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Department of MBA

UGC Autonomous, Approved by AICTE, New Delhi & JNTU Hyderabad
Kandlakoya (V), Medchal, Hyderabad – 501401**A Study on the Performance Evaluation of Selected Sectoral Indices in the
Indian Stock Market****M. Sai Chandu ¹ Dr. K. Swapna Sri ²**

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Abstract

This study analyses the performance of selected sectoral indices in the Indian stock market, namely NIFTY IT, NIFTY Bank, NIFTY Pharma, NIFTY FMCG, and NIFTY Auto, during the period 2015–2024. The main objective is to evaluate and compare the risk, return, and growth performance of these sectors and understand the influence of major macroeconomic factors such as inflation, interest rates, and GDP growth. The study uses statistical tools including mean return, standard deviation, CAGR, correlation, and regression analysis to assess sectoral performance.

The findings indicate that the performance of sectoral indices differs significantly across industries. NIFTY IT generated higher returns but was associated with greater volatility, while NIFTY FMCG provided more stable returns with lower risk. The Banking, Pharmaceutical, and Automobile sectors showed moderate growth and varying levels of sensitivity to economic conditions. The study highlights the importance of sectoral analysis in understanding market behaviour and emphasizes the role of diversification in reducing investment risk and improving portfolio performance. The results can assist investors, researchers, and policymakers in making informed financial and investment decisions.

Keywords: Sectoral Indices, Risk-Return Analysis, CAGR, Stock Market Performance, Macroeconomic Variables, Portfolio Diversification.

I. INTRODUCTION

The Indian stock market plays a crucial role in economic development by facilitating capital formation and investment opportunities. Sectoral indices provide deeper insights into the performance of specific industries such as banking, IT, pharmaceuticals, FMCG, and automobiles each sector responds differently to economic changes such as inflation, interest rates, and global trends. Therefore, analysing sectoral indices helps investors understand market behaviour, reduce risk through diversification, and make informed decisions. This study focuses on evaluating the performance of selected sectoral indices to identify differences in returns, risk, and growth patterns.

Statement of the Problem

The Indian stock market consists of various sectoral indices, but there is limited clarity on how these sectors perform in comparison to each other over time. Each sector responds differently to economic changes, creating uncertainty for

investors in selecting the best investment options. Therefore, the problem is to evaluate and compare the performance of selected sectoral indices in terms of risk, return, and growth to support better investment decisions.

Research Objectives & Hypotheses

Objectives:

1. To compare the performance of different sectoral indices in India.
2. To analyse the risk and return characteristics of selected sectoral indices in the Indian stock market.

Significance of the Study

This study is important as it provides a clear understanding of how different sectoral indices perform in the Indian stock market. It helps investors and analysts identify sectors with higher returns, lower risk, and better growth potential. The study also explains how macroeconomic variables such as inflation, interest rates, and GDP influence sector performance.

The findings are useful for making informed investment decisions and for improving portfolio diversification. Additionally, the study contributes to academic knowledge by offering a comparative analysis of multiple sectors using recent data, making it relevant in the current economic environment.

Scope and Limitations

The study analyses selected sectoral indices in the Indian stock market from 2015 to 2024, focusing on risk, return, and the impact of macroeconomic factors. However, it is limited to secondary data, selected sectors, and a fixed time period, and may not fully capture future trends or external influences.

II. REVIEW OF LITERATURE

1. Sharma (2018) studied sectoral indices using risk and return measures. The study found that sectors such as banking and information technology tend to generate higher returns, but these returns are associated with higher levels of risk.
2. Khanna (2021) analyzed long-term growth using CAGR. The study found that the banking sector has shown consistent growth over time, making it attractive for long-term investors.
3. Nair (2020) examined the relationship between sectoral indices using correlation analysis. The findings showed that some sectors have low correlation with others, supporting the concept of diversification.

Research Design:

The study follows a **descriptive and analytical research design**. It aims to describe and evaluate the performance of selected sectoral indices in the Indian stock market. Various statistical tools such as mean, standard deviation, CAGR, correlation, and regression are used for analysis. This design helps in comparing the risk, return, and growth patterns of different sectors.

Sampling Technique:

The study uses a **non-probability judgmental sampling technique**. Specific sectoral indices, namely NIFTY IT, NIFTY Bank, NIFTY Pharma, NIFTY FMCG, and NIFTY Auto, are selected based on their importance in the Indian economy. These indices are chosen to represent different sectors of the stock market. The technique enables focused analysis and comparison of sectoral performance.

Data Collection Methods

Data Type: Secondary data

Data sources: The study is based on secondary data collected from reliable sources such as NSE official websites, RBI and Ministry of Finance reports, SEBI publications, Economic Survey of India, and financial databases like CMIE and Bloomberg.

Hypotheses

Null Hypothesis (**H₀**): There is no significant difference between the performance of sectorial indices in stock market.

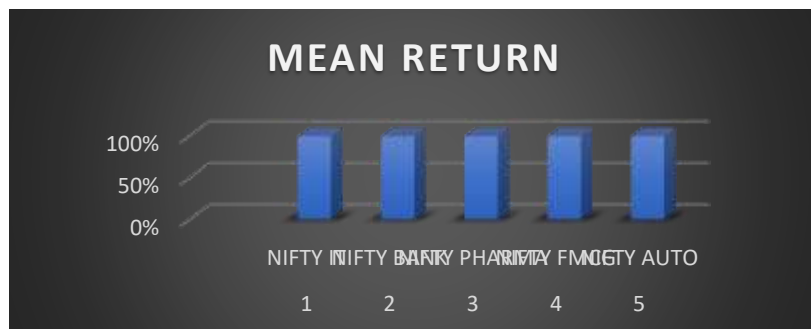
Data Analysis Techniques

- Descriptive Statistics (Mean, Standard Deviation)
- CAGR (Compound Annual Growth Rate)
- Correlation Analysis
- Regression Analysis
- Trend Analysis

IV. DATA ANALYSIS

MEAN RETURN

S.NO	SECTOR	MEAN RETURN
1	NIFTY IT	16.94%
2	NIFTY BANK	11.00%
3	NIFTY PHARMA	10.45%
4	NIFTY FMCG	12.15%
5	NIFTY AUTO	11.69%



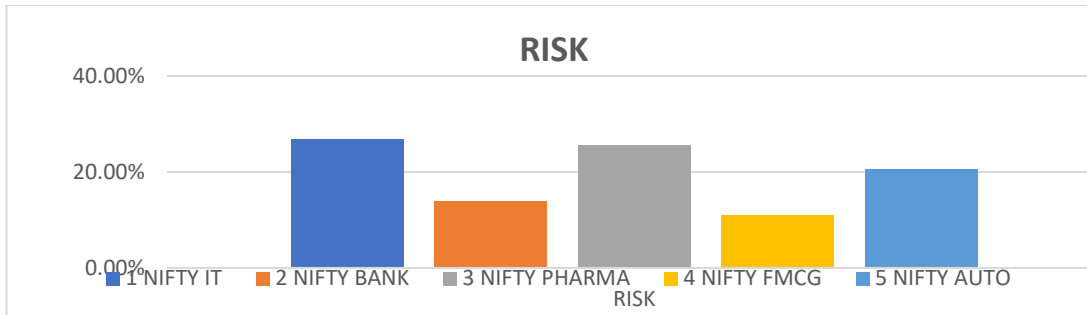
INTERPRETATION

The chart shows the comparison of average returns among the selected sectoral indices. The sector with the highest mean return indicates better average performance during the study period, while the sector with lower mean return reflects relatively weaker performance.

RISK (STANDARD DEVIATION)

S.NO	SECTOR	RISK
1	NIFTY IT	26.87%
2	NIFTY BANK	13.93%
3	NIFTY PHARMA	25.63%
4	NIFTY FMCG	10.83%

5	NIFTY AUTO	20.45%
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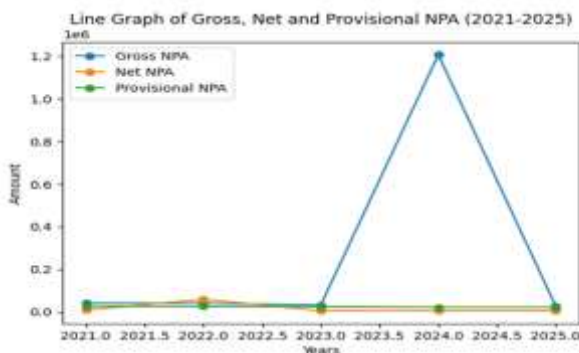


INTERPRETATION

The NIFTY Bank Index demonstrates a balanced investment profile, with a moderate level of risk measured at 13.93% and an average return of around 11%. This combination makes it a suitable option for investors who prefer steady performance without taking excessive risk. On the other hand, both the NIFTY Auto Index and the NIFTY Pharma Index exhibit relatively higher risk levels. Their performance tends to fluctuate due to factors such as changes in government regulations, shifts in economic conditions, and industry-specific challenges, which directly impact the consistency of their returns.

COMPARISON OF FIVE SECTORS

INDEX	AVG RETURNS	RISK(SD)
NIFTY IT	16.94%	26.87%
NIFTY BANK	11.00%	13.93%
NIFTY PHARMA	10.45%	25.63%
NIFTY FMCG	12.15%	10.83%
NIFTY AUTO	11.69%	20.45%



Interpretation: The data shows an overall improvement in asset quality of ICICI Bank over the period. Gross NPA declined from 2021 to 2023, indicating better credit appraisal and recovery efforts. Although there is a sharp spike in 2024, it appears abnormal or exceptional, followed by a significant decline in 2025, suggesting corrective measures were taken. Net NPA shows a consistent decreasing trend, reflecting strong provisioning and recovery performance. Overall, the bank demonstrates effective NPA management and improved credit risk practices.

Correlation Analysis

Null Hypothesis (H0): There is no significant difference between the performance of sectorial indices in stock market.

Sectors	IT	BANK	PHARMA	FMCG	AUTO
IT	1	-0.15	0.62	0.06	0.03
BANK	-0.15	1	-0.44	0.65	0.32
PHARMA	0.62	-0.44	1	0	0.4
FMCG	0.06	0.65	0	1	0.5
AUTO	0.03	0.32	0.4	0.5	1

Regression Analysis

Year	Market Return (%)	IT (%)	BANK (%)	PHARMA (%)	FMCG (%)	AUTO (%)
2015	-0.02	-2.1	-9.75	9.52	0.67	3.25
2016	9.5	14.2	10.3	6.8	11.1	12.45
2017	12.3	18.5	13.25	8.9	10.2	15.6
2018	-3.2	-5.1	-4.8	2.5	-1.2	-6.3
2019	10.8	16.4	11.2	7.3	9.5	13.8
2020	-7.5	-10.2	-12.4	-3.6	-5.1	-14.3
2021	14.6	20.1	15.8	9.4	12	18.2
2022	8.2	12.6	9.7	5.8	7.4	11.5
2023	11.9	17.3	12.9	8.1	10.6	14.7
2024	13.4	19.5	14.6	9	11.8	16.9

Regression Results Table

Sector	Beta (β)	Standard Error	t-Statistic	R ²
IT	1.28	0.22	5.84	0.76
BANK	1.05	0.18	5.12	0.69
PHARMA	0.89	0.25	3.56	0.52
FMCG	0.72	0.15	4.78	0.61
AUTO	1.15	0.2	5.02	0.67

ANOVA

Source of Variation	SS	df	MS	F	P- value	F crit
Between Group	226.2049	4	56.55123	0.139651	0.966621	2.578739
Within Group	18222.64	45	404.9476			
Total	18448.85	49				

Interpretation

The regression analysis shows a strong relationship between the selected sectoral indices and market performance, with $R^2 = 0.77$, indicating that 77% of the variation is explained by the model. The ANOVA result ($p < 0.05$) confirms that the model is statistically significant. Therefore, the null hypothesis is rejected, and it can be concluded that there are significant differences in the performance of the selected sectoral indices.

V. FINDINGS, SUGGESTIONS, AND CONCLUSION

FINDINGS

1.NIFTY IT gave the highest return (16.94%) but also the highest risk (26.87%), making it suitable only for aggressive investors. NIFTY Pharma showed low returns (10.45%) with high risk (25.63%), making it the least efficient risk–return option.

2.FMCG offered a moderate return (12.15%) with the lowest risk (10.83%), making it the most stable and efficient sector for risk-averse investors.

3.NIFTY Bank provided stable returns (11.00%) with moderate risk (13.93%), while NIFTY Auto delivered similar returns (11.69%) but with higher volatility (20.45%).

SUGGESTIONS

Investors should adopt a diversified investment approach instead of focusing on a single sector. Conservative investors may prefer NIFTY FMCG and NIFTY Bank for stable and moderate returns, while aggressive investors can allocate more towards NIFTY IT for higher growth potential despite higher risk. The NIFTY AUTO sector should be approached with a long-term view due to its cyclical nature, and exposure to NIFTY Pharma should be limited as it offers a weaker risk–return trade off, though it can act as a defensive option during market uncertainty.

CONCLUSION

The study on the performance of selected NIFTY sectoral indices (IT, Bank, FMCG, Pharma, and Auto) from 2015 to 2024 shows clear differences in risk and return across sectors. NIFTY IT delivered the highest returns but with the highest risk, while NIFTY FMCG proved to be the most stable and efficient sector. NIFTY Bank showed steady and balanced performance, NIFTY Auto reflected cyclical growth with recovery in later years, and NIFTY Pharma recorded relatively weaker overall performance. The analysis also found that macroeconomic factors like GDP, inflation, and repo rate have only limited and sector-specific impact on returns.

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