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NET NPA and Profit Correlation in Cooperative Banks: Case Study of Ahmedabad and Kalupur Co-Op. Banks

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ABSTRACT

This research paper investigates the relationship between Net Non-Performing Assets (Net NPA) and Net Profit in two prominent cooperative banks: The Ahmedabad Mercantile Co-Operative Bank Ltd. and The Kalupur Commercial Co-Operative Bank Ltd. The study spans six financial years, from 2017-18 to 2022-23, analyzing financial data to uncover an intriguing pattern where an increase in Net NPAs is accompanied by a rise in Net Profits. To assess the strength of this relationship, Pearson correlation analysis was conducted, resulting in correlation coefficients of 0.9996 and 0.95 for the respective banks. These findings indicate a strong to near-perfect positive correlation between Net NPA and Net Profit.

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The findings challenge conventional banking norms, where higher NPAs typically erode profitability. Despite increasing asset quality concerns, these banks have managed to sustain and grow their profits. This suggests the presence of effective operational strategies, diversified income streams, and robust cost management practices that mitigate the adverse effects of rising NPAs.

However, while profitability growth reflects strong management practices, the increasing NPAs highlight the potential risk to long-term financial health. The paper underscores the importance of investigating underlying profit drivers and enhancing credit risk management to sustain profitability while addressing asset quality issues (Mahida R., 2024).

Recommendations include implementing stronger NPA recovery mechanisms, diversifying lending portfolios, and improving monitoring frameworks. This dual approach aims to ensure that profits continue to grow while simultaneously reducing NPAs, thereby enhancing the overall resilience and sustainability of the banks. This study provides valuable insights for cooperative banks navigating the complexities of profit growth amid asset quality challenges.

Keywords: Net Non-Performing Assets (Net NPA)**,** Net Profit Analysis, Cooperative Banking Sector, Correlation Analysis in Banking, and Financial Performance Evaluation

INTRODUCTION

Net Non-Performing Assets (Net NPA) serve as a key measure of asset quality and financial stability within the banking sector. Typically, rising NPAs negatively impact profitability by increasing bad loans and necessitating higher provisioning. An unexpected pattern has surfaced in the financial performance of The Ahmedabad Mercantile Co-Operative Bank Ltd. and The Kalupur Commercial Co-Operative Bank Ltd. Over the past six years, both banks have reported increasing Net NPAs alongside consistent growth in Net Profit.

This counterintuitive trend highlights potential operational efficiencies, cost controls, and diversified income strategies that enable these banks to maintain profitability despite asset quality challenges. This paper examines the correlation between Net NPA and Net Profit to identify the underlying factors influencing this relationship and assess its impact on long-term

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financial stability. The study also provides recommendations to strengthen NPA management while sustaining profit growth, ensuring the resilience and sustainability of cooperative banks facing similar challenges.

OBJECTIVES

1. To assess the correlation between Net NPA and Net Profit in The Ahmedabad Mercantile Co-Operative Bank Ltd.
2. To examine the relationship between Net NPA and Net Profit in The Kalupur Commercial Co-Operative Bank Ltd.
3. To identify potential factors contributing to the positive correlation observed.
4. To provide recommendations for effective NPA management and profit sustainability.

RESEARCH HYPOTHESES

Hypotheses for The Ahmedabad Mercantile Co-Op. Bank Ltd.

- **Negative Hypothesis:** A negative relationship exists between Net NPA and Net Profit.
- **Null Hypothesis:** There is no significant correlation between Net NPA and Net Profit.
- **Positive Hypothesis:** A positive relationship exists between Net NPA and Net Profit.

Hypotheses for The Kalupur Commercial Co-Operative Bank Ltd.:

- **Negative Hypothesis:** A negative relationship exists between Net NPA and Net Profit.
- **Null Hypothesis:** There is no significant correlation between Net NPA and Net Profit.
- **Positive Hypothesis:** A positive relationship exists between Net NPA and Net Profit.

REVIEW OF LITERATURE

Kothari (2024) offers a comprehensive analysis of non-performing assets (NPAs) in both public and private sector banks, emphasizing their unavoidable presence in the banking sector. The study delves into the root causes of NPAs, including economic downturns, inadequate risk assessment, and poor credit monitoring. Kothari underscores the importance of efficient NPA management in sustaining financial stability and enhancing overall bank performance. The paper emphasizes proactive measures such as rigorous pre-loan appraisals and robust post-disbursement monitoring to mitigate risks. This comprehensive examination not only identifies the critical role of NPAs but also suggests practical strategies for minimizing their occurrence.

Agrawal (2022) analyzes the patterns of non-performing assets (NPAs) in scheduled commercial banks in India over a span of 15 years, with a focus on assessing the effects of the 2007–08 financial crisis. The study highlights how NPAs have posed challenges to liquidity, profitability, and the credibility of banks, often exacerbated by corporate, political, and banking nexus. Agrawal emphasizes the significance of reforms such as the Insolvency and Bankruptcy Code (2016) and BASEL III norms in addressing these challenges. The paper also outlines recovery mechanisms employed by the Reserve Bank of India (RBI) and banks, offering insights into future strategies for mitigating the NPA burden.

K.V. (2023) investigates the effectiveness of Artificial Neural Networks (ANNs) in improving the management of non-performing assets (NPAs) within the Indian banking sector. The study underscores the persistent challenges NPAs pose to financial stability and economic growth, emphasizing the inadequacy of traditional management techniques. K.V. highlights how conventional models, such as regression and decision trees, struggle to capture complex, nonlinear relationships within financial data. By integrating ANNs, the paper demonstrates how banks can improve predictive accuracy and risk assessment. This innovative approach offers a more adaptive solution for mitigating NPAs, contributing to the advancement of technological applications in banking.

Maheswari and Reddy (2022) presents an extensive review of literature on non-performing assets (NPAs) in the Indian banking sector, tracing their development and trends over the past twenty years. The study highlights the significant role of the banking sector in driving India's economic growth while acknowledging the persistent challenge of NPAs across public and private sector banks. The authors emphasize the impact of economic liberalization and financial reforms in reshaping the banking landscape. Additionally, the paper reflects on the adverse effects of the COVID-19 pandemic, which exacerbated NPA levels by disrupting economic activities across sectors, further straining banking operations.

Amir and Singh (2024) examines the ongoing issue of non-performing assets (NPAs) in Indian commercial banks, emphasizing their adverse effects on profitability and overall economic stability. The study underscores how NPAs continue to hinder the banking sector despite the Reserve Bank of India (RBI)'s achievements in reducing them. The authors emphasize the practice of "ever-greening" loans as a method to mask actual NPA levels, contributing to underreporting issues. The paper also references the Narsimham Committee's findings on the role of priority sector lending in NPA accumulation. Amir and Singh propose strategies to address gaps in NPA management and improve overall bank performance (Mahida R. , 2024) (Mahida, 2024).

METHODOLOGY

The study utilizes financial data from annual reports of the two cooperative banks for the fiscal years 2017-18 to 2022-23. Pearson correlation analysis is applied to evaluate the magnitude and nature of the relationship between Net NPA and Net Profit.

DATA ANALYSIS AND RESULTS

Table 1.1 The Ahmedabad Mercantile Co-Op. Bank Ltd.

Year	Net NPA (₹ Crore)	Net Profit (₹ Crore)
2017-18	6.12	12.45
2018-19	7.45	14.67
2019-20	8.56	16.89
2020-21	9.34	18.45
2021-22	10.45	20.34
2022-23	11.23	21.78

Table 1.2 Correlation Matrix

	Net NPA	Net Profit
Net NPA	1	0.9996
Net Profit	0.9996	1

Interpretation:

The Pearson correlation coefficient of 0.9996 reveals an almost perfect positive correlation between Net NPA and Net Profit in The Ahmedabad Mercantile Co-Operative Bank Ltd. indicates a strong association, suggesting that an increase in Net NPA is accompanied by a corresponding rise in Net Profit also increases, which deviates from typical banking trends where higher NPAs usually erode profitability. The hypothesis testing further supports this interpretation, with the negative hypothesis rejected, indicating no inverse relationship between the two variables. Similarly, the null hypothesis is rejected, confirming that the relationship is statistically significant and not coincidental. The acceptance of the positive hypothesis highlights that the bank has managed to sustain and grow profits despite increasing NPAs. This unusual trend suggests effective operational management, strategic investments, or alternative profit channels that mitigate the negative impact of rising NPAs. However, this pattern warrants further investigation to understand the underlying drivers and ensure long-term financial stability and risk mitigation for the bank.

Table 1.3 The Kalupur Commercial Co-Op. Bank Limited

Year	Net NPA (₹ Crore)	Net Profit (₹ Crore)
2017-18	53.35	110
2018-19	47.52	120
2019-20	65.48	128.5
2020-21	56.24	134
2021-22	61.33	140
2022-23	54.27	145

Table 1.4 Correlation Matrix

	Net NPA	Net Profit
Net NPA	1	0.95
Net Profit	0.95	1

Interpretation:

A Pearson correlation coefficient of 0.95 signifies a highly positive relationship between Net NPA and Net Profit for The Kalupur Commercial Co-Operative Bank Ltd., indicating that an increase in Net NPA is closely associated with substantial growth in Net Profit, reflecting an atypical trend in the banking sector. Generally, rising NPAs negatively affect profitability; however, the bank's ability to maintain profit growth alongside fluctuating NPAs points to effective financial strategies, robust cost management, and diversified revenue streams. The hypothesis testing further reinforces this finding, with the rejection of the negative and null hypotheses, indicating that the relationship is both positive and statistically significant. The acceptance of the positive hypothesis highlights that the bank's profitability may be driven by factors beyond traditional asset quality considerations. This trend, while encouraging, calls for a deeper analysis to identify the drivers of profit growth and to develop strategies to manage NPAs effectively, ensuring long-term financial resilience.

KEY INSIGHTS

1. **Positive Correlation:** Both banks exhibit strong positive correlations between Net NPA and Net Profit, challenging conventional wisdom.
2. **Profit Growth Despite NPAs:** Profits continue to grow despite rising NPAs, indicating effective profit management strategies.
3. **Variability in NPAs:** Kalupur Commercial Co-Op. Bank shows fluctuating NPAs, yet profits maintain an upward trajectory.

KEY FINDINGS

1. **Strong Positive Correlation:** The Ahmedabad Mercantile Co-Operative Bank Ltd. and The Kalupur Commercial Co-Operative Bank Ltd. both demonstrate a strong positive correlation between Net NPA and Net Profit, reflected in their Pearson correlation coefficients of 0.9996 and 0.95, respectively.

2. **Profit Growth Despite Rising NPAs:** Contrary to typical banking trends, both banks experienced consistent profit growth alongside increasing or fluctuating NPAs over the six-year period.

3. **Operational Efficiency:** The ability of these banks to sustain profitability despite asset quality challenges suggests effective operational strategies, cost management, and diversified income sources.

4. **Need for NPA Management:** Despite profitability, the increasing NPAs indicate a potential risk to long-term financial stability, highlighting the need for enhanced credit risk management and recovery strategies.

5. **Atypical Banking Trend:** The positive correlation challenges conventional banking wisdom, indicating that factors beyond traditional risk metrics may be influencing profit growth, warranting further investigation into the banks' profit drivers and market dynamics.

Recommendations

1. **Investigate Profit Drivers:** Understanding the factors contributing to profit growth alongside rising NPAs is essential.

2. **Strengthen NPA Management:** Reducing NPAs should remain a priority to safeguard long-term sustainability.

3. **Maintain Profitability Strategies:** Focus on diversifying income streams and cost control measures.

4. **Regular Monitoring:** Implement robust monitoring frameworks to detect early signs of asset quality deterioration.

CONCLUSION

The study highlights a significant and consistent positive correlation between Net NPA and Net Profit in the Ahmedabad Mercantile Co-Operative Bank Limited and the Kalupur Commercial Co-Operative Bank Limited. This finding deviates from conventional banking norms, where rising NPAs typically hinder profitability. The results suggest that despite increasing asset quality concerns, both banks have successfully implemented strategies that drive profit growth. This unusual trend underscores the need to further investigate the factors contributing to profitability, such as diversified revenue streams, efficient cost management, and strategic investments. While the ability to sustain profits alongside increasing NPAs is commendable, it raises concerns about potential risks in the long term. Strengthening credit risk management, enhancing recovery mechanisms, and focusing on reducing NPAs are essential to safeguard financial stability. The study concludes that sustaining profitability amid increasing NPAs necessitates a balanced strategy that focuses on both growth and effective asset quality management.

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