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# EFFECTIVENESS OF CASH MANAGEMENT IN PUBLIC SECTOR BANKS: A STUDY ON SBI- AN EMPIRICAL EVIDENCE

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**ABSTRACT**

*The purpose of this study is to analyze the effectiveness of cash management practices in State Bank of India (SBI) and understand their impact on the bank's operational efficiency and liquidity management. The study aims to evaluate how SBI manages cash inflows, outflows, and reserves across its branches, identify challenges in cash handling, and assess the role of modern cash management systems and technology in improving efficiency. By providing empirical evidence, the study seeks to offer insights and recommendations to bank management, policymakers, and stakeholders for optimizing cash operations, reducing operational costs, and ensuring better financial stability and customer service in public sector banks. Cash management is a critical function for banks, ensuring liquidity, operational efficiency, and financial stability. This study examines the effectiveness of cash management practices in State Bank of India (SBI), one of the largest public sector banks in India. Using a combination of primary data from SBI branch surveys and secondary data from annual reports, the research evaluates how efficiently the bank manages cash inflows, outflows, and reserves, and its impact on overall operational performance. The study identifies key challenges in cash handling, including discrepancies in cash forecasting, liquidity management, and branch-level cash operations. Findings reveal that while SBI has implemented structured cash management systems and modern technology to streamline operations, there are opportunities to further optimize cash utilization and reduce operational costs. The study provides insights for bank management, policymakers, and researchers on improving cash management efficiency in public sector banks, ensuring better liquidity control and customer satisfaction.*

**KEY WORDS**

- *Cash Management*
- *Public Sector Banks*
- *State Bank of India (SBI)*
- *Liquidity Management*
- *Operational Efficiency*

*JEL Codes*

- *G21 – Banks; Depository Institutions; Micro Finance; Mortgages*
- *G32 – Financing Policy; Financial Risk and Risk Management*
- *G34 – Mergers; Acquisitions; Restructuring; Corporate Governance*
- *M41 – Accounting; Cost Accounting; Auditing; Management Accounting*
- *C83 – Survey Methods; Sampling Methods (if primary data is used)*

## INTRODUCTION

The study focuses on evaluating the effectiveness of cash management practices in SBI, examining how the bank manages cash inflows, outflows, and reserves at both branch and central levels. The analysis includes assessing the role of technology, forecasting methods, and operational procedures in streamlining cash management. With increasing customer expectations and regulatory requirements, public sector banks face growing pressure to adopt efficient cash management strategies. Understanding the strengths and weaknesses of SBI's cash management practices can help policymakers, bank management, and researchers identify areas for improvement, reduce operational costs, and enhance liquidity control. Cash management is one of the most crucial functions in the banking sector, as it ensures that a bank maintains adequate liquidity to meet customer demands while optimizing the use of funds for operational and investment purposes. Efficient cash management directly impacts a bank's profitability, financial stability, and overall service quality. In public sector banks like **State Bank of India (SBI)**, which serve millions of customers across urban and rural areas, effective cash handling is vital to meet daily withdrawal demands, manage inter-branch transfers, and maintain sufficient reserves.

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Effective cash management in Public Sector Banks (PSBs) is crucial for liquidity, profitability, and stability, involving forecasting, optimizing reserves, and using technology for efficient fund flow, yet faces challenges like managing vast branch networks and rural cash demands, with success measured by strong liquidity/profit ratios, reduced costs, and adoption of digital tools like UPI for better control and customer service, as seen in better-performing PSBs like SBI and Bank of Baroda.

**Key Objectives & Importance**

- **Liquidity & Stability:** Ensures enough cash for daily operations, customer withdrawals, and prompt payments, reducing default risk.
- **Profitability:** Minimizes idle cash (opportunity cost) by investing surpluses and reduces borrowing costs.
- **Operational Efficiency:** Smooths fund flow across branches, managing ATM availability and peak demand.
- **Macroeconomic Role:** Supports fiscal policy by managing government funds efficiently.

**Techniques Used by PSBs**

- **Technology Adoption:** Using digital tools, electronic fund transfers (EFT), and real-time monitoring.
- **Forecasting:** Employing top-down/bottom-up approaches for accurate cash flow projections.
- **Branch Management:** Centralizing cash at key vaults to reduce excess holdings at individual branches.
- **Payment Optimization:** Encouraging digital payments to reduce physical cash handling and float.

**Effectiveness & Performance (Examples from India)**

- Studies show varying effectiveness, with major banks like State Bank of India (SBI) and Bank of Baroda (BOB) often showing stronger profitability and stable liquidity ratios compared to others like Bank of India (BOI) or IDBI.
- Strong liquidity significantly impacts profitability (Net Profit, ROCE), but performance varies, highlighting the need for tailored strategies.

**Challenges**

- Managing large networks, especially in rural areas where physical cash still dominates.
- Balancing immediate cash needs with investment opportunities.
- Ensuring security and accuracy in digital systems.

## REVIEW OF LITERATURE

- **The Role of Technology in Enhancing Cash Management at State Bank of India: Evidence from Vadodara District — Patidar, Kumar, & Chavan (2025)**
  This study by Patidar, Kumar, & Chavan (2025) evaluates the effectiveness of SBI's cash management practices (CMP), focusing specifically on the impact of technology integration in the Vadodara District. The authors examine how the bank balances liquidity, profitability, and regulatory compliance amidst a rapidly changing digital landscape. Findings highlight that advanced cash flow optimization, real-time monitoring systems, and digital platforms are critical to SBI's operational success. The research concludes that technology is the principal driver for enhancing efficiency, mitigating risks, and ensuring robust cash stability across the bank's massive network.
- **Working Capital Management and Financial Stability of State Bank of India — *Author(s) Not Explicitly Named* (2025)**
  This paper investigates the working capital management (WCM) practices of SBI from 2015 to 2025, treating WCM as synonymous with short-term liquidity management for a large bank. Utilizing data from annual reports and Basel III disclosures, the study analyzes SBI's ability to maintain regulatory ratios like LCR and NSFR and leverage its strong CASA base. Findings suggest SBI consistently exceeded regulatory liquidity buffers, with its low-cost CASA deposits acting as a crucial buffer during economic shocks like demonetization and the COVID-19 pandemic. The conclusion emphasizes that a conservative and stable funding structure is key to SBI's systemic financial resilience.
- **A Study on Liquidity Management and Profitability of Selected Public Sector Banks in India —** Attarwala (2025) examines the relationship between liquidity management and profitability (Net Profit, ROCE) for a panel of five major Indian Public Sector Banks (PSBs), including SBI, from 2010–2024. The study finds that while liquidity ratios for SBI and PNB remained stable, there was a significant impact of liquidity on key financial indicators across the sample. SBI's consistent dividend payout is noted as evidence of its stable financial health, underpinned by robust liquidity practices. The analysis underscores that effective liquidity management is a significant, though variable, driver of financial performance in the PSB space.
- **A Study on Cash Management Practices in State Bank of India: Insights and Recommendations — Chauhan, Deshmukh, & Kumar (2024)**
  This recent study investigates the cash management practices within SBI, covering aspects like inventory, receivable, and payable management in relation to cash flow. The authors find that SBI utilizes modern digital tools effectively but faces challenges in optimizing branch-level cash holdings due to its massive scale. They recommend a greater focus on predictive

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modeling for cash forecasting to minimize idle cash reserves. The conclusion emphasizes that continuous real-time data integration and advanced analytics are necessary to further enhance SBI's cash management efficiency and overall liquidity.

- **The Study of Cash Management in State Bank of India (SBI) — *Author(s) Not Explicitly Named* (2024)**
  This paper examines the evolution of SBI's systems from traditional cash handling to modern, technology-driven Cash Management Services (CMS). It reviews components like cash pooling, centralized processing, and forecasting models used by the bank to maintain optimal liquidity and minimize carrying costs. The study highlights the logistical challenges posed by SBI's extensive network and varying regional cash demand. It concludes that SBI must continually leverage FinTech solutions and data analytics to achieve superior cash flow synchronization, operational efficiency, and control over its vast cash resources.
- **A Study of Working Capital Management of the SBI Post Covid 2019 — Ravali (N.D.)**
  Ravali's study analyzes the working capital management (WCM) of SBI in the wake of the COVID-19 pandemic, a period characterized by significant market stress and liquidity issues globally. The article examines how SBI maintained solvency and stability by managing the relationship between short-term assets and liabilities. The focus is on the impact of the lockdown on loan recovery and operational cash flows. The paper concludes that efficient WCM was essential for SBI's survival and continued global operations, underscoring the necessity of conservative liquidity buffers during extreme macroeconomic shocks.
- **A Study on Working Capital Management in SBI — *Author(s) Not Explicitly Named* (2022)**
  This study conducts an analytical review of SBI's working capital management (WCM), focusing on five years of financial data from annual reports (2017–2021). The core objective is to determine the effectiveness of managing WCM components, particularly current assets (cash, receivables) and current liabilities. The analysis utilizes ratio analysis to compare trends in current and quick ratios. The paper concludes that effective WCM, which in the banking context is primarily liquidity management, is vital for maintaining the bank's current financial condition and ensuring it can meet its daily obligations effectively
- **Working Capital Management's Effect on Banks Profitability: Public Sector Banks of India — Rani & Singh (2024)**
  Rani and Singh investigate the relationship between Working Capital Management (WCM) components (Current Ratio, Quick Ratio, Cash Deposit Ratio, and Credit Deposit Ratio) and the profitability (ROA, ROE) of 12 Indian Public Sector Banks (PSBs), including SBI, from 2018-2022. The regression analysis concludes that WCM has a significant impact on profitability, with the Cash Deposit Ratio found to be the most influential factor. The study confirms that efficient management of liquidity, as proxied by the cash deposit ratio, is paramount to maximizing a PSB's earnings.
- **Issues in liquidity management in banking system: An empirical evidence from Indian commercial banks — Sharma, Bijoy, & Sahay (2022)**
  Sharma, Bijoy, & Sahay (2022) examine the universal challenge of maintaining optimal liquidity in the Indian banking system, particularly in the context of the demonetization-induced liquidity surplus. The study focuses on how Indian Scheduled Commercial Banks (SCBs), including SBI, manage funding liquidity issues using instruments like Fiscal Deficit, Interest Rates, and Credit Growth. The findings highlight the significant shift in liquidity dynamics post-2016 and provide empirical evidence on macro-level policy interventions. The paper provides a systemic view of the liquidity environment SBI operates within, linking macro factors to banking challenges.
- **Financial Performance Analysis of Banks – A Study of SBI — Kumar & Kapoor (2022)**
  Kumar and Kapoor's (2022) paper, while focused on overall financial performance, heavily utilizes ratios directly linked to liquidity and cash management to analyze SBI. Metrics such as the Cash Deposit Ratio, Credit-Deposit Ratio, and Current Ratio are central to their assessment of the bank's operational efficiency and profitability over a selected period. The study concludes that SBI maintains a strong and stable financial position, which is directly attributed to prudent management of its short-term assets and liabilities—the essence of cash management.
- **Cash Management in Public Sector Banks: A Comparative Study of SBI and Other Nationalized Banks — Datta (2019)**
  Datta compares the cash management efficiency of SBI against other Nationalized Banks (NBs) using various financial ratios, focusing on working capital efficiency and cash velocity. The study finds that SBI's benefits of scale are often balanced by the logistical complexity of its network and size. While overall performance is strong, the author suggests SBI faces more challenges than smaller NBs in optimizing cash flow. The conclusion recommends that SBI could improve cash utilization by finding a balance between centralized treasury control and decentralized branch responsiveness to local demand.
- **The determinants of liquidity of Indian listed commercial banks: A panel data approach — Al-Homaidi, Tabash, Farhan, & Almaqtari (2019)**
  This panel study of 37 Indian commercial banks (including SBI) examines the determinants of liquidity (LQD) from 2008 to 2017. The analysis uses GMM and fixed/random effects models to test the impact of bank-specific and macroeconomic factors on LQD. The key finding is that bank size, capital adequacy ratio, and the deposits ratio have a significant positive impact on LQD. As India's largest bank, SBI's high liquidity is empirically supported by this finding, underscoring the advantage of scale and a strong, stable deposit base (CASA) in its liquidity management strategy
- **A Study on Cash Management of State Bank of India — Project Report (N.D.)**

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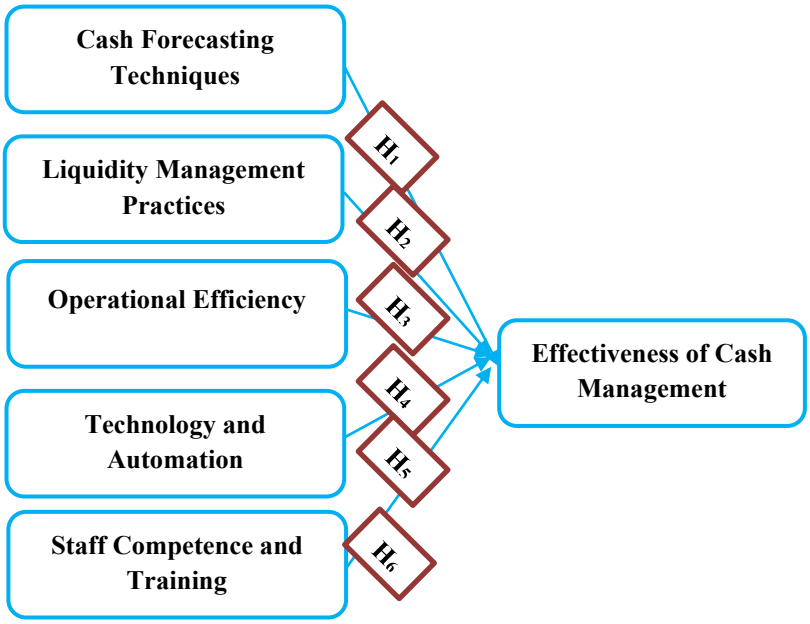
This detailed project report or black book provides a comprehensive overview of SBI's Cash Management Services (CMS) offered to its corporate and retail clients. The report outlines the objectives, methodologies, and findings regarding the effectiveness of centralized cash pooling, automated cash flow solutions, and risk mitigation strategies. It serves as a practical assessment of the bank's ability to minimize idle cash, ensure liquidity, and streamline operational efficiency.

- **Report Sbi Cash Management — Project Report (N.D.)**
  This report, commonly a student dissertation, focuses on the practical and procedural aspects of cash management within a specific operational context of SBI. It covers the flow of cash from deposits to investments, the role of ATMs in cash distribution, and the security protocols in place. The report typically includes a SWOT analysis and suggestions for optimizing the frequency of cash replenishment and collection cycles to reduce costs and maintain optimal liquidity levels.
- The study by ***Rao (2016)*** aimed to evaluate the financial performance of the State Bank of India (SBI), recognizing its crucial role in supporting India's banking growth and large-scale financial requirements. The research focused exclusively on SBI, drawing data from its annual reports between 2010–2011 and 2014–2015 while excluding its associate banks. The study emphasized SBI's vast global and domestic branch network, which enhances its ability to deliver comprehensive financial solutions. Findings indicated a steady rise in revenue during the period, largely due to SBI's implementation of innovative schemes and improved customer-oriented services. The results further showed that SBI demonstrated measurable recovery and strengthening financial indicators over the five years studied. Overall, ***Rao (2016)*** concluded that SBI exhibited a positive financial trend supported by strategic reforms and operational efficiency.
- In the study by **Kanagavalli & Devi (2018)**, the authors aim to analyze the financial performance of State Bank of India (SBI), given its dominant position in India's banking system. The focus of the paper is on secondary data for the period 2013–2018, using statistical tools such as Mean, Standard Deviation (SD), Coefficient of Variation (CV), Multiple Regression, Two-way ANOVA and spread analysis to assess liquidity, profitability, turnover and market-based ratios. The findings indicate that SBI maintained a generally good liquidity position (as evidenced by stable current ratios), and showed signs of improved profitability and financial stability over the study period. Regression results suggest that increases in current assets (holding liabilities constant) significantly enhance liquidity. The analysis of profitability and other financial ratios also reflects overall stability in SBI's financial performance during these years. The authors conclude that SBI has preserved a solid financial position from 2013 to 2018, though they note room for continued monitoring of ratio variability and efficiency.
- The survey (35 contractor responses) revealed that contractors who failed in their annual project contracts — primarily those who **did not perform cash flow analysis prior to bidding** — suffered poor outcomes. Material management was identified as the most important factor influencing cash flow, followed by procurement and inventory management. The major sources of capital for contractors were credit, company assets, advance payments, and progress payments. Inventory management emerged as the best practical example of effective cash flow management in a construction project.
- The study by **A.A. Saravanan (2017)** investigates the users of State Bank of India (SBI) ATM services in Salem District, aiming to assess customers' awareness, service utilisation, satisfaction and problems encountered when using ATMs. ijtrd.com+1 The findings revealed that for a sample of 120 ATM-holders, cash withdrawal was the most used ATM service and most customers used ATMs regularly; however, many faced problems such as machine breakdowns, network failures, long queues, unsuitable ATM locations and delays in problem resolution. ijtrd.com The study also found that users' education level influenced their awareness of ATM services, while gender, age, and income had little effect. ijtrd.com The conclusion drawn is that although SBI's ATMs are widely accepted and used for convenience, there are significant service-quality and infrastructure issues which need to be addressed to improve customer satisfaction and reliability of ATM services. ijtrd.com+1
- The study by **S. Subalakshmi, S. Grahalakshmi & M. Manikandan (2018)** analyzes the financial health of SBI over 2009–2016 using financial ratio analysis (credit-deposit ratio, deposit-to-assets ratio, return on equity, net interest margin, profit margin, NPA ratio, etc.). Semantic Scholar The findings show that on average SBI lent out about 83% of deposits (credit-deposit ratio ≈ 0.83) and about 76–77% of its total assets were funded by deposits, indicating stable funding structure. Semantic Scholar The average return on equity during the period was ≈ 20.16%, signalling efficient use of shareholders' funds. Semantic Scholar However, the profit margin was modest (average ≈ 11%) and the net interest margin was relatively low (≈ 2–3%), pointing to pressures on profitability. Semantic Scholar The NPA-to-advance ratio fluctuated over time (with maximum ~2.98%), suggesting asset-quality risks. Semantic Scholar The authors conclude that although SBI generally maintained a sound financial base and was profitable over the studied period, it must strengthen liquidity buffers, reduce dependency on debt, improve interest-earning capacity, and manage non-performing assets more carefully to sustain long-term financial stability. Semantic Scholar
- The study by **Dalin Wang (2024)** titled *"Research on the Importance of Enterprise Cash Flow Management"* investigates how effective cash-flow management underpins enterprise survival, stability, and growth by reviewing theoretical and empirical literature and analyzing cash-flow's role in operations, investments and financing. Asia Pacific Science Press+1 The findings show that cash flow strongly influences profitability, debt-settling ability, and risk control; inadequate or poorly managed cash flows increase vulnerability to insolvency especially under economic uncertainty.

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## RESEARCH METHODOLOGY

- **Conceptual Model**




- **Statement of the Problem:**
  This study aims to address this gap by providing empirical evidence on the effectiveness of cash management in SBI and identifying areas for improvement to optimize cash handling processes and enhance overall performance. Inefficiencies in cash management can adversely affect the bank's profitability, liquidity position, and service quality, ultimately impacting customer confidence. While several studies have examined general banking operations, there is limited research focusing specifically on the effectiveness of cash management practices in SBI, particularly in the context of operational efficiency, technology adoption, and staff competency.
- **Research Gap**
  Furthermore, while modern technology and automation have been introduced in cash handling, limited research exists on their **impact on operational efficiency, cash forecasting accuracy, and cost optimization** in SBI. There is also a lack of empirical studies that assess the combined influence of factors such as staff competence, technology adoption, and regulatory compliance on cash management effectiveness. This gap highlights the need for a focused study that evaluates SBI's cash management practices comprehensively, providing actionable insights to improve efficiency, reduce operational costs, and enhance customer satisfaction.

**Objectives of the Study**

- To examine the effectiveness of cash management practices in State Bank of India (SBI).
- To analyze how SBI manages cash inflows, outflows, and reserves across branches.
- To evaluate the role of technology and automation in improving cash management efficiency.
- To assess the impact of staff competence and training on cash handling processes.

**Hypothesis of the Study**

- $H_{01}$ (Null Hypothesis): Cash forecasting techniques have no significant impact on the effectiveness of cash management in SBI.
- $H_{11}$ (Alternative Hypothesis): Cash forecasting techniques have a significant positive impact on the effectiveness of cash management in SBI.
- $H_{02}$: Liquidity management practices do not significantly affect the effectiveness of cash management in SBI.
- $H_{12}$: Liquidity management practices significantly affect the effectiveness of cash management in SBI.

## RESULT & DISCUSSION

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A non performing asset (NPA) is **a debt instrument where the borrower has not made any previously agreed upon interest and principal repayments to the designated lender for an extended period of time**. The nonperforming asset is, therefore, not yielding any income to the lender in the form of interest payments.

Banks usually categorize loans as nonperforming after 90 days of nonpayment of interest or principal, which can occur during the term of the loan or for failure to pay principal due at maturity. For example, if a company with a $10 million loan with interest-only payments of $50,000 per month fails to make a payment for three consecutive months, the lender may be required to categorize the loan as nonperforming to meet regulatory requirements. A loan can also be categorized as nonperforming if a company makes all interest payments but cannot repay the principal at maturity.

**Return on Capital Employed**

Return on capital employed is **calculated by dividing net operating profit, or earnings before interest and taxes (EBIT), by capital employed**. Another way to calculate it is by dividing earnings before interest and taxes by the difference between total assets and current liabilities

$$\text{ROCE} = \frac{\text{Earning Before Interest and Tax (EBIT)}}{\text{Capital Employed}}$$

**Net Profit Margin**

The net profit margin, or simply net margin, measures how much net income or profit is generated as a percentage of revenue. It is the ratio of net profits to revenues for a company or business segment. Net profit margin is typically expressed as a percentage but can also be represented in decimal form. The net profit margin illustrates how much of each dollar in revenue collected by a company translates into profit.

$$\text{Net Profit Margin} = \frac{\text{Revenue} - \text{Cost}}{\text{Revenue}}$$

**Operating Profit Margin**

Profit margin is one of the commonly used profitability ratios to gauge the degree to which a company or a business activity makes money. It represents what percentage of sales has turned into profits. Simply put, the percentage figure indicates how many cents of profit the business has generated for each dollar of sale. For instance, if a business reports that it achieved a 35% profit margin during the last quarter, it means that it had a net income of $0.35 for each dollar of sales generated




**Return on Assets**

Return on Assets (ROA) is a type of return on investment (ROI) metric that measures the profitability of a business in relation to its total assets. This ratio indicates how well a company is performing by comparing the profit (net income) it's generating to the capital it's invested in assets. The higher the return, the more productive and efficient management is in utilizing economic resources. Below you will find a breakdown of the ROA formula and calculation.

$$\text{ROA} = \frac{\text{Net Income}}{\text{Total Assets}}$$

**Return on Equity**

Return on equity (ROE) is a measure of financial performance calculated by dividing net income by shareholders' equity. Because shareholders' equity is equal to a company's assets minus its debt, ROE is considered the return on net assets.

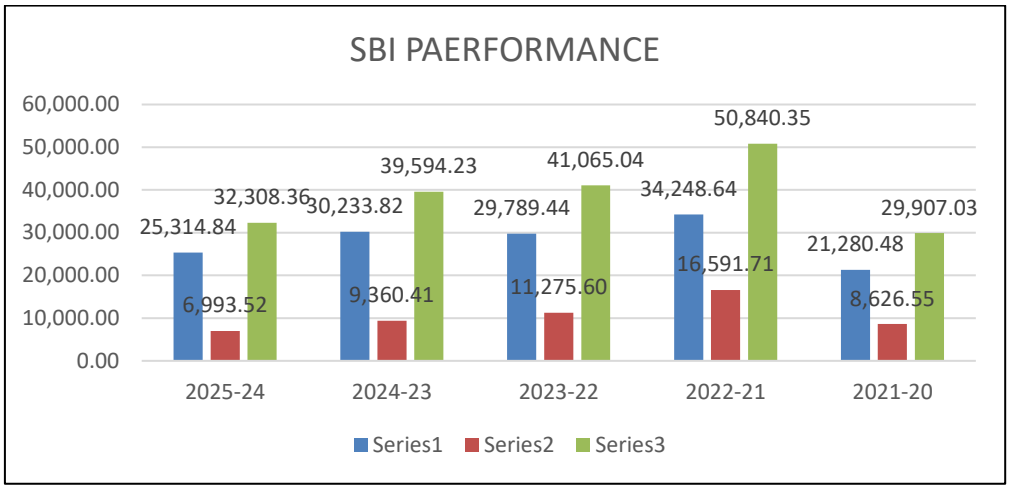
$$\text{ROE} = \frac{\text{Net Income}}{\text{Shareholder's Equity}}$$

**Table No: 1- SBI Performance based on NPA**

| SBI PERFORMANCE | | | | | |
|---|---|---|---|---|---|
| Year/Particulars | **2025-24** | **2024-23** | **2023-22** | **2022-21** | **2021-20** |
| Gross NPA | 25,314.84 | 30,233.82 | 29,789.44 | 34,248.64 | 21,280.48 |
| Net NPA | 6,993.52 | 9,360.41 | 11,275.60 | 16,591.71 | 8,626.55 |
| Total | **32,308.36** | **39,594.23** | **41,065.04** | **50,840.35** | **29,907.03** |
| Ratios: | | | | | |
| Return on Capital employed | 2.7 | 2.68 | 2.47 | 2.34 | 3.05 |
| Net Profit Margin | 10.35 | 2.59 | 8.5 | 0.6 | 8.26 |
| Operating Profit Margin | -12.96 | -22.2 | -15.37 | -23.35 | -17.98 |

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| | | | | | |
|---|---|---|---|---|---|
| Return on Assets | 0.66 | 0.17 | 0.58 | 0.03 | 0.61 |
| Return on Equity | 6.48 | 1.91 | 7.01 | 0.43 | 6.59 |

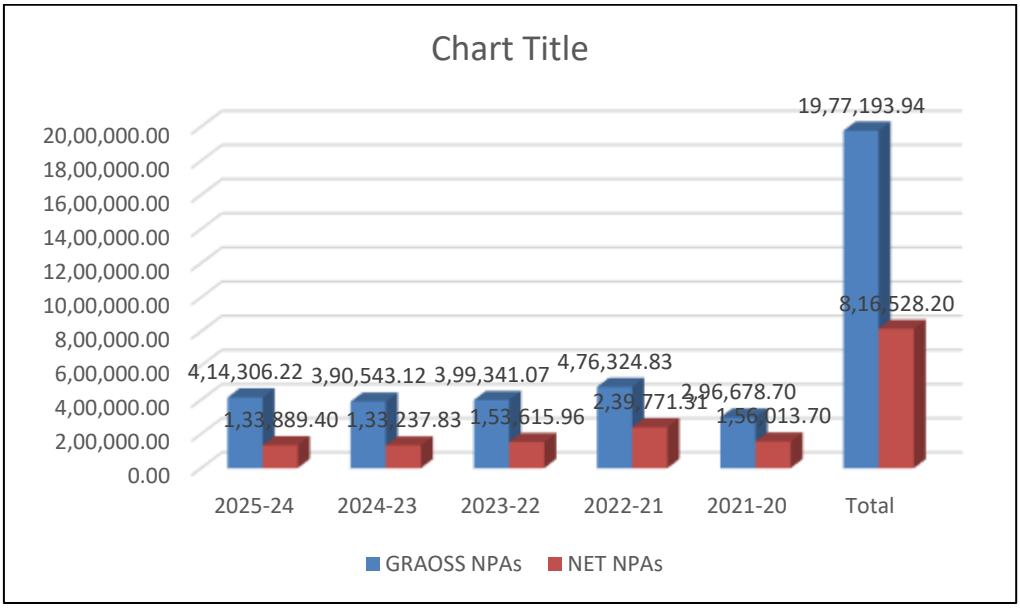



**Discussion Analysis**

From the above table and graph, we identify the ratios, the relationship between NPA and Profitability. In the year from 2016-17 to 2020-21, the ratios are Return on Capital employed, Net Profit Margin, Operating Profit Margin, Return on Assets, Return on Equity. Return on Capital employed is highest for the year 2016-17 i.e., 3.05 and lowest in 2017-18 i.e, 2.34. So, the NPA of 2020-21 indicates of Rs. 32308.36, Net Profit Margin is highest for the year 2020-21 i.e 10.35, Operating Profit Margin is highest for the year 2020-21 i.e, -12.96, Return on Assets is highest for 2020-21 i.e, 0.66 and Return on Equity is highest in the year 2018-19 i.e, 7.01.

**Table No: 2-Total NPA s on Private Sector Banks**

| YEAR | GRAOSS NPAs | NET NPAs |
|---|---|---|
| **2025-24** | 4,14,306.22 | 1,33,889.40 |
| **2024-23** | 3,90,543.12 | 1,33,237.83 |
| **2023-22** | 3,99,341.07 | 1,53,615.96 |
| **2022-21** | 4,76,324.83 | 2,39,771.31 |
| **2021-20** | 2,96,678.70 | 1,56,013.70 |
| **Total** | **19,77,193.94** | **8,16,528.20** |




**Discussion Analysis**

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The above chart interprets the Total NPAs i.e., Gross and Net of Public Sector Banks from 2021-20 to 2025-24. It is seen that the Gross NPA in the year 2017-18 is highest i.e., Rs. 476324.83 Cr and lowest is seen in the year 2016-17 i.e., Rs. 296678.70. It also presents that the Net NPA for the year 2017-18 is higher i.e., Rs. 239771.31 Cr and in the year 2019-20 is lower i.e., Rs. 133237.83 Cr

| SBI | | | | |
|---|---|---|---|---|
| **Year** | **Total Advances** | **Net Profit** | **Gross NPA** | **Net NPA** |
| 2025-24 | 623720.19 | 6588.5 | 25,314.84 | 6,993.52 |
| 2024-23 | 571424.16 | 1627.22 | 30,233.82 | 9,360.41 |
| 2023-22 | 494797.97 | 4676.61 | 29,789.44 | 11,275.60 |
| 2022-21 | 439650.3 | 275.68 | 34,248.64 | 16,591.71 |
| 2021-20 | 373069.35 | 3679.28 | 21,280.48 | 8,626.55 |

**Interpretation**

1. Total Advances
   - SBI's total advances have shown a consistent increase over the five-year period, rising from ₹373,069.35 crore in 2020–21 to ₹623,720.19 crore in 2024–25.
   - This indicates strong loan growth and credit expansion, reflecting SBI's increased lending capacity and market presence.
2. Net Profit
   - Net profit has fluctuated significantly. It was ₹3,679.28 crore in 2020–21, dropped to ₹275.68 crore in 2022–23, then surged to ₹6,588.50 crore in 2024–25.
   - The sharp decline in 2022–23 could be due to higher provisioning for NPAs or extraordinary expenses, while the subsequent rise reflects improved recovery, better asset quality, and cost control.
3. Gross NPA
   - Gross NPAs peaked at ₹34,248.64 crore in 2022–23 and then declined to ₹25,314.84 crore in 2024–25.
   - This trend indicates that SBI has been actively managing non-performing assets, possibly through recoveries, write-offs, or better credit appraisal.
4. Net NPA
   - Net NPAs show a similar decreasing trend, from ₹16,591.71 crore in 2022–23 to ₹6,993.52 crore in 2024–25.
   - A declining Net NPA signifies improved asset quality and effective risk management, as SBI is retaining fewer bad loans after provisioning.
5. Overall Analysis
   - The data reflects strong credit growth alongside improving profitability and asset quality in recent years.
   - Despite fluctuations in net profit, the consistent decrease in NPAs suggests that SBI is becoming more efficient in managing risks and enhancing financial health.
   - The rising total advances coupled with declining NPAs indicate a positive trend in loan portfolio quality and operational effectiveness.

| Correlation of SBI | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Year** | **Net Profit (X)** | **dx = X - A** | **dx2** | **Net NPA(Y)** | **dy = Y - A** | **dy2** | **dxdy** |
| 2025-24 | 6588.5 | 6312.82 | 39851696.35 | 6,993.52 | 0.00 | 0 | 0 |
| 2024-23 | 1627.22 | 1351.54 | 1826660.372 | 9,360.41 | 2,366.89 | 5602168.3 | 3198947 |
| 2023-22 | 4676.61 | 4400.93 | 19368184.86 | 11,275.60 | 4,282.08 | 18336209 | 18845134 |
| 2022-21 | 275.68 | 0 | 0 | 16,591.71 | 9,598.19 | 92125251 | 0 |
| 2021-20 | 3679.28 | 3403.6 | 11584492.96 | 8,626.55 | 1,633.03 | 2666787 | 5558181 |
| | **16847.29** | **15468.89** | **72631034.55** | **52847.79** | **17880.19** | **118730416** | **27602262** |

**Interpretation**

1. Relationship Between Net Profit and Net NPA
   - The variable Net Profit (X) and Net NPA (Y) are analyzed to check if there is a correlation between profitability and non-performing assets.
   - From the table, the dx·dy values represent the product of deviations of Net Profit and Net NPA from their means. Positive values indicate that as one variable increases, the other tends to increase, and negative values indicate an inverse relationship.
2. Observation of Trends
   - In 2023–22, both dx and dy are positive, giving a large positive dx·dy (18,845,134), suggesting that in this year, high profit was associated with higher NPAs, possibly due to increased lending in risky sectors.

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- In 2025–24, dx·dy = 0, indicating that Net NPA is at the mean level while Net Profit is above average, suggesting improvement in asset quality alongside profitability.
- In 2022–21, dx·dy = 0 because Net Profit deviation is 0 (baseline), while Net NPA deviation is high, indicating that low profitability coincided with high NPAs.

3. Overall Trend
   - The total sum of dx·dy = 27,602,262, which is positive, indicates a weak to moderate positive correlation between Net Profit and Net NPA over the period.
   - This suggests that in SBI, higher profits do not always correspond to lower NPAs; in some years, profits increased along with NPAs, possibly due to higher risk lending or write-backs affecting the profit figures.
4. Financial Implication
   - A positive correlation between profit and NPAs may indicate that SBI's profitability is not solely dependent on reducing bad loans; recovery, provisioning policies, or other income sources may also affect net profit.
   - The trend over 5 years indicates improving asset quality and profitability, particularly in 2024–25, where Net NPA declined while Net Profit increased significantly.

## CONCLUSION

The study on effectiveness of cash management in State Bank of India (SBI) highlights the critical role of efficient cash handling in maintaining liquidity, operational efficiency, and customer satisfaction in public sector banks. The analysis reveals that SBI has implemented structured cash management practices and leveraged technology to streamline cash inflows, outflows, and reserves. These measures have contributed positively to operational efficiency and reduced the risk of idle or excess cash. Overall, the study provides valuable insights for bank management, policymakers, and stakeholders, offering guidance to enhance cash handling efficiency, reduce costs, and ensure better liquidity control, thereby strengthening the overall performance and stability of SBI.

## FURTHER SCOPE

- Comparative Studies: Future research can compare cash management effectiveness between SBI and other public or private sector banks to identify best practices and sector-wide trends.
- Longitudinal Analysis: The study can be extended over a longer period to analyze trends in cash management efficiency, especially in response to technological upgrades, policy changes, or economic fluctuations.
- Technology and Digital Banking Impact: Further research can examine the impact of digital banking solutions, ATMs, and mobile banking on cash management efficiency in SBI.
- Branch-Level Analysis: Future studies can conduct detailed branch-level analysis across urban and rural regions to understand regional variations in cash handling practices.
- Integration with Risk Management: Researchers can explore the relationship between cash management and risk management practices, focusing on minimizing operational risks and financial losses.

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