020
4.	"How to publish in Scopus indexed and ABCD Journals'	Centre of Management Research, DME Management School	October 2, 2020
5.	"How to Publish in Scopus Indexed Journal"	Research and Publication Division of Gujarat National University, Gandhinagar, Gujarat	October 31, 2020
6.	"Research Methodology for Social Sciences"	Research Cell in collaboration with IQAC, Kanya Maha Vidyalaya, Jalandhar	November 09, 10 2020.
7.	"PRIMER - THE STATISTICAL SOFTWARE THAT EMPOWERS RESEARCHERS"	Guru Nanak College (Autonomous), Guru Nanak Salai, Velachery, Chennai	November 19, 2020
8.	"Research Methodology And Tools of Data Analysis"	Department of Music and Social Work, Jagadguru Rambhadracharya Divyang University, Chitrakoot U.P	August 16 to 23, 2020
9.	"Statistical Software Using SPSS Software"	G.L. Education Foundation, Bengaluru	July 27 to 31, 2020

webinars' Details

S.N o.	Topic Details	Organizers	Date of Attending
1.	“Art of Writing Articles and Publishing in H - Indexed Journals”	Samshodhana – Faculty Research Cell, School of Commerce, JAIN(Deemed-To-Be University), Bengaluru	August 7, 2020
2.	E-Resources for Research in Management	Dr. N.S.A.M. First Grade College- Bengaluru	June 3,2020
3.	“How to publish in Scopus indexed and ABCD Journals’	Centre of Management Research, DME Management School	October 2, 2020
4.	“Referencing and Citation Tools: Mendeley”	Siva Sivani Institute of Management NH-44, Kompally, Secunderabad, Telangana	January 8, 2021
5.	“MS Excel Essentials for Academicians”	Rajagiri College of Social Science Autonomous	November 20-21, 2020