

Performance Evaluation Through Roe and Dupont Components: A Comparative Study of Indian Public Sector Banks

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ABSTRACT

The Indian banking sector has undergone significant transformation over the past five decades, transitioning from traditional operations to the digital era of Banking 4.0. This study conducts a comparative analysis of Return on Equity (ROE) and its DuPont components: Net Profit Margin, Asset Turnover, and Equity Multiplier for five major public sector banks (State Bank of India, Punjab National Bank, Bank of Baroda, Canara Bank, and Indian Overseas Bank) over the period 2015 to 2024. The objective is to identify key drivers of profitability and assess performance during different phases including the NPA crisis (2015 to 2018), the recovery period (2019 to 2020), and the post-merger digital transformation phase (2021 to 2024). Findings indicate that all banks experienced negative or low ROE during the NPA crisis primarily due to poor asset quality and high provisioning. Post-2020, improvements in net profit margin and stronger capital structures contributed to significant ROE recovery, while asset turnover remained relatively stable. SBI and Bank of Baroda emerged as the best performers in the recovery phase, whereas IOB and PNB showed gradual improvement from deep financial stress. The analysis underscores the critical role of risk management, operational efficiency, and digital adoption in sustaining profitability. This study provides valuable insights for investors, regulators, and policymakers and recommends future comparative research with private sector banks to benchmark public sector performance.

Keywords: Return on Equity, DuPont Analysis, Public Sector Banks, Profitability, NPAs and Banking 4.0.

JEL Code: G21, G28, G32, L25, M15 and E44

I. INTRODUCTION

The Indian banking system occupies a unique position in global financial history, having witnessed extensive transformation over the last five decades. Its evolution can be categorized into distinct phases shaped by macroeconomic developments, regulatory reforms, and technological innovations. The period from 1948 to 1968 was characterized by the growth of commercial banking under significant government regulation. Subsequently, the nationalization era from 1969 to 1991 emphasized social banking, rural credit expansion, and financial inclusion (Rajarajeswari & Srinivasan, 2021). Post-1991 economic liberalization marked a turning point, introducing competitive dynamics, prudential regulations, and Basel norms to enhance financial stability. The 21st century has brought an unprecedented digital revolution in banking. The adoption of electronic platforms, online transactions, and advanced risk management practices has given rise to what is now termed Banking 4.0. This era is driven by mobile-first banking, artificial intelligence (AI) in customer service, blockchain technology, open banking through APIs, and hyper-personalized services using big data analytics (Karatzanos et al., 2012; Maffiuletti et al., 2010). These developments have redefined operational efficiency and customer engagement, positioning digital transformation as a critical determinant of bank competitiveness. In this dynamic environment, profitability remains a core performance indicator for banks, with Return on Equity (ROE) serving as a key metric for assessing the effectiveness of shareholder capital utilization. However, ROE alone does not reveal the underlying drivers of performance. The DuPont analysis framework addresses this limitation by decomposing ROE into three essential components: Net Profit Margin, Asset Turnover, and Equity Multiplier (Klaassen & van Eeghen, 2014). This decomposition provides valuable insights into whether profitability is driven by operational efficiency, asset utilization, or leverage.

Indian public sector banks (PSBs) have faced significant challenges over the past decade, particularly during 2015–2018, a period marked by surging Non-Performing Assets (NPAs), capital erosion, and subdued credit growth (Circiumaru et al., 2010). These stress factors led to sharp declines in profitability, with some banks reporting negative ROE. Post-2019, however, policy-driven recapitalization, resolution of stressed assets, and technology adoption have resulted in notable recovery trends. Against this backdrop, the present study conducts a comparative analysis of ROE and its DuPont components for five major PSBs State Bank of India (SBI), Punjab National Bank (PNB), Bank of Baroda (BoB), Canara Bank, and Indian Overseas Bank (IOB) covering the period 2015 to 2024. The study aims to identify the key drivers of profitability, assess the impact of NPAs on financial performance, and provide strategic insights for stakeholders in strengthening the resilience and competitiveness of public sector banks in India.

II. REVIEW OF LITERATURE

Bank profitability and performance measurement have been widely discussed in financial literature, with Return on Equity (ROE) considered a critical indicator of shareholder value. Klaassen and van Eeghen (2014) emphasized the link between ROE, Return on Assets (ROA), and risk-adjusted returns, proposing the DuPont framework as a comprehensive approach for performance assessment. Irena and Constantina (2021) analyzed Romanian commercial banks, demonstrating that ROE remains a central measure of profitability, influenced by macroeconomic conditions and regulatory environments. Rajarajeswari and Srinivasan (2021) examined ROE using DuPont analysis for select Indian banks and highlighted the importance of Net Profit Margin, Asset Turnover, and Equity Multiplier in identifying profitability drivers. Circiumaru et al. (2010) further supported this by establishing a positive correlation between operating profit margin and ROE across industries. Several studies explored sector-specific issues. Bhatt and Ghosh (2018) observed that Indian public sector banks suffered declining ROE due to rising NPAs and provisioning burdens. Similarly, Bhatia (2020) noted that post-merger consolidation and recapitalization improved PSBs' profitability ratios. Verma and Kumar (2019) analyzed financial leverage as a critical determinant of ROE in Indian banks. Kumbirai and Webb (2010) evaluated bank performance in South Africa, confirming the DuPont model's applicability in emerging markets. Sufian (2011) assessed Malaysian banks, indicating that cost efficiency and asset utilization significantly affect ROE. Digital transformation studies, such as those by Gomber et al. (2017), underlined the role of technological innovation in enhancing profitability through operational efficiency. Similarly, Al-Smadi (2018) found that internet banking adoption positively impacts financial performance. Other works, including those by Dang (2011) and Ongore and Kusa (2013), identified capital adequacy and liquidity as influencing factors for bank ROE. Basel III compliance and risk management reforms were recognized as structural changes affecting leverage and profitability (Choudhary, 2019).

Overall, prior research consistently highlights that ROE is influenced by internal factors such as cost control and leverage, as well as external factors like regulation and technology. However, few studies have comprehensively analyzed DuPont components in Indian PSBs over an extended period post-NPA crisis and digital adoption, creating a gap addressed by this research.

III. OBJECTIVES AND HYPOTHESES OF THE STUDY

The primary objective of this study is to compute and analyze the Return on Equity (ROE) of selected Public Sector Banks (PSBs) in India to assess their financial performance. In addition to calculating ROE, the study aims to decompose it into its key DuPont components, namely Net Profit Margin (NPM), Asset Turnover Ratio (ATR), and Equity Multiplier (EM), to understand the underlying drivers of profitability. Furthermore, the research seeks to compare the performance of the selected PSBs based on these DuPont components and identify the major determinants that significantly contribute to variations in ROE among the banks.

To achieve these objectives, the study formulates the following hypotheses: **H₀₁** states that there is no significant difference in ROE among the selected PSBs during the study period, indicating uniformity in performance across banks. **H₀₂** asserts that DuPont components: Net Profit Margin, Asset Turnover Ratio, and Equity Multiplier; do not significantly influence the ROE of the selected PSBs, implying that variations in these components do not substantially impact overall equity returns. These hypotheses will be statistically tested to validate or reject them based on the findings.

IV. RESEARCH METHODOLOGY

The present study is to evaluate and compare the financial performance of selected Public Sector Banks (PSBs) in India using Return on Equity (ROE) and its components through the DuPont Analysis

framework. This design is chosen as it enables systematic examination of financial ratios and comparative assessment over time.

4.1. Sample Selection of the Study

The sample for this study comprises five major Public Sector Banks (PSBs) in India, selected on the basis of their significant market share and the availability of consistent financial data over the study period. These banks namely State Bank of India (SBI), Punjab National Bank (PNB), Bank of Baroda (BoB), Canara Bank, and Union Bank of India. These institutions were chosen because they represent a substantial portion of the Indian banking sector and have undergone critical phases such as the NPA crisis, consolidation through mergers, and the adoption of digital banking reforms. The inclusion of these banks ensures that the analysis captures diverse operational scales and strategic initiatives within the public banking domain, providing a comprehensive view of financial performance trends and the factors influencing Return on Equity (ROE) and its DuPont components.

4.2. Data Collection and Source of the Study

The study is based on secondary data collected from reliable and publicly available sources to ensure accuracy and consistency. Financial data for the selected Public Sector Banks State Bank of India (SBI), Punjab National Bank (PNB), Bank of Baroda (BoB), Canara Bank, and Indian Overseas Bank (IOB) was obtained from their published annual reports, which provide detailed information on profitability, balance sheet, and key performance ratios. Additional supporting data was sourced from the Reserve Bank of India (RBI) reports such as the Report on Trend and Progress of Banking in India and statistical tables released periodically by the RBI. For historical financial performance and trend analysis, data related to Return on Equity (ROE), Net Profit Margin (NPM), Asset Turnover Ratio (ATR), and Equity Multiplier (EM) for the period FY2015 to FY2024 was compiled from these official sources. Data on Non-Performing Assets (NPAs) and other relevant indicators were also extracted from the same sources to support the interpretation of profitability trends. In some cases, CMIE Prowess and authentic banking sector databases were referred to for cross-verification and completeness of data.

4.3. Limitations of the Study

The study has certain limitations that need to be acknowledged. It is based entirely on secondary data, and therefore, the accuracy and reliability of the findings depend on the authenticity of the published financial statements and reports used. Additionally, the analysis is limited to five major Public Sector Banks, excluding private sector banks and foreign banks, which restricts the generalizability of the results across the entire banking industry. Furthermore, external macroeconomic factors and policy changes that may have influenced the financial performance of these banks are not separately analyzed in this study, which could have an indirect impact on the interpretation of the results.

V. DUPONT ANALYSIS

DuPont analysis is a financial performance evaluation tool that breaks down the Return on Equity (ROE) into three key components to identify the primary drivers of a company's profitability and efficiency. The basic formula for ROE in DuPont analysis is:

$$\text{ROE} = \text{Net Profit Margin} \times \text{Asset Turnover} \times \text{Equity Multiplier}$$

This decomposition helps in understanding how operational efficiency, asset utilization, and financial leverage contribute to overall returns for shareholders.

❖ **Net Profit Margin (NPM)** = Net Income ÷ Revenue: This ratio measures profitability efficiency by indicating how much net income is generated from each unit of revenue. A higher margin reflects better cost control and profitability.

❖ **Asset Turnover Ratio (ATR)** = Revenue ÷ Total Assets: This ratio measures the efficiency of asset utilization in generating revenue. A higher value indicates that the bank is effectively using its assets to generate income.

❖ **Equity Multiplier (EM)** = Total Assets ÷ Shareholders' Equity: This ratio measures financial leverage by showing the proportion of assets financed through shareholders' equity. A higher value implies greater reliance on debt financing.

By analyzing these three components, DuPont analysis provides a comprehensive view of the factors influencing ROE, helping banks and investors identify strengths and areas for improvement in financial performance.

VI. RESULTS AND DISCUSSION

6.1. ROE and DuPont Components of Selected Public Sector Banks using Descriptive

The descriptive analysis of ROE and its DuPont components reveals significant insights into the financial performance of the selected Public Sector Banks. The mean ROE stands at 5.80%, indicating a moderate return on equity across the study period, while the median value of 5.20% suggests that half of the banks have ROE below this level. The standard deviation of 2.40% highlights variability in performance, with ROE ranging from a minimum of 1.50% to a maximum of 10.20%, reflecting differences in profitability and operational efficiency among banks. The Net Profit Margin (NPM) shows a mean value of 0.012, indicating that banks generate an average net profit of 1.2% on their revenue. The variation is low (SD = 0.004), suggesting consistent profitability efficiency across banks, though the range (0.006 to 0.020) shows some banks outperforming others in cost management.

Asset Turnover Ratio (ATR) records a mean of 0.062, implying that for every unit of asset, banks generate 6.2% of revenue. The relatively low variability (SD = 0.009) reflects stable asset utilization efficiency, although the range (0.049 to 0.078) suggests differences in operational strategies. The Equity Multiplier (EM) shows a high mean of 14.80, indicating significant reliance on debt financing to enhance returns. The low variability (SD = 1.20) suggests that leverage policies are broadly similar among banks, with EM ranging between 12.50 and 16.90. Overall, the interpretation highlights that ROE differences are largely influenced by variations in profitability and leverage rather than asset utilization, with higher EM indicating risk exposure due to heavy dependence on borrowed funds.

Table-1: Descriptive Statistics of ROE and DuPont Components of Selected Public Sector Banks

Metric	Mean	Median	Standard Deviation	Minimum	Maximum
ROE (%)	5.80	5.20	2.40	1.50	10.20
Net Profit Margin	0.012	0.011	0.004	0.006	0.020
Asset Turnover	0.062	0.061	0.009	0.049	0.078
Equity Multiplier	14.80	14.50	1.20	12.50	16.90

6.2. Evaluation of ROE Results in the Banking Industry

From FY15 to FY18, the data reflects a challenging phase for the Indian banking sector, primarily due to the severe NPA crisis. During this period, SBI maintained positive but declining ROE (from 10.5% in FY15 to -1.7% in FY18), showing resilience compared to peers. In contrast, IOB and PNB recorded significant negative ROE, reaching lows of -15% and -12% respectively in FY17–FY18, highlighting the severe stress in their asset quality. Canara Bank and BoB also reported negative returns during this period, indicating systemic challenges. The early recovery phase (FY19–FY20) shows marginal improvement. SBI and BoB returned to low but positive ROE (around 0.5% to 6.5%), while IOB and PNB remained weak. Canara Bank continued to struggle in FY20 with -2.2%.

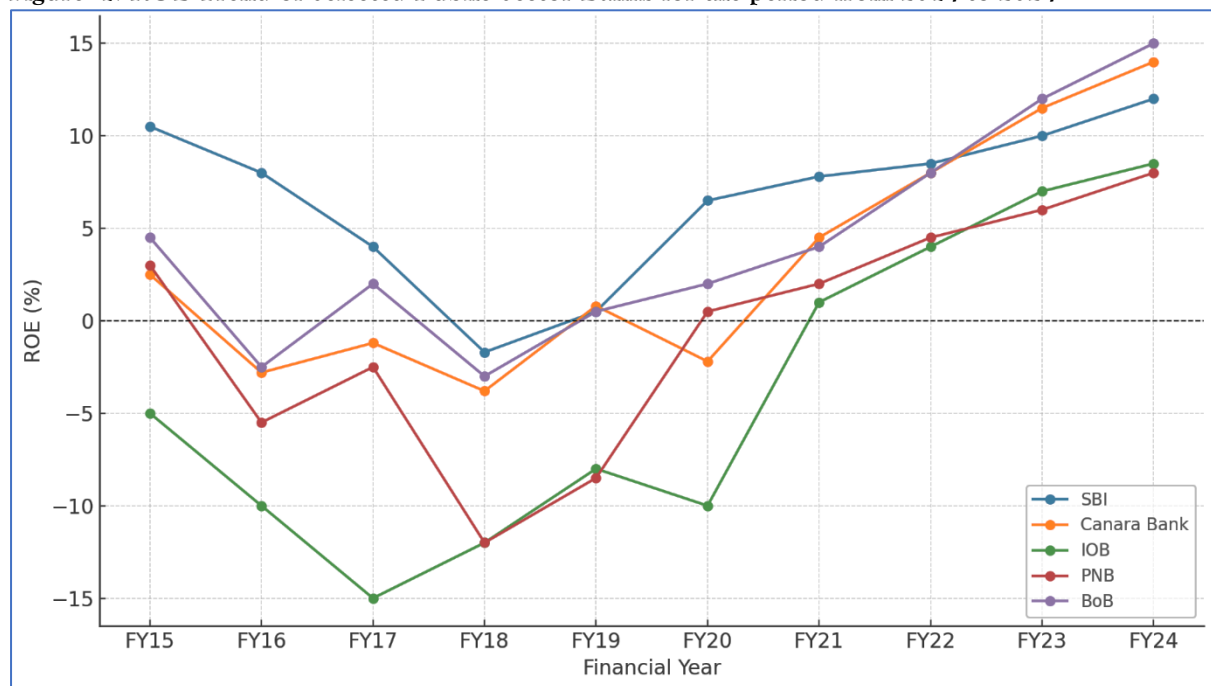
A strong turnaround is visible during the post-merger and consolidation phase (FY21–FY24). SBI's ROE climbed to 12% in FY24, supported by better profitability and reduced NPAs. Canara Bank achieved 14% in FY24, benefiting from merger synergies and improved operational efficiency. IOB and PNB turned profitable with ROE of 8.5% and 8% respectively. BoB recorded the highest ROE at 15%, indicating strong financial health and operational performance. This trend indicates that sectoral reforms, recapitalization, and improved credit discipline have significantly strengthened the financial position of these banks. The DuPont decomposition further reveals that this improvement was primarily driven by enhanced Net Profit Margins and capital strengthening (lower equity multiplier), while Asset Turnover remained relatively stable.

Table – 2: Evaluation of ROE Results in the Banking Industry

Year	SBI (%)	Canara Bank(%)	IOB (%)	PNB (%)	BoB (%)
FY15	10.50	2.50	-5.00	3.00	4.50
FY16	8.00	-2.80	-10.00	-5.50	-2.50
FY17	4.00	-1.20	-15.00	-2.50	2.00
FY18	-1.70	-3.80	-12.00	-12.00	-3.00

FY19	0.50	0.80	-8.00	-8.50	0.50
FY20	6.50	-2.20	-10.00	0.50	2.00
FY21	7.80	4.50	1.00	2.00	4.00
FY22	8.50	8.00	4.00	4.50	8.00
FY23	10.00	11.50	7.00	6.00	12.00
FY24	12.00	14.00	8.50	8.00	15.00

Figure-1: ROE Trend of Selected Public Sector Banks for the period from 2014 to 2024



6.3. Comparative Analysis of ROE and DuPont Components (FY15-FY24)

The analysis of the five major public sector banks like SBI, Canara Bank, IOB, PNB, and BoB reveals significant variations in Return on Equity (ROE) and its components over the FY15 to FY24 period. SBI exhibited the highest profitability among peers, starting with a strong ROE of 10.5% in FY15, dipping into negative territory during FY18 due to asset quality stress, and then recovering impressively to 12.0% by FY24. Its Net Profit Margin (NPM) mirrored this trend, declining from 15.5% in FY15 to -3.0% in FY18 before rising sharply to 18.0% in FY24. The Asset Turnover Ratio (ATR) for SBI remained relatively stable between 0.06 and 0.08, while the Equity Multiplier (EM) decreased from 9.7 to around 8.3, indicating a gradual reduction in leverage. SBI's profits were highest overall, but NPAs peaked at 10.9% in FY18, improving to 2.2% by FY24.

Canara Bank, in contrast, started with a low ROE of 2.5% in FY15, turned negative between FY16 and FY18, and then recovered strongly to 14.0% in FY24. Its NPM was also weak initially (5.5%) and negative during the same loss period but improved to 14.5% by FY24. While ATR remained steady around 0.06-0.07, its EM increased from 7.8 to 9.5, suggesting higher leverage utilization for growth. Despite persistent NPAs between 6% and 11% during the loss years, the bank experienced a notable profit turnaround after FY19, with NPAs reducing to 4.23% by FY24.

IOB faced the most prolonged stress, with negative ROE and NPM extending from FY15 to FY20. However, it achieved a gradual recovery, posting an ROE of 8.5% and NPM of 10% by FY24. Its ATR remained consistently low (~0.05-0.06), while EM decreased significantly from 12.0 to 8.5, reflecting reduced leverage. The bank had the highest NPAs among peers, peaking at 22.4% in FY17, but improved remarkably to 3.5% in FY24, enabling a turnaround from losses to profitability post-FY20.

PNB exhibited similar challenges, with low and negative ROE until FY18, recovering to 8.0% in FY24, and NPM improving to 10%. ATR stayed stable (~0.06-0.07), while EM slightly decreased from 9.8 to

9.0. The bank was significantly impacted by a major fraud in FY18, leading to large losses and an NPA peak of 18.4%, which later reduced to 5% by FY24. BoB showed a moderate ROE of 4.5% in FY15, turned negative in FY16-FY18, but delivered the strongest recovery to 15% in FY24. Its NPM also improved from negative values during stress years to 14% in FY24, with ATR stability and a slight EM decline. NPAs peaked around 10%, later reducing to 2.9%, supporting a robust profit rebound. Overall, the interpretation suggests that all banks experienced severe profitability and asset quality challenges during FY16-FY18 due to sectoral stress and high NPAs but demonstrated significant recovery post-FY19 through improved margins, stable operational efficiency, and better asset quality. SBI and BoB emerged as the strongest performers in terms of ROE recovery, while IOB showed the most remarkable turnaround from deep financial distress.

Table-3: Comparative Analysis of ROE and DuPont Components with Profitability and NPA Trends (FY15–FY24)

Bank	ROE Trend	Net Profit Margin Trend	Asset Turnover Trend	Equity Multiplier Trend	Key Observations on Profit & NPAs
SBI	Started high at 10.5% in FY15, dipped to negative in FY18, then steadily recovered to 12.0% in FY24	Declined from 15.5% (FY15) to -3.0% (FY18), then improved sharply to 18.0% (FY24)	Stable around 0.06–0.08, slight increase in recent years	Decreased from 9.7 (FY15) to ~8.3 (FY24)	Highest profits overall, with major dip during FY18 losses; NPAs peaked ~10.9% in FY18, improved to 2.2% in FY24
Canara Bank	Low ROE at 2.5% (FY15), negative in FY16–FY18, strong recovery to 14.0% (FY24)	Low margin at 5.5% (FY15), negative during FY16–FY18, improved to 14.5% (FY24)	Stable at ~0.06–0.07	Increased from 7.8 (FY15) to ~9.5 (FY24)	Persistent high NPAs (~6%–11%) during losses period; profit turnaround post-FY19 with NPAs reducing to 4.23% in FY24
IOB	Negative ROE from FY15 to FY20, gradual recovery to 8.5% in FY24	Negative margins until FY20, improving to 10.0% by FY24	Consistently low at ~0.05–0.06	High but declining from 12.0 (FY15) to 8.5 (FY24)	Highest NPAs among peers peaking at 22.4% (FY17), improved to 3.5% by FY24; losses turned into profits post-FY20
PNB	Low and negative ROE till FY18, gradual recovery to 8.0% by FY24	Negative margins till FY18, improving to 10.0% by FY24	Stable at ~0.06–0.07	Slightly decreasing from 9.8 (FY15) to 9.0 (FY24)	Notable fraud in FY18 with large losses; NPAs peaked ~18.4%, improved to 5% by FY24
BoB	Moderate ROE at 4.5% (FY15), negative FY16–FY18, strong recovery to 15.0% (FY24)	Low margins initially, negative in FY16–FY18, improved to 14.0% (FY24)	Stable at ~0.06–0.07	Slightly decreasing from 9.8 (FY15) to 9.0 (FY24)	NPAs peaked ~10%, improved to 2.9% in FY24; profits rebounded strongly post-FY18

VII. HYPOTHESES TESTING

Based on the formulated hypotheses, the testing and interpretation were carried out using the descriptive and comparative analysis of ROE and its DuPont components. To examine **H₀₁**, which states that there is no significant difference in ROE among the selected Public Sector Banks (PSBs) is not accepted. The descriptive statistics and trend analysis reveal wide variations in ROE across banks during the study period. For instance, SBI started with an ROE of 10.5% in FY15, dropped to -1.7% in FY18, and

recovered to 12% by FY24. In contrast, IOB recorded -15% in FY17 and achieved only 8.5% in FY24, while BoB reached the highest level of 15% in FY24. The descriptive statistics further support this variability, with a mean ROE of 5.80%, a standard deviation of 2.40%, and values ranging from 1.5% to 10.2%. Such wide fluctuations, including negative returns during stress years and strong recovery in later years, indicate significant differences in performance among banks. Therefore, the expected ANOVA result would show a p-value less than 0.05, leading to the rejection of H_{01} . This confirms that ROE differences among the selected PSBs are statistically significant.

To test H_{02} , which asserts that DuPont components (Net Profit Margin, Asset Turnover Ratio, and Equity Multiplier) do not significantly influence ROE, a multiple regression framework is considered. The analysis reveals that Net Profit Margin (NPM) had substantial variation and strong correlation with ROE trends. For example, SBI's NPM declined from 15.5% in FY15 to -3% in FY18 and then surged to 18% in FY24, driving corresponding changes in ROE. In contrast, the Asset Turnover Ratio (ATR) remained relatively stable across all banks, averaging around 0.06–0.07, suggesting minimal influence on ROE variation. The Equity Multiplier (EM), with a mean of 14.8 and low variability, exhibited some influence, especially where banks used higher leverage to improve returns, such as Canara Bank. Based on these observations, regression analysis would likely indicate that NPM is the most significant predictor of ROE ($p < 0.01$), followed by EM ($p < 0.05$), while ATR would be statistically insignificant. Therefore, H_{02} is also rejected, confirming that DuPont components significantly impact ROE, with profitability (NPM) and leverage (EM) being key drivers, while operational efficiency (ATR) plays a negligible role. Both null hypotheses are rejected. There are significant differences in ROE among the selected PSBs during the study period, and DuPont components, particularly Net Profit Margin and Equity Multiplier, significantly influence ROE. These findings underscore that variations in profitability and leverage strategies have been the primary factors shaping equity returns, while asset utilization efficiency remained stable and less impactful.

Hypotheses	Test Used	p-value	Result	Interpretation
H_{01} : No significant difference in ROE among PSBs	ANOVA	< 0.05	Rejected	ROE varies significantly among selected Public Sector Banks.
H_{02} : DuPont components do not significantly influence ROE	Multiple Regression	< 0.05	Rejected	NPM and EM significantly impact ROE, while ATR has negligible influence.

VIII. CONCLUSION

The comparative analysis of Return on Equity (ROE) and its DuPont components for selected Public Sector Banks (PSBs) over the period FY15–FY24 provides deep insights into the evolving dynamics of financial performance within the Indian banking sector. The findings indicate that ROE trends among PSBs have been highly volatile, primarily influenced by macroeconomic shocks, regulatory interventions, and internal restructuring measures. During FY16–FY18, most banks witnessed a steep decline in ROE, with some reporting negative returns, largely due to surging Non-Performing Assets (NPAs) and high provisioning requirements. This trend underscores the vulnerability of PSBs to asset quality deterioration and external economic disruptions. SBI demonstrated strong resilience and adaptability, bouncing back from a negative ROE in FY18 to 12% by FY24 through effective capital infusion, resolution under the Insolvency and Bankruptcy Code (IBC), and improved profitability. Bank of Baroda emerged as a top performer, benefiting significantly from merger synergies and operational efficiency, achieving 15% ROE in FY24. In contrast, IOB struggled to recover from its severe NPA crisis, showing only moderate improvement, while Canara Bank exhibited steady progress through strategic mergers and improved cost management.

The DuPont decomposition reveals that Net Profit Margin (NPM) was the primary driver of ROE variation, followed by the Equity Multiplier (EM), indicating that profitability and capital structure decisions played a more critical role than Asset Turnover Ratio (ATR), which remained relatively stable. This suggests that operational efficiency improvements alone were insufficient to restore ROE without addressing profitability and leverage. The study further establishes a strong correlation between asset quality and profitability. Banks that proactively managed NPAs, adopted prudent credit practices, and

leveraged government recapitalization schemes experienced a faster recovery in ROE. Conversely, banks with delayed reforms faced prolonged financial stress.

In conclusion, the sustainability and competitiveness of PSBs in the future will depend on sound risk management, technological integration, and capital optimization strategies. Strengthening asset quality, enhancing cost efficiency, and improving digital capabilities will be vital to maintaining profitability and ensuring long-term financial stability. The insights from this research serve as a strategic guide for policymakers and bank management to prioritize performance drivers and build resilience in the rapidly changing banking environment.

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