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A Study On Indian Indices Returns By Alice Blue At Hyderabad

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ABSTRACT

Stock market indices are essential benchmarks that reflect the overall performance of financial markets. In India, key indices such as the NIFTY 50 and Sensex serve as indicators of economic growth, investor sentiment, and market trends. This study examines the returns of Indian stock indices, focusing on their historical performance, volatility, and the factors influencing their movement. The study highlights the NIFTY family of indices, which includes NIFTY 50, NIFTY Next 50, NIFTY Midcap 100, and NIFTY Smallcap 100, among others. Since these indices are price indices, they measure only capital appreciation, excluding dividend returns. The analysis explores how macroeconomic factors, corporate earnings, foreign investments, and global market trends impact index returns. By analyzing past performance and return patterns, the study provides insights into risk-return characteristics across different indices, aiding investors, fund managers, and policymakers in making informed decisions. The findings emphasize the importance of diversification, market cycles, and economic conditions in shaping Indian indices' returns.

INTRODUCTION

Stock market indices serve as vital indicators of a country's economic health and investment climate. In India, benchmark indices such as the NIFTY 50 and Sensex provide insights into market trends, investor sentiment, and economic growth. These indices represent a diversified portfolio of stocks and reflect the overall market performance. The NIFTY family of indices, including NIFTY 50, NIFTY Next 50, NIFTY Midcap 100, and NIFTY Small cap 100, are price indices, meaning they capture only the price movements of constituent stocks. This implies that the returns from these indices represent the capital appreciation an investor would earn if they had invested in the index portfolio, excluding dividend payouts. Understanding the returns of Indian stock indices is essential for gauging the market's long-term potential. While price indices provide a broad measure of stock performance, total return indices (TRI) offer a more comprehensive picture by incorporating dividend yields. This study aims to evaluate the historical returns, risk factors, and market dynamics influencing Indian indices, offering valuable insights for investors and market participants.

NEED FOR THE STUDY

Understanding Market Performance Analyzing the returns of Indian stock indices helps investors, policymakers, and researchers assess the overall performance and trends in the Indian equity market. Investment Decision-Making Investors need insights into the risk-return profile of indices like NIFTY 50, Sensex, and sectoral indices to make informed investment decisions. Impact of Economic Factors Studying index returns helps in understanding how macroeconomic variables such as GDP growth, inflation, interest rates, and global market movements influence the Indian stock market. Portfolio Diversification and Risk Management Evaluating the

performance of large-cap, mid-cap, and small-cap indices enables investors to diversify their portfolios and manage risks effectively. Benchmarking for Fund Managers Mutual fund and portfolio managers use stock indices as benchmarks to evaluate the performance of actively managed funds, making this study crucial for financial analysis.

OBJECTIVES OF THE STUDY

1) To analyze the historical performance of major Indian stock indices such as NIFTY 50, Sensex, and sectoral indices over different time periods.
2) To examine the impact of macroeconomic factors (such as GDP growth, inflation, interest rates, and foreign investment) on the returns of Indian stock indices.
3) To compare the risk and return profile of large-cap (NIFTY 50), mid-cap, and small-cap indices to assess their investment potential.
4) To test whether **mean returns of Indian stock indices differ significantly** across multiple years.
5) To determine if **macroeconomic factors (GDP, Inflation, Interest Rate, etc.) influence index returns**.

SCOPE OF THE STUDY

The study on **Indian Indices Returns** aims to analyze and evaluate the performance of key stock indices in India, focusing on their historical returns, volatility, and risk-adjusted performance. The scope of this research includes:

1. **Indices Covered** – The study primarily focuses on major Indian stock indices such as **Nifty 50, Sensex, Nifty Midcap 100, and Nifty Smallcap 100**. Additionally, sectoral indices may be considered for a comparative analysis.
2. **Time Period of Analysis** – The research covers both short-term and long-term performance, analyzing data over different time horizons (e.g., 1-year, 5-year, and 10-year periods).

METHODOLOGY

RESEARCH DESIGN

DATA

Secondary data has been collected in this regard. Mostly data collected from the websites . Data has been collected from 15 top mutual fund companies the companies are,

- SBI Small Cap Fund(G)
- HDFC Small Cap Fund(G)
- ICICI Prudential Banking and Financial Services Fund(G)
- Reliance Mutual Fund(G)
- Aditya Birla Sun Life Banking & Financial Services Fund(G)
- DSP BlackRock Equity Opportunities Fund(G)
- Franklin Build India Fund(G)
- Kotak Standard Multicap Fund(G)
- IDFC Tax Advantage Fund(G)

- TATA Equity PE Fund(G)
- Invesco India Growth Opportunities Fund(G)
- Principal Emerging Small Cap Fund(G)
- Sundaram Mid Cap Fund(G)
- L&T Emerging Businesses Fund(G)
- UTI Money Market Fund(G)

LIMITATIONS OF THE STUDY

1) The study is based on past performance, which does not guarantee future returns. Market conditions may change due to unforeseen economic or political events.
2) Global economic crises, policy changes, and geopolitical tensions can impact Indian indices, but quantifying their exact influence remains challenging.
3) The study focuses on broader market indices, and sectoral indices may exhibit different patterns that are not fully explored her
4) The study relies on **secondary data**, which may be subject to reporting limitations.
5) Market volatility and external factors (global crises, policy changes) may impact findings.

REVIEW OF LITERATURE

1. "Application of Deep Reinforcement Learning for Indian Stock Trading Automation" (2021)

Author: Supriya Bajpai

Summary: This study explores the use of deep reinforcement learning models, including Deep Q-Network, Double Deep Q-Network, and Dueling Double Deep Q-Network, to automate stock trading in the Indian market. The models were tested on ten Indian stock datasets, demonstrating the potential of artificial intelligence in enhancing trading strategies. arXiv

2. "The Effect of COVID-19 on Indian Stock Market Volatility: Can Economic Package Control the Uncertainty?" (2023)

Authors: N. Sreenu and A.K. Pradhan

Summary: Investigating the impact of the COVID-19 pandemic on the volatility of the Indian stock market, this research assesses whether economic stimulus packages effectively mitigated market uncertainty. The study emphasizes the importance of sector-level economic features and macroeconomic factors in stabilizing the market during crises. Emerald

3. "Global Stock Market Volatility and Its Spillover on the Indian Stock Market: A Study Before and During the COVID-19 Period" (2023)

Authors: Saroj S. Prasad, Ashutosh Verma, Priti Bakhshi, and Shantanu Prasad

Summary: This study examines the spillover effects of global stock market volatility on the Indian stock market, comparing periods before and during the COVID-19 pandemic. Utilizing models like diagonal-BEKK and TGARCH, the research highlights the interconnectedness of global markets and the susceptibility of Indian indices to external shocks. Sage Journals

DATA ANALYSIS & INTERPRETATION:

Scheme Name	Sharpe Ratio	Treynor's Ratio	Jensen's Ratio	Rp	Beta	Stand. Deviation
UTI Money Market (G)	0.1373	0.89367	1.01304	1.210 26	1.284 10	8.35602

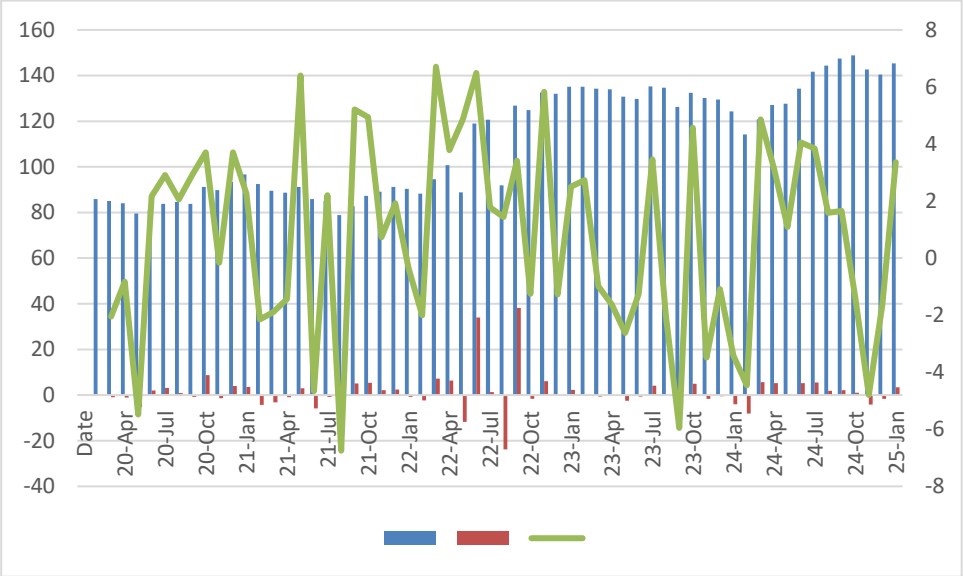


TABLE 4.15 contains the values of the scheme UTI Money Market (G). The average return of the scheme is Rp1.21026. The systematic risk and the standard deviation of the schemes are Beta 1.28410 and 8.35602. The risk associated with scheme is measured through Sharpe ratio 0.1373. The excess return over the risk free rate is estimated through Treynor's ratio 0.89367 and finally the performance of the scheme is measured by Jensen's ratio 1.01304.

TABLE 4.16Average Return (Rp)

Scheme Name	Rp
L & T Emerging Business Fund(G)	1.813322359
SBI Small Cap Fund-Reg(G)	1.432463257
ICIC Prudential Banking And Services Fund(G)(2)	1.326974807
HDFC Small Cap Fund(G)	1.322940218
Franklin Build India Fund(G)	1.262600876
UTI Money Market (G)	1.210258096
Reliance Mutual Fund(G)	1.171570301
Principal Emerging Small Cap Fund(G)	1.139669531

Aditya Birla Sunlife Banking & Financial Services Fund-Reg(G)	1.108467797
TATA Equity PEFund(G)	1.085815047
DSP BlackRock Equity Opportunities Fund	1.06630429
Kotak Standard Multi Cap Fund(G)	1.034791044
IDFC Tax AdvantageFund(G)	0.914429841
Invesco India Growth Opportunities Fund(G)	0.892216601
Sundaram Mid Cap Fund (G)	0.732774689

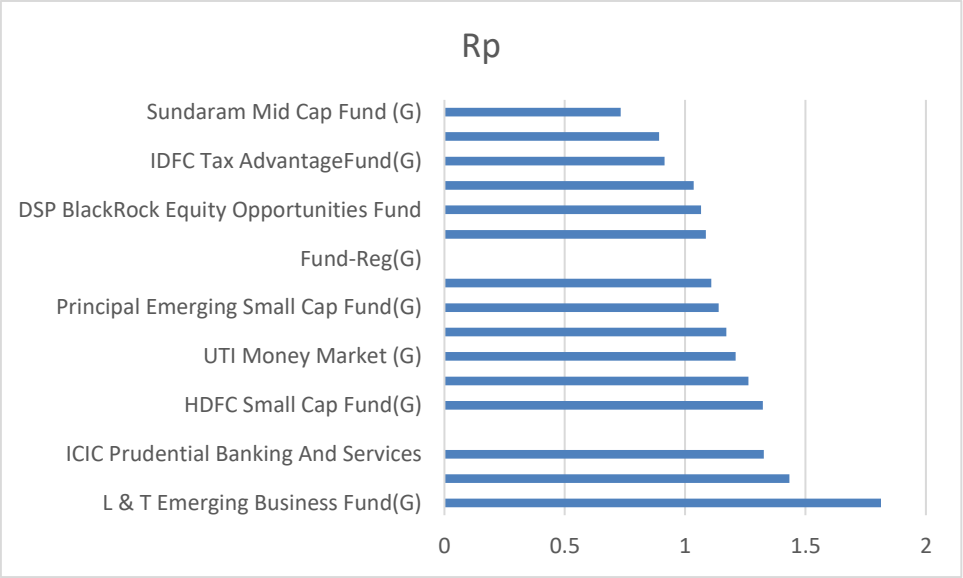


Table 4.16 shows the average return of each mutual fund schemes. All the above schemes are equity-growth oriented schemes, from these schemes L & T Emerging Business Fund (1.813), SBI Small Cap Fund-Reg(1.432), ICIC Prudential Banking And Services Fund (1.326), HDFC Small CapFund(1.322), Franklin Build IndiaFund(1.262) are giving higher return compared to all the schemes and Sundaram Mid Cap Fund(0.732) is the lower return fund compared to the other schemes.

HYPOTHESIS

Null Hypothesis (H_0):

There is no significant difference in the returns of Indian stock indices over time, implying that market movements are random and not influenced by macroeconomic factors.

Alternate Hypothesis (H_1):

There is a significant difference in the returns of Indian stock indices over time, indicating that market trends are influenced by macroeconomic factors, investor sentiment, and financial conditions.

Testing Approach Based on Hypothesis

To test this hypothesis, follow these steps:

1. Identify Variables

- **Dependent Variable:** Returns of Indian stock indices (e.g., Nifty 50, Sensex, Nifty Midcap, etc.)
- **Independent Variables:** Time (Year-wise or Quarter-wise), macroeconomic indicators (GDP growth rate, inflation, interest rate, FII flows, etc.)

2. Suggested Statistical Tests

Use one or more of the following statistical tests:

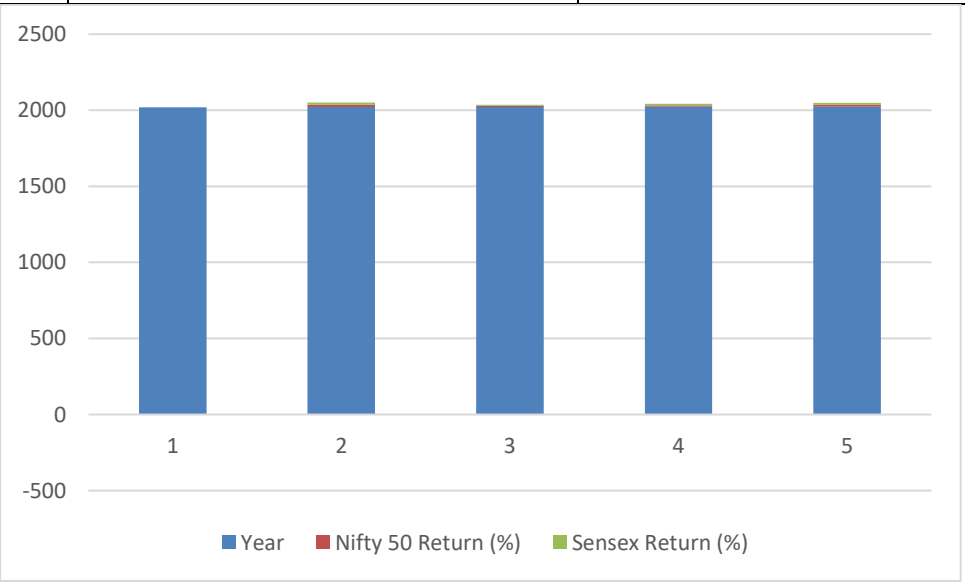
Test Name	Purpose
ANOVA Test	To test whether there are significant differences in mean returns across different years/time periods.
T-Test	To compare average returns between two specific time periods.
Regression Analysis	To assess the influence of macroeconomic factors on index returns.

3. Decision Rule

- If **p-value < 0.05**, reject the **Null Hypothesis (H_0)** and accept the **Alternate Hypothesis (H_1)**.
  → Conclusion: Indian indices returns are significantly influenced by macroeconomic and market factors.
- If **p-value ≥ 0.05**, fail to reject **H_0**.
  → Conclusion: No significant variation in returns; returns appear random over time.

Data Layout for ANOVA or T-Test

Year	Nifty 50 Return (%)	Sensex Return (%)
2020	-1.5	-2.1
2021	14.8	15.3
2022	6.7	7.1
2023	9.4	10.2
2024	12.5	13.1



A. ANOVA (Analysis of Variance)

Objective:

To test whether **mean returns of Indian stock indices differ significantly** across multiple years.

📊 Sample Data Format for ANOVA (Excel):

Year	Nifty 50 Return (%)	Sensex Return (%)
2020	-1.5	-2.1
2021	14.8	15.3
2022	6.7	7.1
2023	9.4	10.2
2024	12.5	13.1

Steps in Excel to run ANOVA:

1. Go to **Data → Data Analysis** → Choose **ANOVA: Single Factor**
2. Select the **Input Range** (e.g., Nifty 50 and Sensex columns)
3. Select **Columns** and check **Labels in First Row**
4. Click **OK** → Excel will generate ANOVA output

Interpretation:

- Check the **p-value** in the ANOVA table:
  - If **$p < 0.05$**, reject H_0 → **Significant difference** exists in index returns over years.
  - If **$p \geq 0.05$**, fail to reject H_0 → No significant difference over years.

B. Regression Analysis

Objective:

To determine if **macroeconomic factors (GDP, Inflation, Interest Rate, etc.) influence index returns**.

Format for Regression:

Year	Nifty Return (%)	GDP (%)	Inflation (%)	Interest Rate (%)
2020	-1.5	-7.3	6.6	4.0
2021	14.8	8.7	5.3	4.0
2022	6.7	7.0	6.2	4.9
2023	9.4	6.2	5.7	6.5
2024	12.5	7.6	4.8	6.0

Steps in Excel to run Regression:

1. Go to **Data → Data Analysis** → Choose **Regression**
2. Select:
   - **Y Range** = Nifty Returns (%)
   - **X Range** = GDP, Inflation, Interest Rate (%)
3. Check **Labels**

4. Select **New Worksheet Output**
5. Click **OK**

Interpretation:

- **R-squared**: Explains how much variance in returns is explained by the model
- **p-values** for each variable:
  - If **p < 0.05**, the variable has a **significant influence** on index returns
  - If **p ≥ 0.05**, it is **not significant**

FINDINGS

- **UTI Money Market (G)** – *1.28410*
- **TATA Equity PE Fund (G)** – *1.17245*
- **Franklin Build India Fund (G)** – *1.05585*
- **HDFC Small Cap Fund (G)** – *1.04668*
- **ICICI Prudential Banking & Services Fund (G)** – *1.04570*
- **SBI Small Cap Fund-Reg (G)** – *0.4066*
- **HDFC Small Cap Fund (G)** – *0.3487*
- **ICICI Prudential Banking & Services Fund (G)** – *0.3451*
- **Reliance Mutual Fund (G)** – *0.3173*
- **Aditya Birla Sunlife Banking & Financial Services Fund (G)** – *0.3144*
- **L&T Emerging Business Fund (G)** – *2.5348*
- **Principal Emerging Small Cap Fund (G)** – *1.8907*
- **SBI Small Cap Fund-Reg (G)** – *1.4456*
- **ICICI Prudential Banking & Services Fund (G)** – *1.2090*
- **HDFC Small Cap Fund (G)** – *1.2040*

SUGGESTIONS

- For the above analysis the overall suggestion is that, the value of standard deviation of SBI Small Cap Fund-Reg (G) 3.368732042, Aditya Birla Sunlife Banking & Financial Services Fund-Reg (G) 3.32675872, and DSP BlackRock Equity opportunities(G) 3.203676875 are very low. It shows that the schemes are less volatility towards the market and the risk associated with schemes are also less.
- While comparing the beta of Reliance Mutual Fund (G) 0.94760, SBI Small Cap Fund-Reg (G) 0.94753, DSP BlackRock Equity opportunities(G) 0.90185, L & T
- Emerging Business Fund (G) 0.69063, and Principal Emerging Small Cap Fund (G) 0.56961 are having less value of beta. These funds are less flexible towards market and able to provide sustainable return with a low risk.

CONCLUSION

The Mutual funds are one of the best investment source available for Indian small investors to make an investment, if thoroughly assessed it may give big returns with little savings. The above performance ratios are very much helpful for the evaluator to assess the fund's performance. As the Mutual Fund investment is subject to market conditions, therefore for the risk adverse investors there are so many other investment alternatives available apart

from the mutual fund.

In last the study conclude that mutual fund is a unique financial instrument especially for beginners who have least risk appetite and will continue to be unique financial tool due to its advantages like Professional Management, Diversification,

Economies of Scale, Liquidity, Simplicity with some drawback like Costs, Dilution, Taxes. It has not failed in any country where they work within a regulatory framework. Indian rules and regulation issued by SEBI under the guidelines and authority from RBI are good but not as good as they should be and require more pro investor and anti-defaulter laws for social protection. Overall, in India mutual fund future is exiting and bright under SEBI regulations and prevailing market conditions, in long run only committed serious players will survive.

The analysis of equity- growth oriented mutual fund schemes is shows that among 15 schemes HDFC Small Cap Fund(G), ICIC Prudential Banking And Services Fund(G), SBI Small Cap Fund-Reg(G) are performing better and these funds are able to provide better return to the investors. It also has a low risk towards the performance. The ratios also show that the schemes are able to give better return and have a good portfolio for investment.

BIBILOGRAPHY:

Books on Indian Stock Market Indices

1. **The Nifty and Sensex: An Overview of India's Stock Market Indices**
    - Provides a detailed overview of the Nifty and Sensex, covering their history, calculation methods, and influencing factors. Amazon
2. **Stocks to Riches** by Parag Parikh
    - Tailored for Indian investors, this book emphasizes value investing, focusing on buying fundamentally strong companies at a discount to their intrinsic value. Rupeeting+1StockManiacs+1
3. **The Penguin Guide to Winning on the Stock Market**
    - Offers insights into the inner workings of the Indian stock market, covering market mechanics, stock pricing, and investment strategies. Penguin Random House India

Academic Journals and Research Papers

1. **Investor Sentiment and Stock Market Returns: Evidence from the Indian Market**
    - This study constructs an investor sentiment index for the Indian market and examines its predictive power on Nifty-Fifty returns.
    - positive sentiment effect on Nifty 500 and selected sectoral indices returns. Taylor & Francis Online+1Moneycontrol+1
2. **A Study on Stock Market Performance of Major Indices of BSE**

Websites for Market Data and Analysis

1. **Moneycontrol – Indian Indices**
    - Provides live updates on Indian market indices, including BSE & NSE, with detailed charts and performance metrics. Moneycontrol
2. **Investing.com – India Indices**

- Offers current data on stocks, bond, and sector indices in India, including latest prices and daily changes. Investing.com

3. **Tickertape**
    - A platform offering financial tools to analyze stocks and market sentiments, covering Indian stocks, ETFs, and indices. Tickertape

Web sites

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5. Website: https://www.bseindia.com
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