IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

NPA RATIO: RECENT TRENDS OF MAJOR BANKS AFTER IBC CODE

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Abstract: The study examines the impact of the Insolvency and Bankruptcy Code(IBC) onNon-Performing Asset(NPA) rates among Indian banks. It set up that while the IBC originally increased NPAs, it bettered recovery rates and resolution processes for worried means. Still, advanced NPAs reduce net income and challenge banks' lending capabilities, egging changes in credit threat assessment strategies. The study recommends banks ameliorate credit threat assessment fabrics, influence technology for data analytics, and foster stakeholder collaboration for effective asset operation. Index Terms- Bankruptcy and Bankruptcy Code(IBC),Non-Performing means(NPA), Indian banks, Recovery rates, Resolution processes, Worried means, Net income, Lending capabilities.

Index Terms - Insolvency and Bankruptcy Code (IBC),Non-Performing Assets (NPA),Indian banks,Recovery rates,Resolution processes,Distressed assets,Net income,Lending capabilities

I. INTRODUCTION

Banks are essential institutions that accept deposits from the public and advance plutocrat. India's banking system consists of 26 public sector banks, 20 private sector banks, 43 foreign banks, 56 indigenous pastoral banks, 1589 civic collaborative banks, and 93550 pastoral collaborative banks. The Indian banking sector is fleetly expanding, with the eventuality to come the fifth largest banking assiduity in the world by 2020 and third largest by 2025. Non-performing means(NPA) are defined by the Reserve Bank of India as any advance or loan overdue for further than 90 days. The 90- day overdue norm was enforced from the time ended March 31, 2004 to align with transnational practices.

Types of NPA There are two types of NPA

a) GROSS NPA

b) NET NPA

a) GROSS NPA:

Gross NPAs are the sum total of all loan assets that are classified as NPAs as per RBI guidelines as on Balance Sheet date. Gross NPA reflects the quality of the loans made by banks. It consists of all the nonstandard assets like as sub-standard, doubtful,and loss assets. It can be calculated with the help of following ratio:

b) NET NPA:

Net NPA are those type of NPAs in which the bank has deducted the provision regarding NPAs. Net NPA shows the actual burden of banks. Since in India, bank balance sheets contain a huge amount of NPAs and the process of recovery and write off of loan is very time consuming, the provision the banks have to make

against the NPAs according to the central bank guidelines, are quite significant. That is why the difference between gross and net NPA is quite high. It can be calculated by following

II. RESEARCH OBJECTIVES

The objective of the project was to find how this Non-Performing Assets generate and what its impact on the profitability of the bank and how it can be reduced. The study is addressed to the following objectives:

- To understand the relationship between Gross NPA, NET NPA ,ADVANCES ,RATIO, and NPA PROFIT .
- To understand the impact of NPAs on the operation of the bank.
- To study the trends during the last five years .

III. SCOPE OF STUDY

Financial Performance:

Evaluate key financial metrics such as profitability, asset quality, and liquidity across different banks.

Customer Satisfaction: Examine customer feedback, reviews, and service quality to gauge the level of satisfaction with banking services.

Technology Adoption: Assess the implementation of digital technologies and innovations to understand the banks' readiness for the digital age.

Risk Management: Analyse how effectively each bank manages risks, including credit, market, and operational risks.

Product Portfolio: Compare the range and quality of financial products and services offered by each bank.

C**orporate Governance:** Examine the governance structure and practices to ensure transparency and accountability.

Employee Satisfaction: Consider employee reviews and engagement levels to understand the internal dynamics of each bank.

Innovation and Adaptability: Assess the ability of each bank to innovate and adapt to changing market conditions

- The Research can be extended to other private and public sector banks.
- Foreign banks can also be included in comparison of level of NPAs.
- Many Variables other than NPAs can be used for meaningful comparison between banks such as Capital Adequacy Ratio, Liquidity Ratio, Profitability Ratio, etc.
- Other statistical test could also be used to analyse the data.

IV. LITERATURE REVIEW

The issue of Non-Performing Assets (NPAs) has become a critical focus within the banking sector, prompting extensive research by numerous authors. These studies have examined various aspects of NPAs, including their causes, the challenges they pose, and their broader implications on the banking industry. Additionally, scholars have proposed possible remedies to mitigate the growing NPA crisis. This section presents a consolidated review of these studies, summarizing key findings on NPAs in recent years.

Swain, Sahu, and Mishra (2017) investigated the adverse impact of NPAs on bank performance. They highlighted that substantial amounts of funds are immobilized due to NPAs, undermining bank efficiency. The government has introduced several recovery mechanisms, such as Lok Adalats, Debt Recovery Tribunals (DRTs), and the Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act. Among these, the SARFAESI Act was found to be the most effective, though the actual recovery relative to outstanding NPAs remains limited.

Suvitha and Gayathri (2018) analyzed approximately 100 research papers published between 2010 and 2017. Their review indicated that NPAs are more prevalent in public sector banks than in private banks. A primary reason for this is excessive lending coupled with a high demand for credit from intentional defaulters.

Maher (2018) focused on the impact of the 2016 demonetization on Indian bank NPAs. In the short term, demonetization led to a marginal reduction in NPAs, suggesting a temporary positive impact on the banking sector's NPA burden.

Kumar and Devenadhan (2019) studied NPAs specifically in the State Bank of India (SBI), employing factor analysis to understand the implications of NPAs. They concluded that while the NPA implications were moderate, SBI's asset management practices had implemented effective strategies to mitigate the adverse effects associated with NPAs.

Sharma, Rathore, and Prasad (2019) explored NPAs in both public and private sector banks, analyzing trends over five years with data on stock prices and macroeconomic indicators. They suggested that stock performance might reflect broader NPA trends in the banking sector.

Jethwani et al. (2020) examined the impact of Indian agriculture on NPAs through a regression model, noting that loan repayment in the agricultural sector is negatively affected by factors such as rural population, low export values, and reduced crop production. They suggested that farm loan waivers, while beneficial in the short term, are not a long-term solution to the problem.

Dutta (2014) analyzed the growth of NPAs in both public and private sector banks in India, specifically examining sector-wise NPAs in commercial banks. Using secondary data sources from RBI reports and economic surveys, Dutta highlighted the persistently high NPA levels across sectors.

Tripathi, Parashar, and Mishra (2014) used a multiple regression model to assess how priority sector advances, unsecured loans, and loans to sensitive sectors affected Gross NPAs, particularly within the SBI group and other nationalized banks. They found these variables to be significant contributors to the overall NPA levels in banks.

Arora and Ostwal (2014) provided a comparative analysis of loan assets across public and private banks. Their study concluded that NPAs remain a significant threat, particularly for public sector banks, which face higher NPA levels compared to their private sector counterparts.

V. DATA ANALYSIS

Data has been collected from the periodic reports of the separate private sector banks. The base Studying trend of NPAs is rate of Gross Non- Performing means(GNPAs) and rate of NetNon-Performing means(NNPAs). Both are shown in terms of chance. Ratio of GNPAs = Gross NPAs / Gross Advance. The following table shows the year wise Gross NPAs And ratio of Gross NPAs of the three selected banks.

Gross NPA:-

Year	HDFC Bank		ICICI Bank		AXIS Bank	
	GNPA	GNPA%	GNPA	GNPA%	GNPA	GNPA%
2011-12	1999.39	1.02	9475.33	3.62	1806.30	0.94
2012-13	2334.64	0.97	9607.75	3.22	2393.42	1.06
2013-14	2989.28	1.00	10505.	3.03	3146.41	1.22

2014-15	3438.38	0.90	15094.69	3.78	4110.19	1.34
2015-16	4392.83	0.94	26221.25	5.82	60.88	1.67
Average	3030.90	.97	14180.97	3.89	2303.44	1.25

Source: Annual Reports

Gross Non-Performing Assets (NPA) and Net NPA are critical metrics used to evaluate the financial health of banks. Here's how they work:

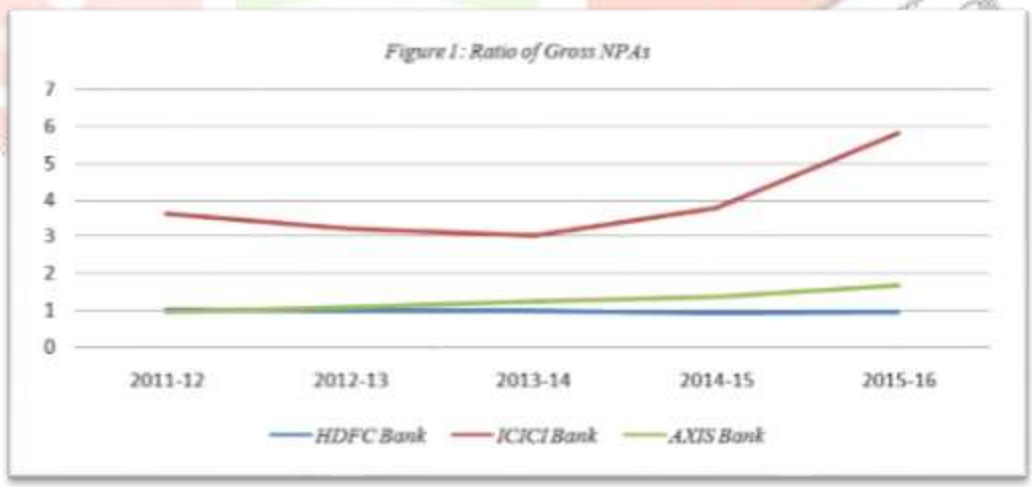
1. **Gross NPA**: This represents the total amount of loans that are in default or arrears. It is the sum of all outstanding loans where the borrower has not made payments for a specified period.
2. **Net NPA**: This figure is derived from the Gross NPA by subtracting provisions set aside for bad loans. It gives a clearer picture of the bank's actual financial health concerning bad loans, as it considers the reserves the bank has already allocated to cover potential losses.

Interpretation:-

The data highlights that ICICI Bank faces a more significant NPA issue compared to HDFC and Axis Banks. Over the years, the GNPA figures show a steady increase across all banks, except for Axis Bank, which saw a sharp decline in GNPA in 2015-16. For instance, HDFC Bank's GNPA increased from Rs. 1999.39 crores in 2011-12 to Rs. 4392.83 crores in 2015-16. On the other hand, ICICI Bank's GNPA rose from Rs. 9475.33 crores to Rs. 26221.25 crores within the same period, indicating a significant challenge in managing non-performing loans.

Axis Bank also experienced a steady rise in NPAs until 2014-15, where it peaked at Rs. 4110.19 crores, then dramatically reduced to Rs. 60.88 crores in 2015-16. This trend suggests that while HDFC Bank has effectively controlled its NPA rate (with an average GNPA rate of 0.97%), ICICI Bank saw fluctuations, especially an upsurge from 2014-15. Though Axis Bank's average GNPA rate (1.25%) is relatively moderate, there has been a gradual increase, highlighting the need for continuous monitoring and proactive management.

The following figure shows the NPA rate trends of HDFC Bank, ICICI Bank, and Axis Bank across the observed period.



Net NPA:-

Table II: Net NPA and Ratio of Net NPA of Banks (Rs. In Crores)

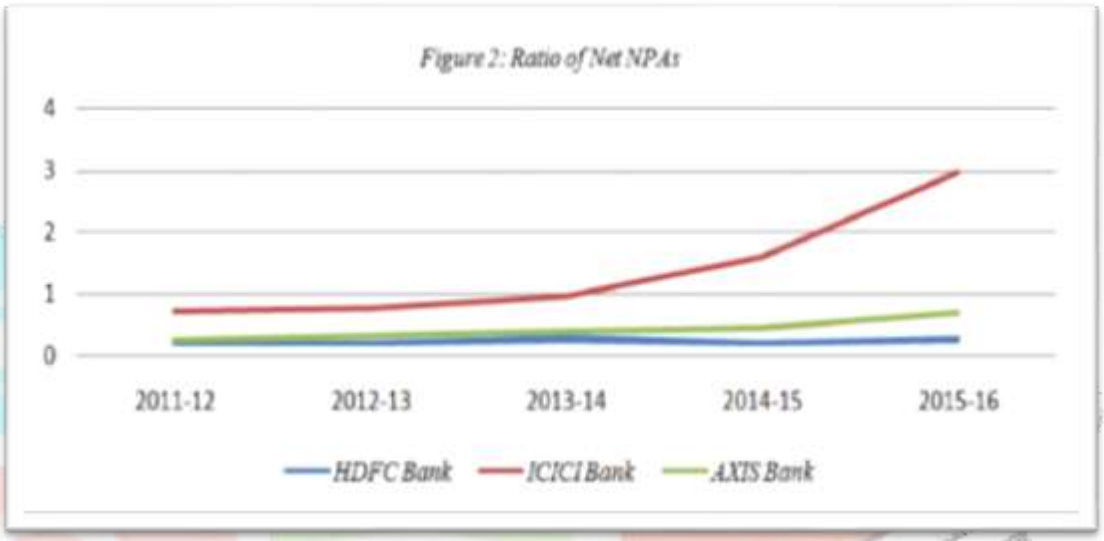
Year	HDFC Bank		ICICI Bank		AXIS Bank	
	NNPA	NNPA%	NNPA	NNPA%	NNPA	NNPA%
2011-12	**352.33**	**0.20**	**1860.84**	**0.73**	**472.64**	**0.25**
2012-13	**468.95**	**0.20**	**2230.56**	**0.77**	**704.13**	**0.32**
2013-14	**820.03**	**0.30**	**3297.96**	**0.97**	**1024.62**	**0.40**

2014-15	**896.28**	**0.20**	**6255.53**	**1.61**	**1316.71**	**0.44**
2015-16	**1320.37**	**0.28**	**12963.08**	**2.98**	**25.22**	**0.70**
Average	**771.592**	**0.236**	**5321.594**	**1.412**	**708.664**	**0.422**

Source: Annual Reports

Interpretation :-

Table II indicates a consistent rise in the net NPAs of the studied banks across the years, with the exception of 2015-16 for Axis Bank. For HDFC Bank, net NPAs increased from Rs. 352.33 crores in 2011-12 to Rs. 1320.37 crores in 2015-16. In contrast, ICICI Bank's net NPAs surged significantly over five years, climbing from Rs. 1860.84 crores to Rs. 12963.08 crores. Axis Bank's net NPAs rose from Rs. 472.64 crores in 2011-12 to Rs. 1316.71 crores in 2014-15, followed by a sharp decline to Rs. 25.22 crores in 2015-16. The average net NPAs for both HDFC Bank and Axis Bank remained below 1%, while for ICICI Bank, it was consistently above 1%. Figure 2 illustrates the net NPA ratios for these three banks from 2011-12 to 2015-16.



Net Profit:-

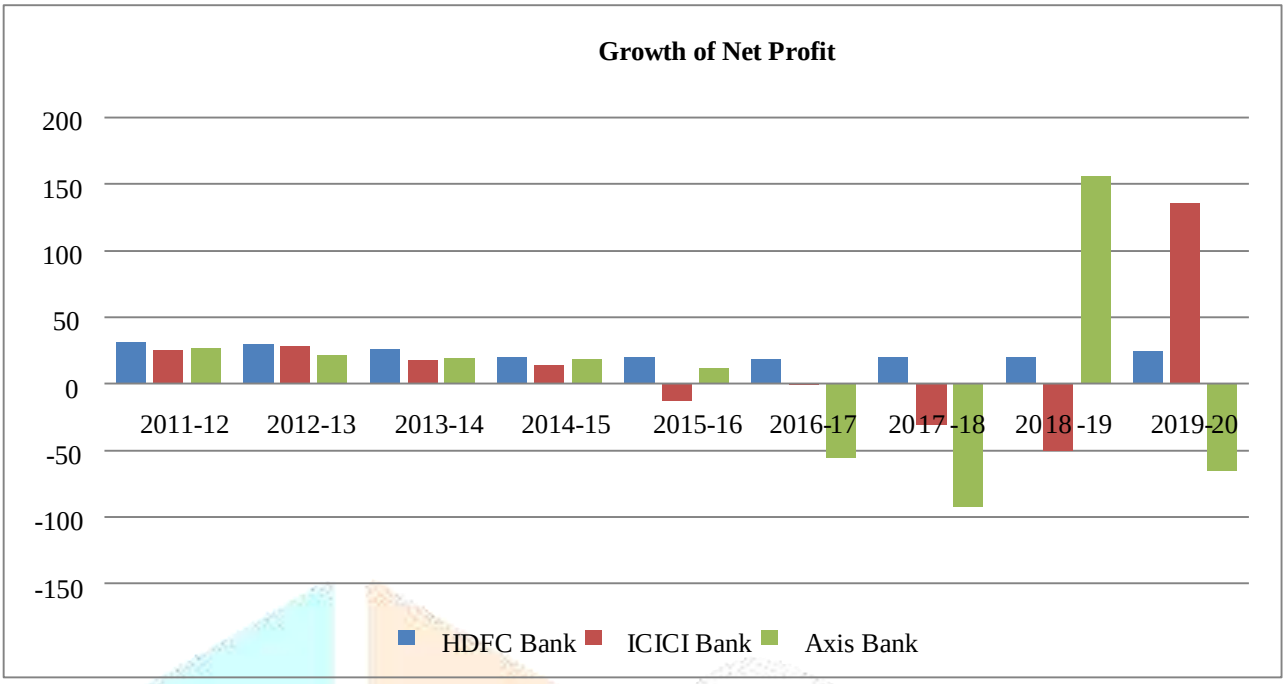
ANALYSIS OF NET PROFIT OF HDFC, ICICI AND AXIS BANK DURING 2010-11 TO 2019-20

Year	HDFC		ICICI BANK		AXIS BANK	
	Profit (in Rs Cr.)	% Change	Profit (in Rs Cr.)	% Change	Profit (in Rs Cr.)	% Change
2010-11	3926.4	------	5151.4	-----	3338.5	-----
2011-12	5167.1	31.60	6465.3	25.51	4241.2	27.04
2012-13	6726.3	30.17	8325.5	28.77	5179.4	22.12
2013-14	8478.4	26.05	9810.5	17.84	6217.5	20.05
2014-15	10215.9	20.49	11175.3	13.91	7357.8	18.18
2015-16	12296.2	20.36	9726.3	-12.97	8223.7	11.92
2016-17	14549.6	18.32	9801.1	0.77	3679.3	-55.26
2017-18	17486.7	20.18	6777.4	-30.84	275.68	-92.50
2018-19	21078.2	20.54	3363.3	-50.37	4676.6	1596.38
2019-20	26257.3	24.57	7930.8	135.80	1627.2	-65.20
Mean	12618.2		7852.6		4481.7	

Interpretation:-

Table 4 revealed that mean value of net profit was higher in HDFC compared to ICICI Bank and AXIS Bank over the study Period 2010-2019. It can be seen that HDFC bank showed a highest rate of net profit of

(31.60%) in 2011-12 and in absolute Terms with 26257.3 crores in 2019-20. Similarly ICICI showed 28.77% highest rate in 2013 with a negative declining growth Rate (50.37%) in 2018-19. Axis Bank showed its highest rate 27.04% in 2012-13 and with negative decline growth rate (65.20%) in 2019-20



ADVANCE RATIO:- Return of advance

RETURN ON ADVANCES (%)			
Year	HDFC BANK	ICICI BANK	AXIX BANK
2010-11	5.86	12	10.64
2011-12	7.67	14.01	12.95
2012-13	14.62	13.80	13.80
2013-14	13.54	13.04	13.31
2014-15	13.27	12.67	12.62
2015-16	12.96	12.12	12.09
2016-17	12.49	11.66	11.94
2017-18	12.18	27.08	10.41
2018-19	12.01	30.52	11.11
2019-20	11.55	29.97	10.96
Mean			

Interpretation :-

Key Observations:

HDFC Bank: The performance metric for HDFC Bank indicates a gradual increase, moving from 5.86 in 2010-11 to 11.55 in 2019-20, with a peak value of 14.62 recorded in 2012-13. This trend highlights strong initial growth followed by a period of stabilization in recent years.

ICICI Bank: ICICI Bank has shown significant fluctuations over the years, beginning at 12 in 2010-11, reaching a peak of 30.52 in 2018-19, and then dipping slightly to 29.97 in 2019-20. This pattern suggests notable recovery and improvement after facing previous challenges.

Axis Bank: Axis Bank's performance has generally declined, falling from 10.64 in 2010-11 to 10.96 in 2019-20, although it briefly peaked at 13.80 in 2012-13. This trend may indicate challenges in maintaining steady growth, especially in comparison with the other banks.

Mean Values: While mean values aren't provided here, it's likely that ICICI Bank holds the highest average performance over the period due to its peak values, while Axis Bank may have the lowest, based on its overall declining trend.

Study the trends during the last five year

Normality test:-

Particulars	AXIS BANK		HDFC BANK		ICICI BANK	
	EVA%	Share Price %	EVA%	Share Price %	EVA%	Share Price %
Mean	0.293583	0.149683	0.378800	0.339500	0.13875	0.1494
Standard Error	0.011055	0.205706	0.019747	0.355898	0.00582	0.2185
Median	0.290550	0.142850	0.377800	0.220100	0138700	0.1887
SD	2.707866	0.503875	0.048367	0.871695	0.01425	0.5352
Variance	0.000733	0.253890	0.002339	0.759852	0.00020	1.1152
Skewness	0.476080	1.023044	0.210069	0.377356	-0.1270	0.0981
Kurtosis	-0.92805	2.114805	2.332917	0.062194	-1.9191	-2.15853

CORRELATION

CORRELATION	CORRELATION VALUE
Correlation Between Axis Bank Eva & Axis Bank Share Price	-0.940885832
Correlation Between HDFC Bank Eva & HDFC Bank Share Price	-0.5687216
Correlation Between ICICI Bank Eva & ICICI Bank Share Price	-0.30199

REGRESSION STATISTICS

Regression Statistics	AXIS BANK	HDFC BANK	ICICI BANK
Multiple R	0.940886	0.568722	0.612232
R Square	0.885266	0.323444	0.374829
Adjusted R Square	0.856583	0.154305	0.218536
Standard Error	0.19082	0.801625	0.473108
Observations	6	6	6

Net Operating Profit After Tax (NOPAT)

YEAR	2011	2012	2013	2014	2015
AXIS BANK	9025.02	13259.88	19361.78	24445.8	27014
HDFC BANK	10939.67	15217.59	21593.37	27656.43	32718.55
ICICI BANK	21179.58	25709.25	30856.81	36337.19	40457.67

Invested Capital

AXIS BANK	33214.16	45266.71	56934.96	77058.96	88511.42
HDFC BANK	34438.18	39773.33	53771.19	69220.74	82917.62
ICICI BANK	145881.9	164644.92	200567.77	212043	227965.8

Interpretation:-

Key Observations:Overall Growth: All three banks show significant growth in their financial figures over the years, indicating a robust performance in the banking sector during this period.HDFC Bank:Starting at approximately 10,940 in 2011, it experienced consistent and strong growth, reaching about 32,719 by 2015.It shows the most steady growth rate, reflecting effective business strategies and customer acquisition.ICICI Bank:Highest starting figure at approximately 21,180 in 2011, it also demonstrated solid growth, ending at about 40,458 in 2015.It indicates a strong market position, although the growth rate appears to be slower compared to HDFC Bank.Axis Bank:Started at the lowest point (around 9,025 in 2011) but showed significant improvement, reaching around 27,014 by 2015.While it has the highest percentage growth over the period, its overall numbers remain lower than those of HDFC and ICICI banks.Conclusion:Overall, the data indicates a positive trend for all three banks, with HDFC Bank leading in terms of consistent growth, followed by ICICI Bank and then Axis Bank, which showed significant improvement from a lower base. This performance reflects the expanding Indian banking sector and increasing financial services demand during those years.

Comparison of private sector banks after and before IBC code

The **IBC** (Insolvency and Bankruptcy Code) in India has evolved over time, affecting various financial institutions, including HDFC, Axis Bank, and ICICI Bank. Here's a comparison of the situation before and after the implementation of the IBC concerning these banks:

Before IBC Implementation

1. Debt Recovery Mechanism

- Banks primarily relied on traditional recovery mechanisms, such as:
  - Sarfaesi Act: Allowed banks to seize assets and initiate recovery proceedings.
  - DRT (Debt Recovery Tribunals): A lengthy judicial process for recovering loans.

2. Resolution Time:

- The process for recovering bad debts was often prolonged, leading to delays in resolution.
- Lack of a unified framework made recovery cumbersome.

3. Recovery Rates:

- Recovery rates were generally low due to protracted litigation and borrowers' tactics to delay proceedings.

4. Impact on Banks:

- Rising NPAs (Non-Performing Assets) and deteriorating asset quality affected banks' profitability and financial health.

After IBC Implementation

1. Unified Framework:

- The IBC introduced a time-bound process for the resolution of insolvency, allowing banks to initiate proceedings against defaulting borrowers in a structured manner.
- The **Corporate Insolvency Resolution Process (CIRP)** was established to streamline the resolution of corporate debts.

2. Faster Resolution:

- The IBC mandates a resolution period of 180 days (extendable by 90 days), significantly reducing the time taken for recovery compared to earlier methods.
- This has led to quicker asset recovery and improved resolution rates.

3. Increased Recovery Rates:

- Post-IBC, banks have reported improved recovery rates, with several cases being resolved successfully, benefiting the banks' balance sheets.

4. Impact on Banks:

- Enhanced asset quality as NPAs started to decline gradually.
- Improved profitability for banks due to quicker recoveries and better management of distressed assets.

Comparison Summary

Aspect	Before IBC	After IBC
Recovery Mechanism	Sarfaesi Act, DRT	Structured IBC process
Resolution Time	Lengthy and variable	Time-bound (180 days + 90 days)
Recovery Rates	Generally low	Improved recovery rates
Impact on NPAs	Rising NPAs	Gradual decline in NPAs
Bank Profitability	Affected by high NPAs	Improved profitability due to recoveries

VI. CONCLUSION

The Non-Performing Assets (NPA) Ratio is a crucial indicator of a bank's financial health, especially after the Insolvency and Bankruptcy Code (IBC) was implemented in India in 2016. Public sector banks like the State Bank of India and Punjab National Bank have seen improvements in NPA ratios due to efficient resolution processes and enhanced recovery rates for stressed assets. However, the COVID-19 pandemic temporarily increased NPAs, prompting banks to restructure loans under RBI guidelines. Regular asset quality reviews have fostered proactive management of NPAs, while the IBC has emphasized corporate governance and risk management strategies. Technological adoption, particularly in data analytics for risk assessment, has proven beneficial, with private banks generally exhibiting lower NPA ratios than public sector counterparts. To enhance resilience, banks should strengthen risk assessment frameworks, diversify loan portfolios, improve corporate governance practices, and engage in proactive customer engagement and

staff training on credit risk management. Collaboration with financial institutions can also create better NPA resolution frameworks.

The Insolvency and Bankruptcy Code (IBC), introduced in 2016, has significantly impacted the management of Non-Performing Assets (NPAs) among major banks. Over the past five years, there has been a decline in the Gross NPA ratio for many banks, attributed to more efficient recovery processes initiated by the IBC. This has led to a favorable trend in Net NPAs, reflecting banks' enhanced ability to manage their asset quality. A lower NPA ratio generally indicates healthier financials, which can lead to increased lending. As NPA levels decrease, banks can allocate more resources to growth-oriented lending, ultimately leading to improved profitability and better financial health. High NPAs can limit banks' capacity to lend and affect profitability. The IBC has provided a structured mechanism for dealing with bad loans, resulting in a more conducive environment for banking operations. The focus on managing NPAs remains crucial for the sustained growth of the banking sector, emphasizing the importance of robust frameworks like the IBC in fostering financial stability.

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