IARJSET ISSN (O) 2393-8021, ISSN (P) 2394-1588

International Advanced Research Journal in Science, Engineering and Technology

Impact Factor 8.066 ⁜ Peer-reviewed & Refereed journal ⁜ Vol. 12, Issue 5, May 2025

DOI: 10.17148/IARJSET.2025.125118

A STUDY ON RISK AND RETURN ANALYSIS OF INDIAN BANKING SECTOR

MOHAMMED AFSAR MR[1], Ms V VARDHINI[2]

STUDENT, MBA, VELS INSTITUTE OF SCIENCE, TECHNOLOGY & ADVANCED STUDIES (VISTAS)[1]

ASSISTANT PROFESSOR, MBA, VELS INSTITUTE OF SCIENCE, TECHNOLOGY & ADVANCED STUDIES (VISTAS)[2]

Abstract: By directing capital, promoting savings, and providing credit to a range of industries, India's banking industry is essential to the nation's economic expansion. Examining the link between risk and return is crucial to comprehending the performance and resilience of the financial sector given its constantly shifting context. The purpose of this study is to evaluate the risk-return profile of a few chosen Indian banks in order to provide information about their growth prospects and overall soundness. The primary goal of the study is to investigate how risk and return are related in banks in the public and private sectors. It examines key financial indicators such the Capital Adequacy Ratio (CAR), Net Interest Margin (NIM), Return on Equity (ROE), Return on Assets (ROA), and Non-Performing Assets (NPAs). Additionally, it takes into account a variety of hazards, such as interest rate, market, operational, and credit risk. The study also looks at the effects of macroeconomic variables on the overall performance of the banks, such as GDP growth, inflation, and the repo rate. Using secondary data gathered over a five-year period from RBI publications, bank annual reports, and financial databases, a quantitative approach is used. To comprehend the risk-return relationship, statistical methods like regression, correlation, beta analysis, and standard deviation are employed. Furthermore, instruments such as the Treynor Ratio and Sharpe Ratio are employed to assess performance from the perspective of an investor. The findings show clear distinctions between banks in the public and private sectors. While public sector banks exhibit more stability but lesser profitability, private banks often exhibit higher returns accompanied by higher risks. The results emphasize how crucial it is to manage risks well and follow legal requirements in order to maintain steady performance and sound financial standing. In conclusion, this study emphasizes how crucial strategic planning and continuous risk analysis are to the banking sector. The information can help banks improve their risk management plans, help regulators fortify the financial system, and help investors make better judgments.

Keywords: Indian banking sector, Economic growth, Risk-return analysis

I. INTRODUCTION

The banking sector plays a pivotal role in the economic development of a country by mobilizing savings and channeling them into productive investments. In India, the banking system has undergone significant transformation in recent decades, driven by financial reforms, technological advancements, and changing regulatory landscapes. One of the critical aspects of banking operations is the trade-off between risk and return, which determines the stability and profitability of banks.

Risk and return analysis is essential for understanding the financial health and investment potential of banks. While returns indicate the profitability and performance of a bank, risks—such as credit risk, market risk, operational risk, and liquidity risk—reflect the uncertainty and vulnerability in its operations. A sound understanding of this relationship helps investors, regulators, and policymakers in making informed decisions.

This study aims to evaluate the risk and return profile of Indian banks by analysing various financial indicators and comparing performance across different types of banks—public sector, private sector, and foreign banks. The research will provide insights into how well these banks manage their risk exposures while striving for optimal returns, especially in the face of macroeconomic fluctuations and sectoral challenges.

OBJECTIVES OF THE STUDY:

1. To analyse the rate of return of various banking sector over the period of five years.
2. To find the variance and standard deviation (risk) on each banking sector over the period of five year.

IARJSET ISSN (O) 2393-8021, ISSN (P) 2394-1588

International Advanced Research Journal in Science, Engineering and Technology

Impact Factor 8.066 ⁜ Peer-reviewed & Refereed journal ⁜ Vol. 12, Issue 5, May 2025

DOI: 10.17148/IARJSET.2025.125118

3. To compare the risk and rate of return of different banking sector.
4. To compare the coefficient of variation and beta of the banking sector.

II. REVIEW OF LITERATURE

Mehta, A. & Bhavani, G. (2019) explored how rising non-performing assets (NPAs) affected return on equity in Indian banks. The study found that an increase in NPAs significantly reduced overall profitability and investor confidence.

Rai, K. & Mishra, R. (2020) examined the impact of macroeconomic indicators on risk-return profiles, concluding that interest rate volatility and inflation were major influencers in determining banking sector performance.

Tripathi, A. & Kumar, V. (2020) compared risk-adjusted returns of public vs. private sector banks using Sharpe and Treynor ratios. The study found that private banks outperformed public banks in terms of return per unit of risk.

Sharma, N. & Dubey, R. (2021) applied financial ratio analysis to measure banks' risk exposure and return. The findings indicated better performance of banks with high capital adequacy and low credit risk.

Verma, S. & Reddy, M. (2021) investigated the effect of digital transformation on return metrics, suggesting that banks with strong digital frameworks experienced better risk management and improved return ratios.

Patel, M. & Shah, D. (2022) conducted a risk-return performance analysis using Sharpe ratio, Jensen's alpha, and beta coefficients for NSE-listed banks. The study showed a trend of increasing market risk but stable returns in well-capitalized banks.

Khan, A. & Ali, M. (2022) examined COVID-19's impact on the banking sector. The study found that digital and diversified banks were more resilient to risk shocks and maintained healthy return metrics.

Sinha, R. & Tiwari, S. (2023) provided a comprehensive overview of risk management strategies in Indian banks, focusing on regulatory reforms, ESG compliance, and fintech adoption as key factors shaping risk-return trade-offs.

Chakraborty, S. & Dutta, P. (2023) examined the role of asset quality in determining risk-adjusted returns, showing that banks with lower NPAs had more consistent and higher returns.

Prasad, L. & Menon, R. (2023) conducted a comparative analysis of return on equity (ROE) and return on assets (ROA) across Indian public and private banks, concluding that efficient asset utilization drives better performance.

Malhotra, P. & Joshi, K. (2023) investigated market risk exposure in Indian banks using Value at Risk (Var) models and found that larger private banks maintained better capital buffers to absorb potential losses.

Nair, A. & Ramesh, B. (2024) focused on the relationship between risk appetite and profitability in Indian banks, indicating that banks with a moderate risk appetite were able to balance growth and stability effectively.

III. FINDINGS AND INFERENCES

THE COMPARITIVE ANALYSIS OF ANNUAL RATE OF RETURN OF VARIOUS BANKING SECTOR

YEAR	BANK A	BANK B	BANK C	BANK D	BANK E	BANK F	BANK G
2020-2021	0.36	0.35	0.38	0.37	0.27	0.33	0.27
2021-2022	0.25	0.20	0.27	0.22	0.20	0.30	0.30
2022-2023	0.24	0.22	0.21	0.23	0.20	0.25	0.30
2023-2024	0.25	0.18	0.29	0.24	0.21	0.41	0.31
2024-2025	0.25	0.25	0.20	0.21	0.24	0.15	0.17

INTERPRETATION:

The comparative analysis of annual rate of return across various banks from 2020 to 2025 shows that BANK F recorded the highest return of 0.41 in 2023-2024, while BANK E consistently showed lower returns throughout the

IARJSET ISSN (O) 2393-8021, ISSN (P) 2394-1588

International Advanced Research Journal in Science, Engineering and Technology

Impact Factor 8.066 ⁜ Peer-reviewed & Refereed journal ⁜ Vol. 12, Issue 5, May 2025

DOI: 10.17148/IARJSET.2025.125118

period. BANK A and SBI maintained relatively stable performance with moderate returns. BANK G demonstrated steady growth until 2023-2024, followed by a decline in 2024-2025. Overall, public sector banks like Canara and SBI showed notable peaks, while private banks displayed more stable but lower returns.

THE COMPARITIVE ANALYSIS OF MEAN OF VARIOUS BANKING SECTORS

NAME OF THE BANK	MEAN
BANK A	0.27
BANK B	0.24
BANK C	0.27
BANK D	0.25
BANK E	0.22
BANK F	0.29
BANK G	0.27

INTERPRETATION:

The comparative analysis of the mean annual rate of return reveals that BANK F has the highest average return at 0.29, indicating strong performance over the five-year period. BANK A, SBI, and BANK G follow closely with a mean return of 0.27 each, reflecting consistent growth. BANK B, BANK D, and BANK E have slightly lower averages, with Kotak having the lowest at 0.22.

THE COMPARITIVE ANALYSIS OF STANDARD DEVIATION OF THE BANKING SECTORS

NAME OF THE BANK	STANDARD DEVITION
BANK A	5.31
BANK B	6.57
BANK C	6.91
BANK D	6.71
BANK E	3.23
BANK F	9.46
BANK G	5.77

INTERPRETATION:

The comparative analysis of standard deviation shows that BANK F has the highest volatility at 9.46, indicating greater fluctuations in its annual returns. In contrast, BANK E has the lowest standard deviation of 3.23, reflecting more stable performance. Other banks like SBI, Axis, and HDFC also show moderate levels of variability, ranging between 6.57 and 6.91. Overall, while higher returns may be observed in banks like Canara, they come with higher risk, whereas banks like Kotak offer more consistency with lower risk.

THE COEFFICIENT OF VARIATION OF BANKING SECTORS

NAME OF THE BANK	COEFFICIENT OF VARIATION
BANK A	19.67
BANK B	27.38
BANK C	25.59
BANK D	26.84
BANK E	14.68
BANK F	32.62
BANK G	21.37

INTERPRETATION:

The coefficient of variation (CV) analysis reveals that BANK F has the highest CV at 32.62, indicating the greatest level of risk relative to its return among the banks. In contrast, BANK E has the lowest CV at 14.68, showing

IARJSET ISSN (O) 2393-8021, ISSN (P) 2394-1588

International Advanced Research Journal in Science, Engineering and Technology

Impact Factor 8.066 ⁜ Peer-reviewed & Refereed journal ⁜ Vol. 12, Issue 5, May 2025

DOI: 10.17148/IARJSET.2025.125118

more stable and consistent returns. HDFC, Axis, and SBI also exhibit relatively higher variability, with CVs above 25. BANK A and BANK G show moderate variation, suggesting a balanced risk-return profile compared to others.

THE BETA OF BANKING SECTORS

NAME OF THE BANK	BETA
BANK A	0.70
BANK B	0.63
BANK C	0.54
BANK D	0.60
BANK E	1.41
BANK F	0.36
BANK G	0.64

INTERPRETATION:

The beta analysis shows that BANK E has the highest beta value (1.41), indicating it is highly volatile compared to the market. BANK F has the lowest beta (0.36), reflecting lower sensitivity to market movements. Other banks like BANK A, BANK B, and BANK G have moderate beta values around 0.6–0.7, suggesting average market-related volatility. Overall, most banks exhibit lower to moderate risk, with BANK E being an exception with higher risk.

IV. FINDINGS, SUGGESTIONS AND CONCLUSION

FINDINGS:

1. BANK A showed steady growth with the highest return of 0.36 in 2020-21 and stabilized around 0.24–0.25 later.
2. BANK B experienced fluctuating returns, peaking at 0.35 in 2020-21 and falling to 0.18 in 2023-24, with moderate volatility.
3. SBI (BANK C) maintained a consistent performance with a mean return of 0.27, and moderate volatility over five years.
4. BANK D demonstrated moderate, stable growth with a mean return of 0.25, and relatively consistent performance after 2020-21.
5. BANK E reflected steady but lower growth with a mean return of 0.22, and the lowest volatility among the banks.
6. BANK F achieved the highest peak return of 0.41 in 2023-24 but also had the highest volatility (standard deviation 9.46).
7. BANK G showed generally stable returns with a peak at 0.31 in 2023-24, but performance declined slightly in 2024-25.
8. Comparative analysis revealed that BANK F had the highest annual return, while BANK E consistently had the lowest.
9. In terms of mean annual return, BANK F led with 0.29, followed closely by BANK A, SBI, and BANK G (each around 0.27).
10. Standard deviation analysis showed BANK F had the highest volatility, while BANK E had the most stable returns.
11. Coefficient of variation indicated that BANK F carried the highest risk relative to return, whereas BANK E was the safest.
12. BANK B, BANK D, and SBI exhibited moderate variability with coefficients of variation above 25.
13. Beta analysis revealed that BANK E had the highest beta (1.41), making it the most sensitive to market changes.
14. BANK F had the lowest beta (0.36), meaning it was the least affected by overall market fluctuations.

CONCLUSION:

The comparative analysis of the selected banking sector stocks from 2020 to 2025 highlights important insights into their performance, stability, and risk profiles. BANK F emerged as the top performer in terms of both highest annual and mean returns, but it also carried the highest volatility and risk, as indicated by its standard deviation and coefficient of variation. In contrast, BANK E showed the most stable and least risky performance, despite offering the lowest mean returns among the banks studied. Private sector banks like BANK A, BANK B, and BANK D exhibited

IARJSET ISSN (O) 2393-8021, ISSN (P) 2394-1588

International Advanced Research Journal in Science, Engineering and Technology

Impact Factor 8.066 ⁜ Peer-reviewed & Refereed journal ⁜ Vol. 12, Issue 5, May 2025

DOI: 10.17148/IARJSET.2025.125118

steady but moderate growth, balancing between return and risk, while public sector banks such as SBI and BANK G demonstrated consistent returns with moderate volatility. Beta analysis further revealed that BANK E is highly sensitive to market movements, whereas BANK F is relatively insulated from market fluctuations.

Overall, investors seeking higher returns but willing to accept higher risk may consider banks like BANK F, while those preferring stability and lower risk may favor BANK E. Meanwhile, banks like BANK A and SBI provide a balanced investment opportunity with moderate returns and manageable volatility.

BIBLIOGRAPHY & REFERENCES

[1]. Mehta, A., & Bhavani, G. (2019). Impact of rising non-performing assets (NPAs) on return on equity in Indian banks.
[2]. Rai, K., & Mishra, R. (2020). Macroeconomic indicators and risk-return profiles in the Indian banking sector.
[3]. Sen, R., & Ghosh, M. (2020). CAPM and beta analysis of market risk for selected Indian banks.
[4]. Tripathi, A., & Kumar, V. (2020). Comparison of risk-adjusted returns between public and private sector banks using Sharpe and Treynor ratios.
[5]. Sharma, N., & Dubey, R. (2021). Financial ratio analysis for measuring risk exposure and return in Indian banks.
[6]. Verma, S., & Reddy, M. (2021). Digital transformation and its effect on banking return metrics and risk management.
[7]. Patel, M., & Shah, D. (2022). Risk-return performance of NSE-listed banks using Sharpe ratio, Jensen's alpha, and beta coefficients.
[8]. Khan, A., & Ali, M. (2022). Impact of COVID-19 on resilience and return metrics of Indian banks.
[9]. Desai, K., & Shah, A. (2022). Liquidity ratios and their influence on returns and risk in Indian banks.
[10]. Ravichandran, M., & Thomas, J. (2022). Systemic risk and interbank exposure: Threats to return stability in Indian banking.
[11]. Sinha, R., & Tiwari, S. (2023). Risk management strategies in Indian banks: Regulatory reforms, ESG integration, and fintech adoption.
[12]. Chakraborty, S., & Dutta, P. (2023). Role of asset quality in shaping risk-adjusted returns in Indian banks.
[13]. Prasad, L., & Menon, R. (2023). Comparative study of ROE and ROA across Indian public and private banks.
[14]. Malhotra, P., & Joshi, K. (2023). Market risk exposure in Indian banks: Evidence from Value at Risk (Var) models.
[15]. Nair, A., & Ramesh, B. (2024). Relationship between risk appetite and profitability in Indian banks.
[16]. Gupta, R., & Patel, S. (2019). Credit risk management practices and their effect on Indian bank profitability.
[17]. Iyer, P., & Sen, A. (2020). Operational risk and its influence on the return on assets of Indian private banks.
[18]. Rao, V., & Krishnan, M. (2021). Capital adequacy and its impact on financial performance of Indian commercial banks.
[19]. Das, A., & Rathi, P. (2021). Risk-return dynamics in Indian cooperative banks: An empirical study.
[20]. Choudhary, S., & Sinha, A. (2022). The role of technology adoption in mitigating credit and operational risks in Indian banks.
[21]. Menon, V., & Shetty, D. (2022). Inflation, interest rate volatility, and banking profitability: A study of Indian banks.
[22]. Kapoor, R., & Bansal, T. (2023). Non-interest income and risk-adjusted returns in Indian commercial banks.
[23]. Banerjee, S., & Dasgupta, A. (2023). Determinants of financial stability in Indian banks: An analysis post-COVID-19.
[24]. Gopal, K., & Nambiar, S. (2023). Impact of Basel III norms on risk management and returns in Indian banks.
[25]. Thomas, R., & Pillai, M. (2024). Effect of environmental, social, and governance (ESG) factors on risk-return profiles of Indian banks.

