

Loopholes in the Indian Banking System concerning Non-Performing Assets (NPAs) – A Case Study of "Axis Bank and HDFC Bank"

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Abstract - The paper presents a comparative case analysis of two leading banks, Axis Bank and HDFC Bank. The rising tide of Non-Performing Assets (NPAs) in the banking sector is a major threat to financial stability and economic progress. The case study uncovered severe deficiencies in risk management, credit evaluation, and regulatory compliance, which have resulted in a considerable accumulation of Non-Performing Assets. The banks' exposure to economically sensitive sectors amplifies the impact of downturns on asset quality. The limitations in credit risk assessment underline the necessity for increased due diligence. Regulatory frameworks, such as the Insolvency and Bankruptcy Code, and prompt corrective action have a significant impact on NPA responses. The findings highlight the complicated interplay between internal banking practices, regulatory frameworks, and economic conditions that affect a bank's financial performance. Addressing discovered weaknesses inside both these banks is important to the stability of India's financial system. The implications, as indicated by rising NPAs, are felt throughout the sector, jeopardizing overall resilience. Addressing these problems is crucial for reducing systemic risks, preventing a credit crisis, and rebuilding trust in the financial industry. A better banking system is critical for India's financial stability, economic growth, and stakeholder trust. As major private sector players, Axis Bank and HDFC Bank's successful remediation set a precedent, emphasizing the need for excellent risk management, regulatory compliance, and strategic adaptation.

Key Words: Axis Bank, HDFC Bank, Non-Performing Assets, Risk Management, Regulatory Compliance, Financial Stability, Economic Impact

1. INTRODUCTION

The banking industry, being the foundation of any financial system, plays a critical role in a country's economic stability. Banks generate a critical flow of credit that drives economic activity by accepting deposits and making loans [1]. However, the building up of nonperforming assets (NPAs) disturbs this financial flow, reducing the expansion of credit and profitability for

banks. NPAs, reflecting poor-quality loans, function as significant indications of the banking sector's profitability. As of the end of November 2018, the Reserve Bank of India (RBI) recorded NPAs above nine lakh rupees crores. representing a fourfold growth over the previous five-year period. NPAs are debts that do not produce revenue; the RBI commonly defines them as financial institutions with interests and/or principal repayments that are past due over a set length of time [2]. Bankers categorize NPAs according to their period of failure to perform, such as inadequate assets (not performing for a maximum of twelve months), questionable assets (ineffective for more than 12 months), and lost liabilities. The increase in NPAs harms the total amount and stability of the balance sheets of banks, diminishing profit and necessitating hefty provisions for doubtful and defaulted loans [3]. The purpose of this study is to look into the role of various banks in the expanding NPA problem, as well as evaluate developments within the banking sector concerning bad loans.

In the modern economic world around us, financial success is required from the standpoint of numerous stakeholders, including administration, financiers, shareholders, and buyers. The banking industry of India is characterized by an extensive network of branches of banks, delivering a variety of financial products and services to the population [4]. Today, Axis Bank and HDFC Bank are significant players in the Indian banking market, with a strong focus on national human and economic development. Despite its private nature, the banks collaborate extensively with others. Axis Bank has developed an innovative attempt to provide a broader range of banking solutions and financial amenities to consumers and businesses via its different channels of delivery and specialized affiliates in the fields of investment banking, financial planning, capital raising, and insurance coverage [5]. HDFC Bank, on the other hand, focuses the most on forex, debt management, and asset liability management in addition to retail banking and wholesale banking [6]. Given its strategic significance to the country, it is critical to assess these banks' financial achievements.

The study aims to objectively assess the issues encountered by both, Axis Bank and HDFC Bank, which are among India's leading private-sector financial



institutions, and subsequent handling of non-performing assets. The investigation tries to identify and comprehend the fundamental weaknesses in the Indian banking sector that have led to the ongoing problem of NPAs and provide insights into methods of improvement.

2. BACKGROUND

2.1 Axis Bank:

Axis Bank is the third-biggest privately owned bank in India. The Bank provides the full range of financial services to its consumers, including major and mid-sized corporations, MSMEs, the agricultural sector, and retail companies. It recorded a net income of Rs 141.193 m in FY22, up 96.2% from Rs 71,955 m in FY22. This contrasts with a net gain of Rs 18,531 million in FY20 and Rs 50,386 million in FY19. Being one of India's largest private sector banks, it was created in 1994 and has played an important role in the country's banking environment [7]. Led by a Managing Director and Chief Executive Officer, it focuses on improving its human resources by providing possibilities for advancement, instruction, and a motivating atmosphere to its large staff of over 68 thousand workers [2]. The bank developed initiatives to address NPAs, resulting in a decrease in gross NPAs as a proportion of gross advances/total assets throughout the first five years of the 2001-2011 decade [7].

Over the last five years, Axis Bank's net profit has increased at a CAGR of 135.9%. It also has a variety of savings accounts with various advantages and features, like excellent interest rates on deposits, simple accessibility to resources, a high transaction limitation, promotions and savings on online purchases, and some that have a zero-balance provision that is extremely useful to consumers [8]. In electronic banking, Axis Bank is the industry leader, being recognized as the best mobile application for banking, offering customers improved interaction with servicing and merchandise [2].

2.2 HDFC Bank:

HDFC Bank emerged as a pioneering force in India's financial sector, owing its existence to the Reserve Bank of India's liberalization policies in 1994. Initially known as HDFC Bank Limited, it began operations as a Scheduled Commercial Bank in January 1995, with as its headquarters. This institution's Mumbai establishment constituted a watershed point in India's banking industry, ushering in a new era of private sector participation [9]. On April 4, 2022, HDFC Bank announced its merger with HDFC Limited, the country's largest housing finance company, which marked an important milestone in its history. HDFC Limited's powerful reputation in the housing finance sector, cultivated over 45 years, complemented HDFC Bank's extensive product portfolio, particularly its efficient home loan delivery mechanism [10]. This union aims to use HDFC Limited's wide network and product offerings to strengthen HDFC Bank's position as a leader in meeting the home finance needs of urban, semi-urban, and rural India [11].

As of January 31, 2024, HDFC Bank has an extensive distribution network that includes 8,143 branches and 20,688 ATMs/Cash Recycler Machines scattered over 3,836 cities/towns. The merger of HDFC Limited's distribution network, which included 737 shops and 214 offices of HDFC Sales Private Limited, expanded the bank's reach and accessibility [9]. Furthermore, the bank's global footprint includes branches in four countries and representative offices in significant financial hubs such as Dubai, London, and Singapore, catering to the home loan needs of Non-Resident Indians and Persons of Indian Origin. While HDFC Bank's development trajectory and smart mergers demonstrate its capacity for resilience and versatility, difficulties are on the horizon. Regulatory compliance, technological improvements, and shifting customer tastes need ongoing innovation and vigilance [12]. Furthermore, integrating HDFC Limited's extensive operations into the framework of HDFC Bank necessitates thorough preparation and flawless execution to maximize synergies and reduce potential interruptions. The rise of HDFC Bank from a start-up to a financial giant exemplifies India's dynamic banking industry. However, negotiating the complexity of a quickly changing market necessitates proactive steps to maintain growth and build stakeholder trust [9].

3. Non-Performing Assets (NPAs) In the Indian **Banking Sector:**

The phenomenon of NPAs has become a major concern in the Indian banking system, generating several research studies and suggestions to tackle the difficulties connected with NPAs [13]. The Reserve Bank of India (RBI) conducted research in 1999 that emphasized the importance of closely tracking borrower company activities, particularly as asset classification deteriorated [14]. The research underlined the need to monitor large NPA balances and lower NPAs through reclamation and concession agreements. Y.V. Reddy (2002) recognized the increasing danger of NPAs to the banking and financial sectors and recommended restructuring as a method of liquidating sluggish and long-term loans [15].

S. Narula (2014) investigated the shifting patterns of NPAs in private sector banks, observing a decrease in high-priority sector NPAs after 2008 [16]. Malini (2015) investigated the effect of NPAs on profit and discovered an adverse effect on Capital Adequacy Ratio, Return on Equity (ROE), Return on Assets (ROA), etc [17]. It indicated an unfavorable link for ICICI Bank and a small correlation for Axis Bank, with NPAs having a major influence on Indian banks' operating revenues. These



studies highlight the significance and intricate nature of managing NPAs in the banking sector [18].

A study by P. Dhanya (2023) investigates HDFC Bank's efforts to reduce NPAs and evaluates the effectiveness of its initiatives. Analysis of NPA trends demonstrates oscillations, with the highest gross NPA ratio recorded in 2018-2019 and the lowest in 2021-2022 [19]. From 2017 to 2019, the NPA ratio gradually increased, followed by an exponential decline in 2019-2020. However, it rose again in 2020-2021 before falling to 1.18 in 2021-2022. Despite these changes, the most recent year had the lowest NPA ratio, demonstrating HDFC Bank's efficient NPA management and dedication to financial stability via proactive risk management initiatives [20]. This demonstrates HDFC Bank's endurance in the face of economic hardships and strengthens its status as a stalwart in the Indian banking sector.

4. Analysis of Loopholes:

4.1Inadequate Credit Risk Management:

The two aforementioned banks' diverse business operations necessitate excellent risk identification, measurement, management, monitoring, and reporting. Credit risk refers to a borrower's or counterparty's incapacity to honor obligations under a contract, and the resulting loss has a negative influence on the Bank's financial condition [21].

The Axis Bank is subject to credit risk as a result of its loan and financing activity. The Bank's credit risk methodology incorporates administration threat administration into the management of company operations while ensuring the impartiality and reliability of the risk assessment process [2]. The objective of managing credit risk for the year was to preserve an adequate credit portfolio by controlling danger at both the portfolio and individual transactional levels. The Board of Directors sets the guidelines for the willingness to take risks, which are specified both qualitatively and quantitatively in line with the strategy of the company plan. Internally systems of rating serve as the cornerstone for credit risk management [13].

Credit risk remains a major issue for HDFC Bank, especially given its significant exposure to economic risks. Borrowing exposes businesses to the possibility of bankruptcy if they fail to satisfy their financial obligations [22]. As a result, banks must actively identify, measure, and manage credit risks, while also maintaining adequate capital buffers and equitable compensation for incurred risks. Our strong risk management framework, combined with an independent risk management function, sets us apart as a responsible financial institution. This approach enables the pursuit of strategic objectives while prudently managing financial and nonfinancial risks, ensuring resilience and growth even in the face of unpredictability [23]. However, HDFC confronts hurdles such as a low presence in rural areas compared to competitors such as ICICI Bank, which stifles potential growth in those markets. In addition, aggressive marketing efforts and product performance concerns have an impact on HDFC's market reach and shareholder confidence, as evidenced by shifting share prices [14].

To manage the risk of concentration, the banks take an extensive approach, establishing structural constraints as well as borrower-specific creditworthiness criteria [21]. These procedures are intended to provide an adequately diversified and well-balanced portfolio while mitigating the effects of possible foreclosures or poor market conditions. Individual consumer susceptibility ceilings are determined using subjective ratings, whilst collective borrowing limitations are created and continuously monitored [22]. This guarantees that the institution does not rely excessively on individual clients or groups, reducing the risk associated with significant exposure. Furthermore, the proportion of unprotected loans in the entire loan portfolio is constantly monitored to mitigate the risk related to this type of loan [24]. This category bank's tactics. informs the growth limiting overconcentration in specific industry areas.

Risk analysis and communication to executives are critical in determining the proper distribution of risk across multiple rating classes and spotting concentration risks within industrial segments. To address unforeseen eventualities, the bank has a strong stress assessment procedure in place [2]. This proactive strategy allows the bank to detect risks and take preventative measures to ensure portfolio robustness.

4.2 Ineffective Monitoring and Recovery Mechanisms:

Loan monitoring, in simple terms, is the continual assessment of a loan's risk after the initial underwriting stages are finished when the loan is granted.

Axis Bank has implemented a Sustainable Lending and Project Policy (SLPP) which governs a variety of loan types, namely venture loans, business loans, extensions of credit, bridging loans, foreign finance, consortia or numerous financial services, and sponsored operations. This policy is guided by internal standards and benchmarks. Recognizing the significance of worldwide risk mitigation structures and universal social and environmental regulations, Axis Bank created the SLPP following different standards for assessing both the environmental and social hazards of borrowing portfolios. In basic terms, Axis Bank's SLPP demonstrates its dedication to responsible lending procedures as well as adhering to widely accepted environmental and social criteria in credit-making choices [13].



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HDFC Bank has established The Risk Policy & Monitoring Committee (RPMC), which was established by the Board, and oversees the implementation of our risk strategy, leading the development of policies, processes, and systems to adapt to changing business dynamics and risk tolerance. The independent Risk Management Group (RMG), led by the Chief Risk Officer (CRO), implements the Board's risk strategy by developing robust frameworks for detecting, monitoring, and managing risks [25]. Credit risk is well managed across the retail and wholesale divisions using demanding processes such as target-defined market assessments, thorough credit approval procedures, and robust post-disbursement monitoring. Regular monitoring of all business entities having credit facilities is carried out following policy requirements [26]. This includes on-site visits to administrative and production facilities, constant stock statement evaluation, and meticulous monitoring of account conduct metrics such as overdrawing, cheque bounces, and timely servicing of interest and EMI payments [27].

The banks have, thus, taken proactive steps to adjust and broaden their loan portfolio, therefore considerably lowering the risk of concentration in the commercial account. The risk management framework, which includes an independent risk management group, is focused on monitoring all risks, with a special focus on the risk of credit. Product-specific evaluations are used in the retail portfolio to ensure specialized risk evaluations for small companies and agricultural borrowers [28]. These banks take a proactive strategy for risk management, with a focus on improving the asset mix, reducing the risk of concentration, and reducing debt assets that are stressed via sales or enforcement of contracts. The verification committee guarantees that credit risk estimate models are resilient by independently analyzing their filtering power, calibrating precision, and stability [29].

5. Regulatory and Supervisory Gaps:

The examination of the current laws and regulations governing NPAs is critical for banks to effectively negotiate the regulatory landscape. These frameworks, which are overseen by the Reserve Bank of India (RBI), include the Insolvency and Bankruptcy Code, or IBC, and the prompt corrective action (PCA) framework. Their purpose is to ensure the stability of the economy [26].

The IBC uses legal procedures to help banks resolve stressed assets on time, but the PCA framework requires remedial steps when banks fail to meet regulatory criteria. The two banks' obedience to these regulations is critical [30].

The RBI's Risk Assessment Report (RAR) for Axis Bank in FY2013 expresses significant worries about the company's administration, management, and riskhandling capacities. The study shows weak risk governance, with a rating of 2.38, which is higher than the already high overall aggregate risk rating of 2.301. Credit risk, while slightly improved at 2.36, nevertheless revealed serious flaws in credit evaluation, notably in property administration. The finance splitting, with a worrisome risk score of 2.553, was improperly handled, resulting in operating expenses and an absence of independent confirmation of targets [27]. The treasury department's vulnerability was demonstrated by the widespread usage of Reuters Messenger without audit traces, which violated RBI policy [24].

For HDFC Bank, The RBI's Risk Assessment Report (RAR) in 2013-14 showed a significant 28% increase in Gross NPAs, the biggest increase in five years. This escalation was somewhat mitigated by a 26% increase in gross advances, which kept the Gross NPA ratio at 0.9%. However, significant reductions were made through renovations, write-offs, and recoveries, preventing a worsening NPA scenario. The enhancements were particularly noteworthy, as they contributed significantly to recoveries, exceeding the cumulative recoveries of the previous four years. The majority of NPAs were incurred before March 2013, with fresh accretions generally subject to upgrades, write-offs, or recovery activities, accounting for more than 80% of recoveries [31].

6. Comparative Analysis:

Axis Bank and HDFC Bank, two important competitors in the Indian banking market, have different approaches to handling NPAs. Axis Bank has faced difficulty in managing NPAs, as evidenced by regulatory concerns about its risk governance and credit review systems. Despite having a Sustainable Lending and Project Policy (SLPP) to encourage responsible lending practices, Axis Bank has been questioned about its risk management capabilities, notably in property administration and treasury operations [13]. In contrast, HDFC Bank has exhibited resilience and adaptability in NPAs, employing its sophisticated risk management structure and proactive risk reduction approach [25]. The bank's Risk Policy & Monitoring Committee (RPMC) is in charge of implementing its risk strategy, while the independent Risk Management Group (RMG) is responsible for efficiently identifying, monitoring, and managing risks. HDFC Bank's proactive efforts, such as continuous monitoring of business entities with credit facilities and stress testing, have helped it NPAs and maintain financial stability [27].

Despite the hurdles, both banks recognize the necessity of managing NPAs and continue to improve their credit risk management methods to maintain long-term profitability in India's evolving banking sector.



7. Consequences of Identified Loopholes:

Discovered flaws in banks' management of risks, credit assessment, and compliance with regulations, especially concerning its handling of NPAs, endanger its financial stability. These weaknesses may result in greater supplies, draining funds from potential revenue and necessitating more capital injection to fulfill the required regulatory capital adequacy ratios [1]. The decline in the condition of assets has an influence not only on loan revenue but also on the recoverability of overdue amounts, calling into doubt the effectiveness of in-house risk evaluation processes [2].

Operational issues in dealing with distressed assets may cause an increase in resources. External influences, which include credit score reductions and rising borrowing rates, exacerbate financial instability. Regulatory measures and increasing monitoring by authorities, particularly the Reserve Bank of India, create uncertainty [32]. Beyond financial measurements, these difficulties diminish investor trust, which could have a detrimental influence on the performance of stocks [30]. Fixing these weaknesses is critical for the bank's financial stability, adaptability, and shareholder trust in the face of economic crises.

8. Overall Stability of the Broader Banking Sector:

Around the world, the financial services industry has strengthened its financing levels, with major financial institutions achieving the fully phased-in Basel III objective CET1 required capital levels [23]. Major banks' CET1 capitalization compared to assets that are riskweighted climbed by 70%, while their adherence with the requirements of Basel III Tier 1 ratio of leverage improved by approximately 65%. Improved buffers against shocks to liquidity are visible, with more than ninety percent of big financial institutions having an entirely phased-in Liquid Coverage Ratio (LCR) of 100% or higher [24]. The transition towards more secure sources of funding appears in Net secure Funding Ratios (NSFRs), with over 95% of the biggest banks fulfilling the completely phased-in NSFR criteria [29].

Axis Bank recorded a profit on a net basis of ₹5,864 crore in Q2 FY24, above expectations due to stronger revenue and cautious provisioning. The bank prioritizes the riskappropriate expansion of loaning to individuals, avoiding the sub-₹50,000 market and remaining watchful against financial difficulties. Provisions climbed year on year but fell sequentially, while the financial institution's net interest revenue jumped by 19% [24]. On the other hand, in the third quarter of FY24, HDFC recorded a 33% increase in net profit to ₹16,372 crore. The bank's net interest income (NII) in Q3FY24 increased by 24% YoY to ₹28,470 crore. The bank's loans increased by 4% quarter on quarter, while deposits increased by 2%. Its Liquidity Cover Ratio (LCR) dropped to 109.8 percent from 120 percent, owing to a withdrawal of assets that were liquid to pay for loan expansion. The bank's loan-todeposit ratio (LDR) increased from 108.4 percent to 110.5 percent.

9. Lessons Learned:

Corporate financial distress is a key issue in corporate finance, particularly during financial crises, affecting bondholders' trust in companies. Predicting financial troubles is critical for making educated decisions and implementing proactive measures to avoid distress [34]. This strategy helps investors make better investing decisions, resulting in fewer losses. Private banks play an important role in India's economic development by promoting growth, inclusion of finance, and creativity. They extend offerings in underdeveloped areas, promote competitors, and use technologies to enhance client service [8]. Private banks provide financing to a variety of sectors while also promoting corporate responsibility, job growth, and the development of infrastructure. Despite these achievements, issues such as preserving financial stability, prudent lending, and regulatory compliance remain. Competent laws and regulations are critical for balancing the benefits and dangers of private banking [2].

Identified flaws inside these banks and the business community have serious effects, including jeopardizing financial security and undermining customer trust. Such flaws may disclose private information, resulting in fraud and theft of identities, eroding public trust in the financial system [35]. Regulatory scrutiny and legal implications are on the horizon, with potential sanctions affecting the bank's reputation and financial status. Furthermore, these flaws add to systemic risks, compromising the general stability of the financial market. Resolving these concerns requires technology advancements, strong cybersecurity safeguards, and a dedication to complying with regulations. Regular risk evaluations and engagement with regulatory bodies are critical for quickly addressing vulnerabilities and ensuring a resilient and secure financial environment [36].

The study teaches valuable insights for the whole banking industry. It emphasizes the critical role of a strong risk management framework in proactively addressing potential gaps and mitigating NPA risks [37]. Strict adherence to regulatory rules is critical for safe and open operations, which reduces the possibility of loopholes. The case investigation emphasizes the importance of investing in innovative technology and security measures to protect against online dangers [38]. Finally, building an ethical financial culture, promoting openness, and assuring accountability are critical for eliminating loopholes and unethical behavior. As a result, increasing



risk management, guaranteeing regulatory compliance, investing in cybersecurity, and promoting ethical behaviors are critical for creating a robust and secure financial environment [39].

10. RECOMMENDATIONS:

To strengthen credit risk assessment, modern machine learning and analytics models have been suggested to accurately identify prospective credit risks via a comprehensive examination customer of creditworthiness and defaulting possibilities. To increase risk precision, the standard and specificity of data collected for evaluations must be improved, as does the availability of accurate and up-to-date financial information [40]. Creating a culture of ongoing education for bank workers working in credit risk evaluation is critical to staying current with business standard procedures and changes in regulations. In addition, utilizing technology to streamline credit monitoring operations, such as actual time analytics and notifications, can speed up recognizing risks and reaction times [41]. These steps collectively enhance a bank's credit risk evaluation, resulting in an increasingly flexible and adaptive risk administration system.

Enhancing surveillance and recovery procedures entails using immediate tracking technologies with strong analytics to spot issues early on. Stress testing techniques could be improved to more accurately evaluate tolerance to economic problems, allowing for proactive risk control modifications [42]. Partnerships with government agencies along with business peers, as well as best practice exchange and benchmarking, all help to build a strong risk control structure. Creating a thorough recovery plan, which includes clearly defined methods and efficient communication, ensures a timely and synchronized reaction to financial hardship [43].

Advocating for regulatory changes is critical to improving financial stability. Proposed steps include strict stress assessments, ensuring institutions are ready for economic downturns, and fighting for greater openness through improved reporting requirements [44]. The partnership between regulatory organizations and industry participants is required for the successful development of rules that tackle the particular problems faced. The emphasis on ongoing surveillance of emerging dangers and advances in technology reflects the requirement for adaptable guidelines in an ever-changing landscape, monetary particularly concerning technological modifications and cyber-attacks [45].

Both political and economic risk can be reduced by diversifying its investments across industries and regions. Cultivating strong connections with regulatory bodies facilitates proactive reactions to novel regulations, mitigating the consequences of unexpected policy changes [46]. Investment in sophisticated risk administration methods, such as statistical analysis, improves the bank's capacity to handle uncertainty. Furthermore, supporting a strong business governance framework, including autonomous risk panels and ethical procedures, reduces the impact of societal pressures [47].

11. CONCLUSION:

The study of Axis Bank and HDFC Bank's weaknesses exposes severe faults in risk management, credit evaluation, and regulatory compliance, resulting in a large accumulation of Non-Performing Assets (NPAs). The bank's exposure to economically sensitive sectors exacerbates the impact of economic downturns on asset quality, emphasizing the importance of increased due diligence in credit risk assessment. Regulatory frameworks, such as the Insolvency and Bankruptcy Code, have a significant impact on NPA responses, illustrating the complex interplay between internal banking practices, regulatory settings, and economic situations affecting the bank's financial stability.

Addressing the identified weaknesses within Axis Bank is critical to their system stability. The consequences of rising NPAs spread throughout the sector, jeopardizing overall resilience. Proactive actions to address these issues are critical for restoring investor and depositor confidence, protecting long-term profitability, and guaranteeing regulatory compliance. Mitigating systemic risks, avoiding a credit crunch, and rebuilding trust in the banking industry are critical goals. As a significant private sector operator, Axis Bank's successful remediation establishes a precedent, highlighting the importance of strong risk management, regulatory compliance, and strategic flexibility. A stronger and more resilient banking sector is critical for India's financial stability, economic growth, and stakeholder trust.

In comparison, HDFC Bank's story displays resilience and adaptability in handling NPAs, owing to a strong risk management framework and proactive risk mitigation methods. Despite constraints like as a low rural footprint and fluctuating NPA ratios, HDFC Bank's proactive strategy demonstrates its commitment to financial stability and strategic flexibility. The examination of NPA gaps highlights the need to correct identified flaws within HDFC Bank to guarantee long-term profitability and regulatory compliance. By efficiently tackling these difficulties, HDFC Bank strengthens India's banking system and boosts stakeholder confidence in the financial industry.

Overall, Axis Bank and HDFC Bank play important roles in developing India's economic landscape, with their possible solutions to NPA issues mirroring wider developments in risk administration and compliance with regulations in the banking sector.



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REFERENCES

- Agarwala, V., & Agarwala, N. (2019). A critical review of nonperforming assets in the Indian banking industry. Rajagiri Management Journal, 13(2), 12-23.
- Garg, A. (2016). A study on management of non-performing assets in context of Indian banking system. International journal of engineering technologies and management research, 11, 15-25.
- Ibrahim, M. S., & Thangavelu, R. (2014). A study on the composition of non-performing assets (NPAs) of scheduled commercial banks in India. Journal of Finance and Bank Management, 2(1), 31-48.
- Sengupta, R., & Vardhan, H. (2017). Non-performing assets in Indian Banks: This time it is different. Economic and Political Weekly, 85-95.
- Journal of Emerging Technologies and Innovative Research, (2019). Analysis of Financial Statement of Axis Bank. Available at link: https://www.jetir.org/papers/JETIR1906667.pdf
- Singh, J. (2014). HDFC Bank Case Study 2021 Industry, SWOT, Financials & Shareholding. Available at Linkhttps://tradebrains.in/hdfc-bank-case-study/
- Axis Bank. (2024). Corporate Profile. Available at link: https://www.axisbank.com/about-us/corporate-profile
- Dadhich, M., Rao, S. S., Sharma, R., & Meena, R. (2021). Analytical Study of Stochastic Trends of Non-Performing Assets of Public and Private Commercial Banks in India. In 2021 3rd International Conference on Advances in Computing, Communication Control and Networking (ICAC3N) (pp. 71-76). IEEE.
- HDFC. (2024). Who We Are. Available at Linkhttps://www.hdfcbank.com/personal/about-us/overview/who-weare
- Business Today. (2024). HDFC Bank. Available at Linkhttps://www.businesstoday.in/infopage/companies/hdfc-bank
- D.K. Spripada. (2021). ICICI, AXIS, & HDFC banks were not set up as government organisations and later privatised. Available at Link- https://factly.in/icici-axis-and-hdfc-banks-were-not-setupas-government-organisations-and-later-privatised/
- Farha. (2023). HDFC's Digital Marketing Strategies- A Brief Study. Available at Link- https://admeducation.com/blog/hdfc-digitalmarketing-strategies/
- Gadhia, N. (2018). A Comparative and Analytical Study on Non-Performing Assets Of Bank Of Baroda And Axis Bank. IMPACT: International Journal of Research in Humanities, Arts and Literature, 6(5), 295-302.
- Reserve Bank of India.(1999) NPAs in Indian Commercial Banks, Published in Southern Economist, Sept, 17-20.
- Reddy. Y.V. (2002). NPA's are a major cause of concern, The Financial Express.
- Narula, S., Singla, M. (2014). Empirical study on Non-Performing Assets of Banks. International Journal of advance Research in Computer science and management studies, Volume 2, Issue 1.
- Malini (2015). Managing portfolio credit risk in banks. Cambridge University Press.
- Khan, N., (2019). IMPACT OF NPAS ON FINANCIAL SOUNDNESS OF AXIS BANK IN INDIA: BASED ON CAMEL MODEL. International Journal of Innovative Research in Management Studies (IJIRMS) Volume 4, Issue 2, March 2019. pp.12-23.

- Dhanya, P., JayaShakthi, A., (2023) AN EMPIRICAL STUDY ON NON-PERFORMING ASSETS IN HDFC BANK. International Research Journal of Modernization in Engineering Technology and Science. Volume:05/Issue:07
- Shah, V., & Sharma, S. (2016). A Comparative study of NPA in ICICI Bank and HDFC Bank. Abhinav National Monthly Refereed Journal of Research in Commerce & Management, 5(2), 15-23.
- Tamatam, R., (2010) Credit Risk Management in Axis Bank. Available at link: https://www.scribd.com/doc/48395902/Credit-Risk-Management-in-Axis-Bank-Rajhans
- Thejaswini, C., (2018) A Study on Credit Risk Management At HDFC Bank, Tumkur. VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
- Jaiswal, A., (2016) A Comparative Study Of Financial Performance of SBI And ICICI Bank In India. International Journal of Scientific Research in Computer Science And Engineering, 4(3), 1-6.
- Axis Bank. (2014). DISCLOSURES UNDER BASEL III CAPITAL REGULATIONS FOR THE QUARTER ENDED 31ST DECEMBER 2013. Available at link: https://www.axisbank.com/docs/default-source/regulatorydisclosure-section/basel-iii-disclosures/basel-iii-pillar-disclosuresdec-13.pdf?sfvrsn=7a39cb55_10
- HDFC, Integrated Annual Report (2021-2022). Robust and Stress-Tested Framework. Available at Link: https://v.hdfcbank.com/htdocs/common/2022/july/Annual_Report _FY22/risk-management.html
- BOUNIHI, M., & RIAD, M. (2021). THE IMPACT OF COVID-19 ON THE IMPLEMENTATION OF BASEL (III) STANDARDS IN COMMERCIAL BANKS: CASE OF ALGERIA. Revue d'Economie et de Statistique Appliquée, 18(1).
- Hemindra Hazari. (2019). Exclusive: RBI's Risk Assessment Reports on Axis Bank: Missing the Forest for the Trees. Available at link: https://hemindrahazari.com/2019/07/09/exclusive-rbis-risk-
- assessment-reports-on-axis-bank-missing-the-forest-for-the-trees/ Thomas, R. (2017). A Case Study on NPA Management and Loan Recovery Strategy of Axis Bank, Post the Demonetisation: An
- Application of the McKinsey 7S Model.Buch, C., & Dages, B. G. (2018). Structural changes in banking after the crisis. CGFS Papers, 60(4).
- Reserve Bank of India. (2021). Prompt Corrective Action (PCA) Framework for Non-Banking Financial Companies (NBFCs). Available at link: https://rbi.org.in/Scripts/BS_CircularIndexDisplay.aspx?Id=1220 8
- RBI- HDFC BANK, (2014). Risk Assessment Report. Available at Link: https://www.scribd.com/document/416525341/2-Rar-Hdfc-Bank-2014
- Jobin Kurian John. (2021). FINANCIAL PERFORMANCE ANALYSIS OF AXIS BANK. Available at link: https://macfast.org/wp-
- content/uploads/2022/03/190031000656.pdf Kumar, N., (2024). HDFC Bank share price hits 52-week low, down 20% in 2024 so far. Available at Linkhttps://www.livemint.com/market/stock-market-news/hdfc-bank-
- share-price-hits-52-week-low-down-20-in-2024-so-far-11707893279915.html
- Azam, A., Khan, I., Fahad, M. S., & Akhtar, M. A. (2023). Prediction of Insolvency by Using Altman Z-score Model: A Study of Selected Indian Private Banks. Boletin de Literatura Oral-The Literary Journal, 10(1), 684-695.
- Basel III, B. C. B. S. (2017). Finalising post-crisis reforms. BIS, Basel.
- Shin, H. S. (2009). Reflections on Northern Rock: The bank run that heralded the global financial crisis. Journal of economic perspectives, 23(1), 101-119.
- Supervision, B. (2011). Basel committee on banking supervision. Principles for Sound Liquidity Risk Management and Supervision (September 2008).
- Hull, J. (2012). Risk management and financial institutions, Web Site (Vol. 733). John Wiley & Sons.
- McLennan, M. (2019). The Global Risks Report 2019 14th Edition. Cologny, Switzerland: World Economic Forum.



- Löeffler, G., & Posch, P. N. (2011). Credit risk modeling using Excel and VBA. John Wiley & Sons.
- Bhattacharya, H. (2011). Banking strategy, credit appraisal, and lending decisions: A risk-return framework. Oxford University Press.
- Mehrotra, R., Saluja, S., & Maheshwari, K. (2020). Rising NPAs and Sinking Indian Banking Sector. Vinimaya, 41(3), 36-58.
- Board, F. S. (2014). Key Attributes of Effective Resolution Regimes for Financial institutions. October.
- Admati, A. R., DeMarzo, P. M., Hellwig, M. F., & Pfleiderer, P. (2018). The leverage ratchet effect. The Journal of Finance, 73(1), 145-198.
- Knight, M. D. (2016). The G20's reform of bank regulation and the changing structure of the global financial system. Global Policy, 9, 21-33.
- De Haas, R., & Naaborg, I. (2006). Foreign banks in transition countries: To whom do they lend and how are they financed?. Financial Markets, Institutions & Instruments, 15(4), 159-199.
- Shleifer, A., & Vishny, R. W. (1997). A survey of corporate governance. The journal of finance, 52(2), 737-783.