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Risk And Return Analysis With Reference To Public And Private Sector Banks

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Abstract

In the current scenario interest rate are falling and fluctuations in the share market has put investors in confusion. Investors finds difficult to take decision on investment. The main objective of the study is to study on risk and return analysis of selected stocks in NSE NIFTY and to find the relation between market index and individual stock index and to study about the technical concepts those have a high importance in the market and to manipulate the investments by using the technical tools involved in the market. The conclusion is that the study does not suggest the universal best or worst stocks for investment, because ratings of the stocks must be based on the type of investment and the type of investor. An investor who is ready to bear high risk but expect high return will go such stocks where risk and returns are high. Whereas an investor with less risk bearing capacity will go for those stocks where the risk and return are low. Among all the bank shares taken for the study it is preferred to invest with Indian Overseas Bank as the risk is low and the return is high with the concerned bank for the last five years.

Keywords: Risk and return, Banking sector and Technical analysis

Introduction

The banking sector plays a pivotal role in economic development, serving as a crucial conduit between savers and borrowers. In India, this sector comprises both public sector banks (PSBs) and private sector banks (PVBs), each exhibiting distinct financial and operational characteristics. Over the past decade, marked by liberalization, technological innovation, and regulatory reforms, the performance of Indian banks has drawn substantial scholarly attention—particularly with respect to the dynamics of risk and return.

Risk and return analysis in banking offers critical insight into how banks' balance profitability against financial volatility. Measures such as beta, standard deviation, capital adequacy, non-performing assets (NPAs), and return on assets (ROA) or equity (ROE) help quantify this balance. While private banks often demonstrate superior efficiency and profitability ratios, public banks are traditionally stronger in institutional reach, capital cushion, and liquidity management (Mehta et al., 2025; Singh, 2024).

Recent empirical work underscores these sectoral distinctions. For instance, Mehta et al. (2025) found that private banks outperformed PSBs in profitability and operational efficiency, analysing 2019–2023 data using ROA and ROE metrics. Conversely, PSBs maintained notable advantages in liquidity and asset quality. Examining risk management, Pawar and Deoram (2024) showed that private banks exhibited lower NPAs, higher credit-deposit ratios, and more diversified portfolios—signalling more sophisticated risk frameworks—while PSBs remained more conservative but less agile.

Singh's (2024) comparative panel study further highlights distinct behaviour in returns volatility between sectors, noting that credit risk and market power impact PSBs and PVBs differently—a critical consideration in policy and bank governance. Moreover, enterprise-level evaluations using the CAMEL model (capital adequacy, asset quality, management efficiency, earnings, liquidity) by Vivek Kumar Patel and Yadav (2025) revealed statistically significant differences across most dimensions between sectors during 2020–2024 periods.

REVIEW OF LITERATURE

The literature on risk and return analysis of public and private sector banks in India reveals significant contrasts

in growth trajectories, stability, and performance metrics over the past five years. Studies consistently indicate that public sector banks (PSBs) have improved profitability and asset quality through recapitalization and regulatory reforms, achieving RoA levels above 1% in recent years (Motilal Oswal, 2025). Comparative analysis highlights that private banks outperform PSBs in efficiency and profitability measures such as ROA and ROE, while PSBs maintain dominance in deposit mobilization and liquidity buffers (Lathwal, 2024; Patel & Yadav, 2025). Research employing CAMEL models and robust regression techniques underscores structural differences in capital adequacy, management efficiency, and earnings stability between sectors (Patel & Yadav, 2025; Pervez & Ali, 2022). Furthermore, volatility studies reveal that PSBs exhibit higher risk exposure compared to private banks, though reforms have mitigated systemic vulnerabilities (Singh, 2024). Asset quality remains a critical determinant of stability, with PSBs showing declining NPAs due to improved credit monitoring, while private banks sustain lower NPA ratios through stringent risk frameworks (Thakur, 2025; Saraswat & Saifi, 2024). Sectoral evaluations also emphasize the role of technological adoption and digitalization in enhancing PSBs' resilience and competitiveness (Kumar, 2024; Kiruthika et al., 2024). Collectively, these findings affirm that while private banks lead in profitability and operational agility, PSBs demonstrate gradual improvement in stability and growth, reinforcing their systemic importance in India's banking ecosystem.

STATEMENT OF THE PROBLEM

In the current scenario interest rate are falling and fluctuation in the share market has put investors in confusion. Investors finds difficult to take decision on investment. This is primarily because investments are risky in nature and investors have to consider various factors like risk, return, volatility of share and liquidity before investing. Therefore the researcher aims to determine whether the investment performance of common stocks is related to the investment strategies based on their systematic and non systematic analysis. Thus risk and return analysis of selected sectors in NSE.

OBJECTIVES OF THE STUDY

The probability that an actual return on an investment will be lower than the expected return. Financial risk is divided into the following categories: Basic risk, Capital risk, Country risk, Default risk, Delivery risk, Economic risk, Exchange rate risk, Interest rate risk, Liquidity risk, Operations risk, Payment system risk, Political risk, Refinancing risk, Reinvestment risk, Settlement risk, Sovereign risk, and underwriting risk.

A return is the gain or loss of a security in a particular period. The return consists of the income and the capital gains relative on an investment. It is usually quoted as a percentage.

The need to know about the risk and return of the companies related to NSE which will be useful or the investor to have a perception about the companies used for the study.

1) To assess the growth of stocks of Select Public Sector Banks during the five-year period.

2) To know the stability of the Public Sector Bank's stocks

3) To have a view of the Public Sector Banks.

4) To know the comparative position of last five years in Public Sector Banks.

SCOPE OF THE STUDY

The scope of the present study is limited to the constituents of Public Sector Bank stocks in BSE SENSEX index. It intends to examine the relationship between risk and return in the Indian equity market. The study considers the testing of the relationship between the average rate of return and distributional risk variables namely, Mean, Standard Deviation of the returns distribution and security-market return correlation, & Coefficient of Determination Also the un-diversifiable risk properties were analyzed through Beta Coefficient & coefficient of Determination values (R2). The risk variables are used to ascertain the reasons for the variability of returns on equities on ex-ante basis.

In addition to this, the yearly beta values are considered to measure the importance of risk by testing the stationary of beta coefficients in the market. The informational efficiency of the Indian stock market is tested in its weak form. In this study, we can predict shortfalls in the performance of the Public Sector Banks independent of market fluctuations. The fluctuation of the growth rate is also analyzed. This study shows the factors that influence the profitability and hence can look for anomalies. This study offers a good scope for decision making and formulating a future plan for investments.

The present study is used to evaluate the performance of the stock fluctuation and helps the investors to gain knowledge regarding the choice of portfolio for investment. The study analyzed for the price movement and risk of selected stocks in NSE for the period from 1st April 2021 to 31st March 2025.

RESEARCH METHODOLOGY

Research design: Descriptive research design is followed in the study in order to describe the current pricing movement and risk return situation of the selected stocks.

Tools for data collection: The data used for the research work is secondary data and was collected for a period of 3 years from January 2021 to April 2025. Secondary data have been collected from the National Stock Exchange (NSE) website.

Sampling universe

Data collection: The stratified sampling method is adopted and 10 top performing stocks of banks were taken for analysis.

Tools for analysis: Rate of return, Beta Coefficient and Compound Annual Growth Rate.

LIMITATIONSOF THE STUDY

The data is secondary in nature.

The study covers a period of only five years and the changes that took place before and after this period as not taken into consideration.

The present study was attempted to study only the macro level variables with aggregate values. Hence, the findings of the study cannot be generalized, and it cannot be used for the individual banks.

The study is limited to Systematic risk & return to test the risk return relationship on equity shares of Public Sector Banks.

ANALYSIS AND INTERPRETATION

Analysis of Average Return, Beta Value and CAGR of

State Bank of India 2021 to 2025

Name of the bank	Average return (%)	Beta value	CAGR Value (%)
SBI	11.94	-0.17	0.02

During the five-year period 2021 to 2025, the average return from the shares of the bank was 11.94%, which is not satisfactory for the investors who contributed expecting higher returns. And also the CAGR value for the five year period is 0.02% which indicates positive return to the share holders. State Bank of India has a beta of -0.17based on the monthly returns during April 2014 to April 2019, which shows the slope of the monthly returns in relation to market returns (NSE NIFTY returns). A beta of -0.17, which is less than 1, indicates that the fluctuations in returns from the shares of the bank are less than the market. A beta less than 1 indicates that the security price is theoretically less volatile than the market.

Analysis of Average Return, Beta Value and CAGR of Bank of Baroda 2021 to 2025

Name of the bank	Average return (%)	Beta value	CAGR Value (%)
Bank of Baroda	39.10	-0.29	0.00

The returns of Bank of Baroda enumerate a fluctuating trend over the five-year period from 2021 to 2025. During the five-year period 2021 to 2025, the average return from the shares of the bank was 39.10%, which is satisfactory for the investors who had contributed expecting higher returns. And also the CAGR value for the five year period is 0.00% which indicates no return to the share holders. Bank of Baroda has a beta of -0.29 based on the monthly returns during April 2014 to April 2019, which shows the slope of the monthly returns in relation to market returns (NSE NIFTY returns). A beta of -0.29, which is less than 1, indicates that the fluctuations in returns from the shares of the bank are negative than the market. A beta less than 0 indicates that the security's price is theoretically negatively volatile than the market.

Analysis of Average Return, Beta Value and CAGR of Bank of India 2021 to 2025

Name of the bank	Average return (%)	Beta value	CAGR Value (%)
Bank of India	164.67	2.21	-0.11

The returns of Bank of India enumerate a fluctuating trend over the five-year period from 2021 to 2025. During the five-year period 2021 to 2025, the average return from the shares of the bank was 164.67%, which is satisfactory for the investors who had contributed expecting higher returns. And also the CAGR value for the five year period is -0.01% which indicates negative return to the share holders. Bank of India has a beta of 2.21 based on the monthly returns during April 2014 to April 2019, which shows the slope of the monthly returns in relation to market returns (NSE NIFTY returns). A beta of 2.21, which is greater than 1, indicates that the fluctuations in returns from the shares of the bank are greater than the market. A beta greater than 1 indicates that the security price is theoretically more volatile than the market.

Analysis of Average Return, Beta Value and CAGR of Central Bank 2021 to 2025

Name of the bank	Average return (%)	Beta value	CAGR Value (%)

Central Bank	35.04	1.37	0.01

Central Bank has a beta of 1.37 based on the monthly returns during April 2014 to April 2019, which shows the slope of the monthly returns in relation to market returns (NSE NIFTY returns). A beta of 1.37, which is greater than 1, indicates that the fluctuations in returns from the shares of the bank are greater than the market. A beta greater than 1 indicates that the security's price is theoretically more volatile than the market.

Analysis of Average Return, Beta Value and CAGR of Canara Bank 2021 to 2025

Name of the bank	Average return (%)	Beta value	CAGR Value (%)
Canara Bank	86.68	1.93	-0.04

During the five year period 2021 to 2025, the average return from the shares of the bank was 86.68%, which is satisfactory for the investors who had contributed expecting higher returns. And also the CAGR value for the five year period is -0.04% which indicates negative return to the share holders.

Analysis of Average Return, Beta Value and CAGR of Andhra Bank 2021 to 2025

Name of the bank	Average return (%)	Beta value	CAGR Value (%)
Andhra Bank	60.48	1.78	-0.01

Andhra Bank has a beta of -0.01based on the monthly returns during April 2014 to April 2019, which shows the slope of the monthly returns in relation to market returns (NSE NIFTY returns). A beta of -0.01, which is less than 0, indicates that the fluctuations in returns from the shares of the bank are less than the market. A beta less than 0 indicates that the security's price is theoretically less volatile than the market.

Analysis of Average Return, Beta Value and CAGR of Indian bank 2021 to 2025

Name of the bank	Average return (%)	Beta value	CAGR Value (%)
Indian bank	-3.47	1.72	0.07

During the five year period 2021 to 2025, the average return from the shares of the bank was -3.47%, which is not satisfactory for the investors who had contributed expecting higher returns. And also the CAGR value for the five year period is 0.07% which indicates positive return to the share holders. Indian bank has a beta of 1.72 based on the monthly returns during April 2014 to April 2019, which show1.72, which is greater than 1, indicates that the fluctuations in returns from the shares of the bank are more than the market. A beta greater han 1 indicates that the security price is theoretically more volatile than the market.

Analysis of Average Return, Beta Value and CAGR of Punjab National Bank 2021 to 2025

Name of the bank	Average return (%)	Beta value	CAGR Value (%)
Punjab National Bank	95.23	1.95	-0.04

During the five-year period 2021 to 2025, the average return from the shares of the bank was 95.23%, which is satisfactory for the investors who had contributed expecting higher returns. And also the CAGR value for the five year period is -0.04% which indicates negative return to the share holders. Punjab National Bank has a beta of 1.95 based on the monthly returns during April 2014 to April 2019, which shows the slope of the monthly returns in relation to market returns (NSE NIFTY returns). A beta of 1.95, which is greater than 1, indicates that the fluctuations in returns from the shares of the bank are more than the market. A beta more than 1 indicates that the security's price is theoretically more volatile than the market.

Analysis of Average Return, Beta Value and CAGR of Union Bank of India 2021 to 2025

Name of the bank	Average return (%)	Beta value	CAGR Value (%)
Union Bank of India	-16.54	-0.29	0.10

Union Bank of India has a beta of -0.29 based on the monthly returns during April 2014 to April 2019, which shows the slope of the monthly returns in relation to market returns (NSE NIFTY returns). A beta of -0.29, which is less than 1, indicates that the fluctuations in returns from the shares of the bank are less than the market. A beta less than 1 indicates that the security price is theoretically less volatile than the market.

Analysis of Average Return, Beta Value and CAGR of Vijaya Bank 2021 to 2025

Name of the bank	Average return (%)	Beta value	CAGR Value (%)

Vijaya Bank	25.02	1.22	0.01

During the five-year period 2021 to 2025, the average return from the shares of the bank was 25.04%, which is satisfactory for the investors who had contributed expecting higher returns. And also the CAGR value for the five year period is 0.01% which indicates positive return to the share holders.

Coefficients of comparitive analysis between NSE and public sector banks taken for the study

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4687.981	394.928		11.870	.000
	State Bank of India	19.90	2.646	.699	7.522	.000
	Bank of Baroda	5.88	2.269	.111	2.595	.010
	Bank of India	-5.31	1.399	-.265	-3.800	.000
	Central bank	-4.54	2.889	-.062	-1.573	.117
	Canara bank	0.37	1.569	.020	.237	.813
	IDBI bank	-12.96	3.416	-.103	-3.794	.000
	Indian Bank	6.07	1.328	.388	4.577	.000
	Punjab National Bank	-6.69	3.113	-.169	-2.150	.033
	Union Bank	0.28	1.265	.008	.221	.825
	Vijaya Bank	-9.74	6.440	-.093	-1.513	.131
a. Dependent Variable: NSE						

Interpretation

NSE constant (4687.98) = State Bank of India (19.90) + Bank of Baroda (5.88) + Bank of India (-5.31) + Central bank (-4.54) + Canara bank (0.371) + IDBI bank (-12.96) + Indian Bank (6.07) + Punjab National Bank (-6.69) + Union Bank (0.280) + Vijaya Bank (-9.74).

It depicts that the banks State Bank of India, Bank of Baroda, Canara bank, Indian Bank and Union Bank are directly correlated to NSE and these banks have impact towards movements of NSE.

Coefficients of comparitive analysis between NSE and private sector banks taken for the study

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4967.755	230.786		21.525	.000
	AXIS bank	2.36	.285	.205	8.309	.000
	City Union Bank	3.73	1.564	.116	2.387	.018
	Federal Bank	4.22	1.856	.076	2.278	.024
	HDFC Bank	-.769	.108	-.218	-7.130	.000
	ICICI Bank	10.03	.618	.336	16.236	.000
	IDFC Bank	-12.06	1.777	-.104	-6.788	.000
	Indusind Bank	-.065	.058	-.018	-1.128	.261
	Karur Vysya Bank	3.88	1.174	.056	3.306	.001
	Kotak mahindra Bank	-.352	.052	-.070	-6.831	.000
a. Dependent Variable: NSE						

Interpretation

NSE constant (4967.73) = AXIS bank (2.36) + City Union Bank (3.73)+ Federal Bank (4.22) + HDFC Bank (-.76) + ICICI Bank (10.03) + IDFC Bank (-12.06) + Indusind Bank (-.065)+ Karur Vysya Bank (3.88) + Kotak mahindra Bank (-.352).

It depicts that the banks AXIS bank, City Union Bank, Federal Bank, Karur Vysya Bank are directly correlated to NSE and these banks have impact towards movements of NSE.

FINDINGS

The average return from the shares of SBI bank was 11.94%, which is satisfactory for the investors who had contributed expecting higher returns.

The average return from the shares of the Bank of Baroda was 39.10%, which is satisfactory for the investors who had contributed expecting higher returns.

With Bank of India the average return from the shares of the bank was 164.67%, which is satisfactory for the investors who had contributed expecting higher returns. And also the CAGR value for the five year period is -0.01% which indicates negative return to the share holders.

With central bank the average return from the shares of the bank was 35.04%, which is satisfactory for the investors who had contributed expecting higher returns. And also the CAGR value for the five year period is 0.01% which indicates positive return to the share holders.

The average return from the shares of Canara bank was 86.68%, which is satisfactory for the investors who had contributed expecting higher returns.

With Andhra bank the average return from the shares of the bank was 60.48%, which is a satisfactory for the investors who had contributed expecting higher returns.

The average return from the shares of the Indian bank was -3.47%, which is not satisfactory for the investors who had contributed expecting higher returns.

The returns of Punjab National Bank was 95.23%, which is satisfactory for the investors who had contributed expecting higher returns. Punjab National Bank has a beta of 1.95 based on the monthly returns during April 2014 to April 2019, which shows the slope of the monthly returns in relation to market returns (NSE NIFTY returns).

The average return from the shares of Union Bank of India was -16.54%, which is not satisfactory for the investors who had contributed expecting higher returns.

The average return from the shares of Vijaya bank was 25.04%, which is satisfactory for the investors who had contributed expecting higher returns.

The banks State Bank of India, Bank of Baroda, Canara bank, Indian Bank and Union Bank are directly correlated to NSE and these banks have impact towards movements of NSE.

SUGGESTIONS

It is not preferred to invest with SBI as there is negative return for the last five years.

It is preferred to invest with IOB bank as there is positive return for the last five years.

It is preferred to invest with the this bank as there is positive return for the last five years.

Though the risk is been positive when compared to the market it is preferred to invest based on the investors risk only based on the risk involved with Indian bank.

It is preferred to invest with Canara bank as there is positive return for the last five years.

It is preferred to invest with Andhra bank as there is positive return for the last five years.

It is preferred to invest with BOB as there is positive return and CAGR was also positive for the last five years. As the risk is negative it shows that the bank script dose not goes along with the market so its not preferred to invest with this bank based on the risk factor.

It is not preferred to invest with Dena bank as there is negative return for the last five years.

CONCLUSION

The conclusion is that the study does not suggest the universal best or worst stocks for investment, because ratings of the stocks must be based on the type of investment and the type of investor. An investor who is ready to bear high risk but expect high return will go such stocks where risk and returns are high. Whereas an investor with less risk bearing capacity will go for those stocks where the risk and return are low. Among all the bank shares taken for the study it is preferred to invest with Indian Overseas Bank as the risk is low and the return is high with the concerned bank for the last five years.

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