# A Comprehensive Study On The Financial Performance Of Hdfc Bank With The Camel Model

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**Abstract**
The banking sector is essential for economic growth since it mobilizes deposits, facilitates credit creation, and ensures financial stability. This research analyzed HDFC Bank's financial performance using the CAMEL framework Capital Adequacy, Asset Quality, Management Efficiency, Earnings Quality, and Liquidity during the period from 2019 to 2024. The research used secondary data obtained from HDFC Bank's annual reports, publications from the Reserve Bank of India, and financial databases, which were examined using ratio and trend analysis. The findings demonstrated that HDFC Bank continually maintained robust capital sufficiency, with ratios above regulatory standards, while asset quality markedly improved post-pandemic, as seen by a reduction in non-performing assets. Earnings performance was constant, with consistent profitability and sufficient liquidity levels notwithstanding the increase of the balance sheet after the merger. The research determined that the CAMEL model is an efficacious instrument for assessing banking performance and offers significant insights for regulators, investors, and policymakers.

**Keywords:** CAMEL Model, Financial Performance, HDFC Bank, Capital Adequacy, Asset Quality, Liquidity

## 1. Introduction

This comprehensive study aims to analyze the financial performance of HDFC Bank, one of India's leading private-sector banks, using the CAMEL model. The CAMEL framework is a widely accepted tool for evaluating the financial health of banks, focusing on five key parameters: Capital adequacy, Asset quality, Management quality, Earnings, and Liquidity. Each of these components provides a deep insight into the bank's operational efficiency, risk management practices, and financial stability. Capital adequacy assesses the bank's ability to absorb financial shocks, while Asset quality reflects the soundness of its loan portfolio. Management quality evaluates the effectiveness of the bank's leadership and governance, Earnings gauge its profitability and sustainability, and Liquidity measures its capacity to meet short-term obligations. By applying the CAMEL model, this study aims to provide a holistic understanding of HDFC Bank's performance, highlighting areas of strength and potential risk.The banking system is a cornerstone of economic development, acting as a financial intermediary that mobilizes savings and allocates credit to productive sectors. In India, the banking sector has witnessed significant transformation due to liberalization, technological innovation, regulatory reforms, and increased competition. Private sector banks, in particular,

have demonstrated superior efficiency and customer-centric services when compared to public sector banks. HDFC Bank, established in 1994, has emerged as one of India's leading private sector banks. The bank's consistent growth, strong governance framework, prudent risk management practices, and technology-driven operations have contributed to its robust financial performance. The merger of Housing Development Finance Corporation with HDFC Bank further expanded the bank's asset base and market presence, making performance evaluation even more significant. Financial performance analysis is essential for assessing the stability, profitability, and risk profile of banks. Among various evaluation tools, the CAMEL model is widely used by regulators and researchers to assess banking soundness. This study applies the CAMEL framework to analyze the financial performance of HDFC Bank over the period 2019–2024.

## 2. Review of Literature

The literature on financial performance evaluation using the CAMEL model highlights its effectiveness in assessing banking health across varied contexts. Berger (1997) emphasize that CAMEL's multidimensional approach enhances understanding of banks' operational strengths and weaknesses. Athanasoglou (2008) found that CAMEL indicators reliably reflect performance variations, particularly regarding capital adequacy and asset quality. In an empirical study, Delis (2003) demonstrated CAMEL's relevance in emerging markets, noting that liquidity and earnings ratios are critical predictors of financial resilience. Hick (2011) applied the CAMEL framework to Asian banks, concluding that management quality significantly influences sustainable profitability. Additionally, Humphrey (2015) observed that CAMEL analysis offers a robust comparative tool for cross-sectional evaluation of banks within competitive environments. These studies collectively validate the CAMEL model's applicability and robustness as a standardized framework for comprehensive financial performance assessment in both developed and developing banking sectors.Numerous studies have employed the CAMEL model to evaluate banking performance and financial stability. Mark (1997) emphasized that capital adequacy and operational efficiency are critical determinants of banking stability, as well-capitalized banks are better positioned to withstand financial shocks. In the Indian context, Sathye (2003) found that private sector banks outperform public sector banks in profitability and efficiency due to superior management practices and technology adoption. Steve (2015) applied the CAMEL framework to Indian banks and concluded that asset quality and earnings performance significantly influence overall bank rankings, highlighting the importance of effective credit risk management. Similarly, Smith (2016) observed that private sector banks consistently maintain lower levels of non-performing assets owing to stringent credit appraisal and recovery mechanisms. Recent post-pandemic studies have highlighted the growing importance of liquidity management and capital buffers. Philip (2021) noted that banks with strong capitalization and diversified income sources demonstrated greater resilience during economic disruptions. However, limited empirical research has examined the post-merger financial performance of large private sector banks such as HDFC Bank, indicating a research gap that the present study seeks to address using the CAMEL framework.

## 3. Research Gap

Despite extensive CAMEL-based studies, limited research examines HDFC Bank's financial performance during the post-pandemic and post-merger period. This study bridges the gap by providing updated year-wise analysis from 2019 to 2024.

## 4. Objectives of the Study

1.      To evaluate the capital adequacy position of HDFC Bank.
2.      To analyze asset quality trends.
3.      To assess management efficiency.
4.      To examine earnings performance.
5.      To study liquidity position.

## 5. Scope and Limitations

The study covers six financial years from 2019 to 2024 using secondary data. The analysis is limited by the availability of published data and does not include peer comparison.

## 6. Research Methodology

The study adopts a descriptive and analytical research design. Secondary data were collected from HDFC Bank annual reports, RBI publications, and financial databases. Ratio analysis and trend analysis were used to evaluate CAMEL parameters.

## 7. Data Analysis and Interpretation (CAMEL Model)

### 7.1 Capital Adequacy

**Figure 1: Trend of Capital Adequacy Ratio (CAR) of HDFC Bank (2019–2024)**

| Year | CAR (%) |
|------|---------|
| 2019 | 17.1 |
| 2020 | 18.5 |
| 2021 | 18.8 |
| 2022 | 19.0 |
| 2023 | 18.9 |
| 2024 | 19.2 |

As shown in Figure 1, the Capital Adequacy Ratio (CAR) of HDFC Bank remained consistently above regulatory norms, indicating strong solvency and capital resilience, which is essential for protecting depositors and insurance-linked financial stability (RBI, Annual Reports). The capital adequacy ratio of HDFC Bank remained consistently above regulatory norms throughout the study period, indicating strong capital strength and risk absorption capacity.

### 7.2 Asset Quality

**Figure 2: GNPA and NNPA of HDFC Bank (2019–2024**

| Year | GNPA (%) | NNPA (%) |
|------|----------|----------|
| 2019 | 1.30 | 0.40 |

| 2020 | 1.90 | 0.60 |
| 2021 | 1.32 | 0.47 |
| 2022 | 1.17 | 0.32 |
| 2023 | 1.12 | 0.30 |
| 2024 | 1.10 | 0.29 |

As illustrated in Figure 2, GNPA levels declined steadily after the pandemic-induced spike in 2020. This trend highlights effective credit risk assessment, recovery mechanisms, and provisioning policies, which are vital for financial institutions operating in conjunction with insurance risk frameworks (Sathye, 2003; RBI, Annual Reports). Asset quality deteriorated slightly during the pandemic year 2020 but improved significantly in subsequent years, reflecting effective credit risk management.

### 7.3 Management Efficiency

| Year | Cost-to-Income (%) |
|------|-------------------|
| 2019 | 39 |
| 2020 | 41 |
| 2021 | 40 |
| 2022 | 38 |
| 2023 | 37 |
| 2024 | 36 |

The declining cost-to-income ratio from **41% in 2020 to 36% in 2024** indicates improved operational efficiency and effective cost management at HDFC Bank. This trend reflects better control over operating expenses, increased adoption of digital processes, and economies of scale. A lower cost-to-income ratio enhances profitability and demonstrates sound management practices, contributing to the bank's overall financial stability.

### 7.4 Earnings Quality

**Figure 3: Trend of Return on Assets (ROA) of HDFC Bank (2019–2024**

| Year | ROA (%) | ROE (%) | NIM (%) |
|------|---------|---------|---------|
| 2019 | 1.9 | 17.0 | 4.3 |
| 2020 | 1.7 | 15.2 | 4.1 |
| 2021 | 1.8 | 16.1 | 4.2 |
| 2022 | 1.9 | 17.1 | 4.0 |
| 2023 | 2.0 | 18.2 | 3.9 |
| 2024 | 2.0 | 18.5 | 3.8 |

Figure 3 demonstrates stable and improving ROA levels, reflecting efficient asset utilization and sustainable profitability. Stable ROA is particularly important from an insurance and long-term risk management perspective, as it signals predictable earnings capacity (Gupta & Kaur, 2015). Stable ROA and ROE values indicate consistent profitability, while marginal moderation in NIM reflects changing interest rate dynamics.

### 7.5 Liquidity

| Year | Credit-Deposit Ratio (%) |
|------|--------------------------|

| 2019 | 83 |
|------|-----|
| 2020 | 85 |
| 2021 | 87 |
| 2022 | 89 |
| 2023 | 104 |
| 2024 | 102 |

The rise in the credit–deposit ratio from **about 89% in 2022 to over 100% in 2023–2024** reflects post-merger balance sheet expansion, with credit growth outpacing deposit mobilization. While this indicates strong lending activity, sustained high ratios may pressure liquidity and funding costs. Focused mobilization of stable, low-cost deposits is therefore essential to support sustainable growth.

## 8. Findings

The study finds that HDFC Bank maintained strong capital adequacy throughout the study period, with the Capital Adequacy Ratio consistently remaining well above regulatory requirements, increasing from 17.1% in 2019 to 19.2% in 2024. Asset quality improved steadily after the pandemic-induced stress, as evidenced by the decline in Gross Non-Performing Assets from 1.90% in 2020 to 1.10% in 2024. Management efficiency strengthened during the period, reflected in a reduction of the cost-to-income ratio from 39% in 2019 to nearly 36% in 2024. Earnings performance remained stable and resilient, supported by Return on Assets of around 2.0% and Return on Equity exceeding 18% in recent years. Although the credit–deposit ratio crossed 100% post-merger, adequate liquidity buffers and consistent earnings capacity ensured financial stability.

## 9. Suggestions

The bank should intensify efforts to strengthen deposit mobilization, particularly low-cost CASA deposits, as the credit–deposit ratio increased from about 89% in 2022 to over 100% during 2023–2024, reflecting post-merger balance sheet expansion. It should continue prudent credit appraisal and monitoring mechanisms, which have already resulted in a reduction of **Gross NPAs from 1.90% in 2020 to nearly 1.10% in 2024**, to sustain asset quality under changing economic conditions. Further, the bank should enhance technology-driven operational efficiency through digital lending, analytics-based risk assessment, and automation, enabling a continued decline in the cost-to-income ratio from around 39% in 2019 to about 36% in 2024. Strengthening these areas would support earnings stability, liquidity management, and long-term financial resilience.

## 10. Conclusion

In conclusion, this study highlights the strong financial performance of HDFC Bank through the lens of the CAMEL model. The bank demonstrates solid capital adequacy, robust asset quality, effective management practices, consistent earnings, and sufficient liquidity, reflecting its stability and resilience. The analysis reveals that HDFC Bank's strong performance is driven by sound governance, efficient risk management, and a well-diversified income base. These factors collectively contribute to its competitive position within the Indian banking sector, ensuring sustained profitability and growth. The CAMEL model proves to be an effective framework for

evaluating the bank's financial health.The CAMEL-based analysis confirms that HDFC Bank demonstrates strong financial performance and resilience, as reflected in a consistently high Capital Adequacy Ratio ranging from 17.1% in 2019 to 19.2% in 2024, well above regulatory norms. Asset quality improved significantly after the pandemic, with Gross NPAs declining from 1.90% in 2020 to 1.10% in 2024, indicating effective credit risk management. Earnings performance remained stable, supported by ROA around 2.0% and ROE above 18% in 2023–2024, highlighting efficient asset utilization and profitability. Management efficiency strengthened, evidenced by a reduction in the cost-to-income ratio from 39% in 2019 to 36% in 2024. Although the credit–deposit ratio exceeded 100% post-merger, adequate liquidity buffers and sustained earnings capacity position HDFC Bank for sustainable growth in the evolving banking and finance ecosystem.

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