



INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

An Econometric Analysis On Npas And Indian Banks' Profitability

Dr.Abhinna Baxi Bhatnagar

Campus Director, Trinity Institute of Innovations in Professional Studies, Greater Noida

Dr.Akash Kumar Srivastava

Asst.Professor, IIMT College of Management, Greater Noida

Abstract

The declining effectiveness of the Indian banking industry is due to an increase in harassed possessions, intentional defaulters, and loss-making assets, which have severely impacted their balance sheets. This has led regulators to implement stringent awareness, follow-up actions with banks, regaining events such as the Insolvency Laws of 2016, corporate debt restructuring (CDR), extraordinary provisioning, and significant financial consequences for defaulters. The authors have analyzed bank-specific and macroeconomic factors affecting non-performing loans and their influence on banking effectiveness. A multivariate pane data investigation was conducted on 35 Indian communal and isolated sector series from 2007 to 2016 using immovable effect deterioration, improved normal least squares, and the scheme GMM method. Detailed results for public versus secluded sector banks are provided in the assumption. Effective organization of NPAs in public sector banks is crucial as it significantly influences their competence and effectiveness.

Keywords: Bank credit, asset quality assessment, AQR, panel data regression, corporate debt organizing, CDO, the securitization and renovation of financial possessions and application of the Sanctuary Interest Act.

Introduction:

The banking commerce has experienced significant vicissitudes since the original phase of financial liberalization in 1991, especially in credit management. Although banks primarily lend coffers to various segments such as cultivation, business, individual loans, and housing, they have developed increasingly watchful in encompassing finances and are currently focused on loan consolidation due to the rise in non-performing assets (NPAs). In compliance with the Reserve Bank of India's (RBI) prudential standards, banks cannot record interest on NPAs on an accrual basis; interest can only be booked once it is actually received. This has made NPAs a critical performance area, as they directly impact a bank's profitability. The RBI implemented prudential standards to enhance the credit monitoring procedures used by banks and other financial institutions after the financial reforms based on the reports I and II of the Narsimhan Committee. The Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act, coupled with the Recovery of Debts Due to Banks and Financial Institutions Act of 1993, 2002 were passed by the Indian government in an effort to improve the recovery of unpaid debts.

1.1 A non-performing asset (NPA) is an strength, counting chartered assets that stop producing revenue for the bank. An asset is confidential as an NPA under the following conditions:

1. Interest and/or principal payments for a term loan are more than ninety days past due.
2. When there is an overdraft or cash praise, the account is deemed "out of command."
3. Discounted and purchased bills are past due by more than ninety days.
4. In the event of short-duration crops, principal or interest installments are past due for two crop seasons.
5. In the case of long-duration crops, principal or interest installments are past due for one crop season.

1.2 Categories of NPAs

Banks categorize NPAs into three groups grounded on the duration the asset has endured non-performing and the likelihood of recovering the dues:

1. **Substandard Assets:** As of March 31, 2005, an advantage is confidential as substandard if it has been non-performing for 12 months or less. These properties have clear credit faintness that threaten the repayment of the debt, indicating a separatelikelihood that the bank may incur some loss if the issues are not resolved.
2. **Doubtful Assets:** From 31st March 2005, an strength is deemed uncertain if it has been in the subnormal class for 12 months. Doubtful assets exhibit all the weaknesses of substandard assets, with the additional concern that full repayment or liquidation, based on current information, situations, and values are extremely unlikely and unpredictable.
3. **Loss Assets:** An asset classified as a loss asset is one for which the amount has not been entirely written off after damage has been discovered by the bank, RBI inspection, or interior or outside accountants. These assets are deemed non-collectible and have little worth, while there might be a chance for recovery or salvage. (RBI Master Circular, [RBI](#)).

1.3 Reasons behind NPA

- **Intentional Loan Default:** Borrowers deliberately failing to repay their loans, known as wilful defaulters.
- **Changing Government Policies:** Frequent shifts in government policies that lead to loans becoming non-performing.
- **Non-performance of Business:** Loans taken by customers whose businesses fail to perform.
- **Agricultural Loans:** A significant portion of loans being sanctioned for agricultural purposes.
- **Inadequate Pre-sanction Inquiry:** Banks being negligent in conducting thorough pre-sanction inquiries before approving loans to customers.

1.4 Possessions of NPA on Banks and Financial Institutions

- **Incessant Profit Drain:** Ongoing loss of profit due to NPAs.
- **Negative Impact on Goodwill:** Deterioration of the bank's reputation.
- **Adverse Equity Growth:** Negative effect on the growth of equity value.

- **Restricted Cash Flow:** Limitation of cash flow due to the need to create provisions against NPAs.

1.5 Net NPA and Gross NPA

- **Gross NPA:** Loans considered irrecoverable, for which provisions have been made, but still recorded in the bank's books.
- **Net NPA:** Calculated by removing items such as curiosity due but not convalesced, partial payments established, and other revenue held in auncertainty account from the gross NPA. In India, banks must create provisions against loans secured by any collateral, with a requirement to make a 100% provision for advances classified as doubtful, compared to 50% or 75% in some other countries. Conferring to the RBI, reducing NPAs in the Indian banking subdivision is a national priority to strengthen the system and make it resilient to global challenges. A public debate on NPAs and their resolution is necessary.

1.6 Tools for Rehabilitation of NPAs

- **Corporate Debt Restructuring (CDR):** The CDR Cell receives referrals for debt restructuring under the CDR method from eligible corporate cases pretentious by inner or external reasons, with outstanding both non-fund-based and fund-based amounts of ₹10 crores and more in average, inferior and dubious categories.
- **Recovery through Government Agencies:** The services of government officials, including as district collectors, Tehsildars, and Revenue Recovery Officers, are used to recover dues in non-performing borrowal accounts at the stipulated fees under different State Recovery Acts to expedite recovery.
- **Recovery through SARFAESI Act, 2002:** Secured creditors have a helpful tool to deal with defaulters thanks to the SARFAESI Act of 2002. Field officers should make efficient use of the Act's provisions to enforce security interests in order to expedite the resolution of non-performing assets (NPAs).

Debt Recovery Tribunals - Legal Action for Recovery

When the SARFAESI Act, 2002 is not pertinent, or if banks cannot fully recover dues under this Act, legal action is promptly initiated. Claims totaling ₹10 lakhs and more are handled by the Debt Recovery Tribunals (DRTs), which were founded in accordance with the Banks and Economic Foundations Recovery of Debts Act, 1993. The DRT Act's and the SARFAESI Act's remedies are complementary to one another and may be used concurrently.

Financial Assets Sold or Transferred to Securitization and Reconstruction Companies

Under the SARFAESI Act of 2002, banks and other economic establishments are also acceptable to sell financial holdings (NPAs) to asset rehabilitation companies (ARCs). This sale is a vital mechanism for lenders to resolve difficult NPAs more quickly and to clean up their balance sheets.

NPAs Sold to Different Banks, Financial Institutions, or NBFCs

The RBI allows banks to sell their non-performing assets (NPAs) to non-banking financial firms (NBFCs), other banks, and financial institutions in addition to ARCs.

Other Recovery Methods

- **Recovery Camps:** For accounts in the small segment, recovery camps are organized by field officers, with thorough preparations. Banks periodically conduct these camps and Adalats (courts) to make on-the-

spot decisions regarding one-time settlement (OTS) proposals, with participation from officials of controlling offices.

- **LokAdalats and LokNayalayas:** Decisions made in LokAdalats are final and cannot be appealed. These are used for NPAs involving amounts up to ₹20 lakhs.
- **The Mega Rin Mukti and RinMuktiShivirs:** Organized for settling NPA cases involving amounts less than ₹10 lakhs.
- **S4A (Plan for Long-Term Structuring of Stressed Assets):** Created by the RBI in command to contract with the problematic of stressed loans. It converts a serving of large loan accounts into fairness shares, targeting non-wilful corporate defaulters. The project must be operational and producing cash, with total loans of ₹500 crore or more. An independent agency must evaluate the debt's sustainability, and at least 50% of the loan must be deemed sustainable.
- **SDRs (Strategic Debt Restructuring):** While earlier approaches like SDR obligatory banks to replace existing organizers, S4A allows the current organization to remain, provided the avoidance is not wilful.
- SMA and its varieties SMA division foundation for categorization
- SMA-NF Non-financial (NF) indicators of impending stress SMA-1 Overdue foremost or interest payments (31–60 days)
- SMA-2 Overdue foremost or concentrationexpenditures ranging from 61 to 90 days

1.6.1 Accelerated Provisioning

The RBI may enforce accelerated provisioning and/or other supervisory steps, as described below, if banks conceal the true status of accounts or fail to notify the Special Mention Account (SMA) status of accounts to the Central Repository of Information on Large Credits (CRILC). For such non-performing accounts, the following are the suggested accelerated provisioning and existing provisioning requirements:

Provisioning

The primary onus of ensuring that adequate plans are in place for any drop in the loan assets' value, investments, or other possessions rests with the statutory auditors and the bank management. The RBI's examining officer provides anculation to promotion bank organization and constitutional auditors in making appropriate provisions. This includes:

1. **Loss Assets:** Assets lost ought to be written off. For whatever reason, 100% of the overdue money needs to be paid for if they stay in the books.
2. **Doubtful Assets:**
 - Provision 100% for the helping of the improvement not protected by the achievable value of the security, which must be estimated realistically and where the bank has a bindingalternative.
 - For the protectedserving of uncertain assets, provisions should be made based on the duration the asset has remained doubtful, with chargesfluctuating from 25% to 100% of the protectedserving.

2. Review of literature

Numerous studies have delved into the problem of NPA Organization in Indian Banks. The following is a review of several studies on NPA practices and organization in Indian banks:

Dutta (2014) examined the escalation of NPAs in both communal and sequestered segment banks in India. Their analysis of sector-wise NPAs of profitable banks utilized inferior data and countless rumors issued by the RBI, such as the inclination and advancement of banking in India, reports on exchange and economics, and monetary investigations of India. The study suggested that NPAs pose constraints on lower profitability.

A study on NPAs supervision with orientation to Indian public, private, and foreign banks was published in the journal "A study on NPAs Management," Patel (2015) assessed the way in which non-performing assets (NPAs) were managed by different public, private, and international banks between 2009 and 2013. Gross non-performing assets (NPAs) for 2014 were estimated using the ordinary least square (OLS) approach. The results showed that public banks' uncivilized non-performing assets (NPAs) as a fraction of uncivilized improvements was rising, with public banks' predicted gross NPAs for 2014 being greater than those of private and international banks. The findings of the Anova test showed that, from 2009 to 2013, there was no discernible variation in the proportion of uncivilized non-performing assets (NPA) to uncivilized developments for international, saleable, and state banks.

NPA and first-rate key economic heads: an empirical analysis of profitable banks of India using numerous deterioration modelling is the title of a research article written by Bamoriya and Jain (2013). Using numerous reversion molding, they examined the effects of important financial variables on scheduled commercial banks' nonperforming assets (NPAs) in India in order to manage NPAs effectively. According to the study, total deposits and total assets had a big impact on NPA levels.

Regression analysis was used by Ranjan and Dhal (2003) as an empirical method of examining nonperforming loans in Indian commercial banks. Their empirical study evaluated the effects of three main categories of financial and economic factors on non-performing loans (NPLs): lending terms, macroeconomic shocks and risk preferences influenced by bank size.

Rai (2012) assessed NPA trends and challenges, the operative routine of a subset of profitable banks, and the steps implemented to manage NPAs.

Restructuring banks' methods for evaluating creditworthiness, setting up oversight units, and other measures are all part of supervision non-performing assets (NPAs). Ibrahim and Thangavelu (2014) carried out a research on the makeup of scheduled commercial banks' non-performing assets (NPAs) in India. The study looked at the concept of NPAs and the elements of loan assets of commercial banks in India, including public, private, and foreign banks. The investigation was exploratory and diagnostic in character, and it made use of secondary data. The findings revealed significant improvements in commercial banks' performance in managing NPAs.

Rajeev and Mahesh (2010) The study "Banking field reforms and NPA: a study on Indian commercial banks" looked into how these changes affected the amount of non-performing assets (NPAs) in Indian commercial banks. They looked at the patterns of non-performing properties (NPAs) in India from a number of perspectives and emphasized how self-monitoring and appropriate regulation might help lower NPAs. They also talked about how self-help and joint liability organizations might improve loan recovery rates. The results showed that the rate of recuperation has improved.

Joseph and Prakash (2014) conducted a examine paper titled 'A Study on analyzing the leaning of NPA degree in both public and remote sector banks,' focusing on NPA trends in the banking business, influences contributing to NPA growth, and suggestions to alleviate the NPA burden on the banking sector. The study

revealed a higher NPA level in private and public sector banks side by side, emphasizing the need for public sector banks to implement effective preventive measures to avoid accounts becoming NPAs.

Yadav (2014) utilized secondary data to showcase current patterns and proactive steps to reduce non-performing possessions in the Indian banking sector.

3.0 Methodology and Data

The current analysis used a panel multivariate technique to empirically examine the impact of non-performing assets (NPAs) on banking effectiveness. It is based on previous empirical research (See also Laryea et al. (2016); Sinha and Sharma (2016); Goddard et al. (2004); Sinha and Sharma (2012); Trujillo-Ponce (2013)). The given model is as follows:

$$ROA_{it} = \beta_1 COST_{it} + \beta_2 NIM_{it} + \beta_3 NPA_{it} + \beta_4 EQAS_{it} + \beta_5 HHI_{it} + \epsilon_{it} \quad (1)$$

$$ROA_{it} = \beta_1 COST_{it} + \beta_2 NIM_{it} + \beta_3 NPA_{it} + \beta_4 EQAS_{it} + \beta_5 HHI_{it} + \epsilon_{it} \quad (1)$$

Where:

- ROA_{it} represents the Return on Assets of the i th bank at time t .
- $COST_{it}$ indicates the ratio amongst total charges and total revenue of the i th bank at time t .
- NPA_{it} is the ratio of NPAs to whole loans and improvements of the i th bank at time t .
- $EQAS_{it}$ signifies the ratio of fairness to whole revenue earned of the i th bank at time t .
- HHI_{it} denotes the market attentiveness index of the i th bank at time t .
- NIM_{it} stands for the Net Interest Sideline of the i th bank at time t .
- ϵ_{it} signifies the blunder term.

The relation of revenue after taxes to total assets is used to measure the dependent variable, profitability (ROA). COST, NIM, NPA, EQAS, and HHI absorption index are the four autonomous variable quantity used in the education. COST is an acronym for...

The COST variable represents the ratio of whole banking costs to whole revenue, indicating the efficiency of bank management by illustrating the proportion of expenses to revenue generated. A higher COST value implies lower efficiency of the bank, and vice versa. EQAS signifies the relation of impartiality to assets, reflecting the financial métier of banks and their capability to withstand mechanical liquidation. A higher equity-to-asset ratio indicates lower addiction on outdoor monies.

The Lin and Chu (LLC) and Im, Pesaran, Shin (IPS) panel element root exams are the first tools used in the empirical analysis to ascertain the sequence of integration of the system variables. The cointegration of panels by Kao and Pedroni tests are used to investigate potential long-run evenness linkages between the variable quantity if it is determined that the variable quantity are combined of command one. The long-run evenness connection is then estimated using system GMM and panel fixed-effect regression. Lastly, to determine which way the system variables are causally related, panel pairwise Granger causality tests are run.

3.1 Data

The objective of this study is to evaluate NPAs' effect on bank profitability experimentally. Every year, 35 banks' firm-specific data is gathered and accessed from the CMIE-Prowess record, which spans the years March, 2007 through March, 2016. The availability of data for each bank under examination places restrictions on the selection of this time frame. Return on properties, total expenses, total revenue, net curiosity margin, non-performing assets (NPAs), total fairness, total assets, and payments are among the variables used for empirical research.

3.2 Analysis

To perform cointegration and Granger causality tests, the analysis starts by looking at the variables' stationarity. Table 3 displays the findings of the LLC and IPS unit sourceexaminations for all stages and first-differenced sequences of the variable quantity. The results show that for LLC and IPS investigations at the level, the null hypothesis of a component root cannot be rejected. Nevertheless, both tests reject the null hypothesis at a significance level of 1% following a single variable difference. As a result, the research comes to the conclusion that every series is non-stationary and combined of command one, or $I(1)$.

Variables	Levin, Lin & Chu, (LLC) test		Im Pesaran Shin (IPS) test		
	Level	First difference	Level	First difference	Order
ROA	-0.13091	-13.5663*	5.22919	-4.42836*	
ROE	2.95038	-10.3630*	5.64543	-3.19185*	
NNPA	6.15389	-15.9163*	5.74986	1.83665**	
NIM	-0.22878	-16.2656	-0.43868	-2.16231**	
COST	-1.2148	-3.49360*	7.1418	-1.76911**	
EQAS	-0.04017	-22.2873*	-2.78582	-10.1629*	
HHI	-0.52194	-33.9559*	-6.08322	-9.08638*	

Note: *, **, and *** demonstrate statistical significance at the 1, 5, and 10% levels, in that order. Source: Judging of the author

Test ↓	Kao cointegration test statistic
ADF test statistic	-8.511642*
Pedroni cointegration test statistics	
-----	-----
Panel v-stat	-1.727669**
Panel rho-stat	6.081513
Panel PP-stat	-10.78529*
Panel ADF-stat	-9.618409*
Group rho-stat	7.586472*
Group PP-stat	-14.99475*
Group ADF-stat	-8.437820*

Notes: * and ** demonstrates statistical significance at the 1% level, in that order. Cointegration of ROA, NNPA, COST, EQAS, and HHI is known as the model ROA. Source: Judging of the author

Table 4 displays the results of the Kao and Pedroni counteraction tests. The findings imply that, for all tests, the absence of co integration, which is the null hypothesis, cannot be disproved. at a significance level of 1%.

It follows that a long-term equilibrium connection between the variables exists. This suggests that over time, the panel's ROA, NIM, NPA, COST, EQAS, and HHI move together.

4.0 Conclusions

The study reveals that the development of giving to the importance sector by Indian banks surpasses that of the communal sector banks overall. Regarding NPA administration, Indian banks outperform public sector banks in general. However, Indian banks experienced slippages in NPA control during the primary years of the period under study, indicating ongoing challenges in NPA management. Therefore, Indian bank management must prioritize NPA management and implement measures to prevent the creation of new NPAs while enhancing recovery efforts for prevailing NPAs. Timely intervention is crucial to ensure the bank's future growth.

This study used panel information to explore the relationship amongst profitability and nonperforming assets (NPAs) in the Indian banking industry. According to the findings, the system variables are cointegrated over time and integrated of order 1. Furthermore, the Sys-GMM model indicates a statistically significant and negative impact of non-performing assets (NPAs) on profitability. Net interest margin (NIM) is found to be an insignificant factor affecting profitability in the existing study.

Furthermore, the cost-to-income proportion, equity-to-asset proportion, and absorption relation are identified as three significant factors influencing bank profitability. Moreover, bidirectional connection amongst ROA-NPA and ROA-EQAS is observed. If NPAs exceed a certain threshold level, profitability is likely to decline.

Similarly, if the equity-to-asset ratio improves beyond a certain threshold level, banks with a stronger equity base are likely to experience higher profitability. Therefore, banks must innovate to preserve higher effectiveness, improve their equity-to-asset ratio, keep NPA levels low, reduce the cost-to-income ratio, and maintain competitiveness for better future prospects.

Reference:-

- Dutta, A. (2014). Non-performing assets in Indian commercial banks: A case study of public and private sector banks. *International Journal of Business and Administration Research Review*, 1(5), 42–50.
- Reserve Bank of India. (2022). Report on Trend and Progress of Banking in India 2021-22. <https://www.rbi.org.in>
- Narasimham Committee Report I & II. (1991 & 1998). Report of the Committee on the Financial System & Banking Sector Reforms. Ministry of Finance, Government of India.
- Ghosh, S. (2015). Banking-industry specific and regional economic determinants of non-performing loans: Evidence from US states. *Journal of Financial Stability*, 20, 93–104. <https://doi.org/10.1016/j.jfs.2015.08.002>
- Rajeev, M., & Mahesh, H. P. (2014). Banking sector reforms and NPAs: A study of Indian commercial banks. *Economic and Political Weekly*, 49(12), 45–55.
- Kumar, M. (2020). A study on the impact of NPAs on the performance of Indian banks. *Journal of Banking and Finance*, 34(1), 29–36.
- Singh, A. (2021). Analysis of non-performing assets and recovery strategies in Indian public sector banks. *International Journal of Economics and Finance*, 13(4), 120–130.

- Jain, P. K., & Shrivastav, M. (2017). NPA management in Indian banks: A study of private and public sector banks. *Indian Journal of Finance*, 11(9), 7–20.
- Sharma, N., & Singh, S. (2022). The effect of NPAs on profitability: Evidence from Indian banks. *Journal of Risk and Financial Management*, 15(3), 118. <https://doi.org/10.3390/jrfm15030118>
- Reserve Bank of India. (2016). Master Circular – Prudential norms on income recognition, asset classification and provisioning pertaining to advances. <https://www.rbi.org.in>
- Mishra, A. K., & Das, K. (2018). A study on SARFAESI Act and its effectiveness in resolving NPAs. *Indian Journal of Law and Economics*, 5(1), 56–69.
- Bhattacharyya, H. (2016). Credit risk management in Indian banks: A case study approach. *IIMB Management Review*, 28(4), 217–229.
- Kaur, K., & Kapoor, S. (2020). Relevance of Asset Quality Review (AQR) for Indian banks in the post-liberalization period. *Global Journal of Finance and Management*, 12(3), 45–52.
- Sikarwar, E. S., & Bhatia, A. (2019). Corporate debt restructuring in India: Issues and challenges. *Journal of Contemporary Research in Management*, 14(2), 89–97.
- Saini, D., & Kalra, A. (2023). Application of GMM model in banking sector analysis: An empirical study on Indian banks. *International Journal of Applied Finance*, 11(1), 34–48.
- Choudhury, M. (2022). The impact of Insolvency and Bankruptcy Code (IBC) on recovery of stressed assets in India. *Journal of Banking Regulation*, 24(1), 54–65. <https://doi.org/10.1057/s41261-021-00168-0>
- Das, A., & Ghosh, S. (2017). Determinants of credit risk in Indian banks: A panel data analysis. *Journal of Financial Economic Policy*, 9(3), 314–330.
- Indian Banks' Association. (2021). NPA management and restructuring tools in Indian banking. <https://www.iba.org.in>
- Singh, V. (2016). A study of non-performing assets of commercial banks and its recovery in India. *Annual Research Journal of Symbiosis Centre for Management Studies*, 4(1), 1–17.
- Chakrabarty, K. C. (2013). Two decades of credit management in Indian banks: The journey ahead. *RBI Speeches*.

https://www.rbi.org.in/Scripts/BS_SpeechesView.aspx?Id=759