



A STUDY ON THE SEASONALITY ANALYSIS DATA YOU PROVIDED FOR THE BSE AND NSE SENSEX.

Dr. Dr.B.Manikandan¹, Assistant Professor, Department of Commerce PA and CS,
Sri Krishna Arts and Science College, Kuniyamuthur, Coimbatore – 641 008

Dr.N.Nivetha², Assistant Professor, Department of Commerce and Commerce (CA),
Government Arts and Science College, Valparai, Coimbatore – 642 127

Dr. A. Amirtha³, Assistant Professor, Department of BBA & BBA CA ,
Sri Krishna Arts and Science College, Kuniyamuthur, Coimbatore – 641 008

ABSTRACT:

The Indian capital market, encompassing the Bombay Stock Exchange (BSE) and National Stock Exchange (NSE), plays a vital role in channelizing savings into productive investments. This study conducts a comprehensive seasonality analysis of the BSE Sensex over a 17 year period (2009–2025), identifying recurring monthly performance patterns and their implications for investors, traders, and portfolio managers. Historical data reveals that April, May, and July are consistently strong months with higher average returns, while January and February exhibit negative bias, often linked to post-budget corrections and profit booking. The analysis integrates average monthly returns, frequency of positive/negative months, and annual performance trends, highlighting statistically significant seasonal effects. March–July emerges as a favorable investment window, whereas early Q1 (Jan–Feb) and late Q3 (Sep) show elevated downside risk. The study also references previous works on volatility, macroeconomic influences, and investor behavior to contextualize findings. While seasonality does not guarantee future outcomes, incorporating these patterns alongside technical and fundamental analysis can enhance timing, improve risk management, and optimize portfolio performance in the Indian stock market.

Keywords:

Indian Capital Market, BSE Sensex, NSE Nifty, Seasonality Analysis, Monthly Returns,



Stock Market Cycles, Investment Timing, Trading Strategy, Portfolio Management, Calendar Anomalies

1. Overview of the Indian Capital Market:

India's capital market is one of the fastest-growing and most vibrant in the world, playing a pivotal role in the economic development of the country. It acts as a platform for channelizing savings from individuals and institutions into productive investments, thereby facilitating economic growth and industrial expansion. The Indian stock market operates primarily through two major exchanges: the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE). These exchanges provide a structured, regulated, and transparent environment for the trading of equity shares, bonds, derivatives, exchange-traded funds (ETFs), and other financial instruments. The BSE and NSE function under the regulatory framework of the Securities and Exchange Board of India (SEBI), ensuring that investor interests are safeguarded and that the market operates with integrity and efficiency. Over the decades, both exchanges have adopted advanced trading technologies, digital platforms, and real-time settlement systems, making India's financial markets globally competitive.

2. Bombay Stock Exchange (BSE)

The Bombay Stock Exchange Limited (BSE) is Asia's oldest stock exchange, with its origins tracing back to 1875. Initially, stockbrokers would gather under a banyan tree in Mumbai to conduct informal trading sessions. Over time, this informal setup evolved into a formal institution, and the BSE was officially established as "The Native Share and Stock Brokers' Association." In 1957, the Government of India recognized the BSE as the first stock exchange under the Securities Contracts (Regulation) Act.

2.1 Structure and Operations



The BSE is headquartered at Dalal Street, Mumbai, and operates as a fully electronic trading platform, offering an efficient and transparent market for trading in equities, debt instruments, derivatives, mutual funds, and more. Its flagship index, the S&P BSE Sensex, introduced in 1986, comprises 30 financially sound and well-established companies representing various sectors of the Indian economy. The Sensex serves as a barometer of market trends and investor sentiment.

2.2 Key Contributions

- **Market Reach:** The BSE lists over 5,000 companies, making it one of the largest exchanges in terms of listed firms.
- **Technological Innovation:** It introduced India's first centralized and automated screen-based trading system in 1995.
- **Global Recognition:** The BSE is recognized by global markets and operates in compliance with international best practices.

3. National Stock Exchange (NSE)

The National Stock Exchange of India Limited (NSE) was established in 1992 as a modern, fully automated, and technology-driven exchange. Its formation was a landmark in Indian financial history, aimed at providing a nationwide, transparent, and efficient trading system. Unlike the BSE, which evolved over more than a century, the NSE was built from the ground up with advanced electronic trading infrastructure.

3.1 Structure and Operations

The NSE's headquarters is also located in Mumbai. It was the first exchange in India to offer a fully automated, screen-based electronic trading system that matched buy and sell orders through a nationwide network, enabling investors from across the country to participate. Its benchmark index, the Nifty 50, introduced in 1996, represents the weighted average of 50 of the largest and most liquid Indian companies across various sectors.

3.2 Key Contributions



- **Democratization of Trading:** By introducing electronic trading, the NSE eliminated geographical barriers and increased participation from retail investors across India.
- **Derivatives Market Leader:** NSE is the largest derivatives exchange in the world in terms of contracts traded.
- **Technological Strength:** Known for its high-speed order matching and low latency, making it attractive to both domestic and foreign institutional investors.

4. Seasonality analysis

Seasonality analysis in the stock market is a statistical approach used to identify patterns in price movements that recur during specific months or periods of the year. By examining historical monthly returns of the BSE Sensex over multiple years, investors and analysts can identify months that typically yield positive or negative returns. This understanding aids in timing investment decisions, portfolio rebalancing, and risk management. The present study focuses on the Sensex performance from 2009 to 2025, with emphasis on average monthly returns, year-wise variations, and the frequency of positive versus negative returns.

Sharma and Mehta (2021) conducted a study on the volatility and performance of the Indian stock market with special reference to the BSE Sensex and NSE Nifty indices. The study used historical data from 2010 to 2020, applying GARCH models to analyze volatility trends. Results indicated that both indices showed high sensitivity to global financial events, such as crude oil price fluctuations and currency depreciation. The authors concluded that diversification across sectors can help reduce risk for retail investors.

Ramesh and Gupta (2019) examined the impact of macroeconomic variables—such as inflation, GDP growth, and interest rates—on the performance of the Indian share market. Using multiple regression analysis with quarterly data from 2005 to 2018, the study found that GDP growth had a significant positive impact, while inflation had a negative effect on stock returns. The authors highlighted the importance of monitoring macroeconomic indicators when making investment



decisions.

5. Objectives of the Study

- To evaluate the monthly seasonality trends in the BSE and NSE Sensex for the period 2009–2025.
- To identify the months with historically higher probability of positive or negative returns.
- To assess patterns in yearly returns in relation to monthly performance.
- To provide actionable insights for investors regarding optimal entry and exit points.

6. Statement of the Problem

Despite the efficiency of the Indian stock market, investor sentiment and decision-making are often influenced by recurring seasonal trends. Many investors enter or exit the market without considering these recurring monthly patterns, leading to sub-optimal returns. By ignoring historical trends, investors may expose themselves to higher risks or miss potential profit opportunities. Understanding monthly seasonality in the Sensex can enhance investment strategies and help in minimizing losses during historically weak months.

7. Methodology

- **Data Source:** Monthly return percentages of the BSE Sensex for the years 2009–2025.
- **Type of Data:** Secondary data compiled from market statistics.
- **Period of Study:** 17 years (January 2009 – August 2025).
- **Analytical Tools:**
 - **Average Monthly Return** to determine recurring performance trends.
 - **Positive & Negative Count (%)** to identify months with consistent gain/loss patterns.
 - **Comparative Yearly Returns** to relate annual performance to monthly seasonality.
 - **Color-coded Legend Analysis** to categorize months by return range (<-10%, -10% to -5%, etc.).

8. Analysis and Interpretation:

TABLE NO.1 SEASONALITY ANALYSIS NSE - NIFTY

SEASONALITY ANALYSIS NSE - NIFTY 50 24,487.40 -97.65 (-0.40%)													
Scan Stocks													
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yearly Return

													s
Average Monthly Performance	- 0.1 1%	- 1.3 5%	1.9 9%	2.6 4%	2.3 8%	1.6 3%	2.2 2%	- 0.0 4%	1.8 2%	1.1 9%	1.0 4%	1.1 6%	
2025	- 0.5 8%	- 5.8 9%	6.3 0%	3.4 6%	1.7 1%	3.1 0%	- 2.9 3%	- 1.1 3% *					
2024	- 0.0 3%	- 1.1 8%	1.5 7%	1.2 4%	0.3 3%	6.5 7%	3.9 2%	1.1 4%	2.2 8%	- 6.2 2%	- 0.3 1%	- 2.0 2%	8.80%
2023	- 2.4 5%	- 2.0 3%	0.3 2%	4.0 6%	2.6 0%	3.5 3%	2.9 4%	- 2.5 3%	2.0 0%	- 2.8 4%	5.5 2%	7.9 4%	20.03 %
2022	- 0.0 8%	- 3.1 5%	3.9 9%	2.0 7%	3.0 3%	4.8 5%	8.7 3%	3.5 0%	3.7 4%	5.3 7%	4.1 4%	3.4 8%	4.33%
2021	- 2.4 8%	- 6.5 6%	1.1 1%	0.4 1%	6.5 0%	0.8 9%	0.2 6%	8.6 9%	2.8 4%	0.3 0%	3.9 0%	2.1 8%	24.12 %
2020	- 1.7 0%	- 6.3 6%	23. 25 %	14. 68 %	- 2.8 4%	7.5 3%	7.4 9%	- 2.8 4%	- 1.2 3%	11. 39 %	- 7.8 1%	- 14.90 %	
2019	- 0.2 9%	- 0.3 6%	7.7 0%	1.0 7%	1.4 9%	1.1 2%	5.6 9%	- 0.8 5%	- 4.0 9%	- 3.5 1%	- 1.5 0%	- 0.9 3%	12.02 %
2018	- 4.7 2%	- 4.8 5%	- 3.6 1%	- 6.1 9%	- 0.0 3%	- 0.2 0%	- 5.9 9%	- 2.8 5%	- 6.4 2%	- 4.9 8%	- 4.7 2%	- 0.1 3%	3.15%
2017	- 4.5 9%	- 3.7 2%	- 3.3 1%	- 1.4 2%	- 3.4 1%	- 1.0 4%	- 5.8 4%	- 1.5 8%	- 1.3 0%	- 5.5 9%	- 1.0 5%	- 2.9 7%	28.65 %
2016	- 4.8 2%	- 7.6 2%	10. 75 %	1.4 4%	3.9 5%	1.5 6%	4.2 3%	- 1.7 1%	- 1.9 9%	- 0.1 7%	- 4.6 5%	- 0.4 7%	3.01%
2015	- 6.3 5%	- 1.0 6%	- 4.6 2%	- 3.6 5%	- 3.0 8%	- 0.7 7%	- 1.9 6%	- 6.5 8%	- 0.2 8%	- 1.4 7%	- 1.6 2%	- 0.1 4%	- 4.06%
2014	- 3.4 0%	- 3.0 8%	- 6.8 1%	- 0.1 2%	- 7.9 7%	- 5.2 8%	- 1.4 4%	- 3.0 2%	- 0.1 3%	- 4.4 9%	- 3.2 0%	- 3.5 6%	31.39 %
2013	- 2.2 0%	- 5.6 6%	- 0.1 8%	- 4.3 6%	- 0.9 4%	- 2.4 0%	- 1.7 2%	- 4.7 1%	- 4.8 2%	- 9.8 3%	- 1.9 5%	- 2.0 7%	6.76%
2012	12. 43	3.5 8%	- 1.6	- 0.9	- 6.1	7.2 0%	- 0.9	0.5 6%	8.4 6%	- 1.4	4.6 3%	0.4 3%	27.70 %

	%		6%	0%	7%		5%			7%			
	-	-	-	-	-	-	-	-	-	-	-	-	-
	10.	3.1	9.3	1.4	3.2	1.5	2.9	8.7	1.1	7.7	9.2	4.3	24.62
2011	25	4%	8%	4%	9%	7%	3%	7%	5%	6%	8%	0%	%
	-	-	-	-	-	-	-	-	-	-	-	-	-
	6.1	0.8	6.6	0.5	3.6	4.4	1.0	0.6	11.	0.2	2.5	4.6	17.95
2010	3%	2%	4%	5%	3%	5%	4%	5%	62	0%	8%	4%	%
	-	-	-	15.	28.	-	-	-	-	-	-	-	-
	0.0	3.8	9.3	00	07	3.5	8.0	0.5	9.0	7.3	6.8	3.3	0.00%
2009	0%	7%	1%	%	%	5%	5%	5%	5%	2%	1%	5%	
	29.	41.	70.	64.	58.	58.	70.	58.	56.	62.	50.	62.	
	41	18	59	71	82	82	59	82	25	50	00	50	
Positive Count%	%	%	%	%	%	%	%	%	%	%	%	%	
	64.	58.	29.	35.	41.	41.	29.	41.	43.	37.	50.	37.	
	71	82	41	29	18	18	41	18	75	50	00	50	
Negative Count%	%	%	%	%	%	%	%	%	%	%	%	%	
Legends :<-10%-10% to -5% 5% to 0%0% to 5%5% to 10%>10%													

8.1 Average Monthly Performance

- Highest average returns are observed in **April (2.60%), May (2.42%), and July (2.21%)**.
- Weakest months on average are **February (-1.43%) and January (-0.20%)**.

8.2 Positive vs. Negative Months

- Months with the highest positive frequency: **March (70.59%), April (70.59%), July (70.59%)**.
- Months with the highest negative frequency: **January (58.82%), February (58.82%)**.

8.3 Yearly Observations

- **Best yearly performance** during the period: **2017 (27.91%)**.
- **Worst yearly performance**: **2011 (-24.64%)**.
- Strong years often show clusters of positive months (e.g., 2017, 2014, 2009).
- Crisis/volatile years (e.g., 2011, 2020) show sharp declines followed by rebounds.

8.4 Notable Trends

- April appears consistently strong — only 5 negative years out of 17.
- February tends to be weak, indicating possible post-budget corrections.

- Years with large positive December returns often follow with weaker Januarys, hinting at profit booking.

TABLE NO.2 .BSE- SEASONALITY ANALYSIS

SEASONALITY ANALYSIS		BSE		SENSEX		80,235.59 -368.49 (-0.46%)					
Scan Stocks											
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
Average Monthly Performance	-0.20%	-1.43%	1.82%	2.60%	2.42%	1.93%	2.21%	0.00%	1.65%	1.33%	1.17%
2025	-0.82%	-5.55%	5.76%	3.65%	1.51%	2.65%	-2.90%	1.17%*			
2024	-0.68%	1.04%	1.59%	1.13%	-0.70%	6.86%	3.43%	0.76%	2.35%	-5.83%	
2023	-2.12%	-0.99%	0.05%	3.60%	2.47%	3.35%	2.80%	-2.55%	1.54%	-2.97%	
2022	-0.41%	-3.05%	4.13%	-2.57%	-2.62%	-4.58%	8.58%	3.42%	-3.54%	5.78%	
2021	-3.07%	6.08%	0.83%	-1.47%	6.47%	1.05%	0.20%	9.44%	2.73%	0.31%	
2020	-1.29%	-5.96%	23.05%	14.42%	-3.84%	7.68%	7.71%	2.72%	-1.45%	4.06%	
2019	0.52%	-1.07%	7.82%	0.93%	1.75%	-0.80%	-4.86%	-0.40%	3.57%	3.78%	
2018	5.60%	-4.95%	-3.56%	6.65%	0.46%	0.29%	6.16%	2.76%	-6.26%	-4.93%	
2017	3.87%	3.93%	3.05%	1.01%	4.10%	-0.72%	5.15%	-2.41%	-1.41%	6.17%	
2016	-4.77%	-7.51%	10.17%	1.04%	4.14%	1.24%	3.90%	1.43%	-2.06%	0.23%	
2015	6.12%	0.61%	-4.78%	-3.38%	3.03%	-0.17%	1.20%	-6.51%	-0.49%	1.92%	
2014	-3.10%	2.96%	5.99%	0.14%	8.03%	4.94%	1.89%	2.87%	-0.03%	4.64%	
2013	2.41%	-5.19%	-0.14%	3.55%	1.31%	-1.84%	-0.26%	-3.75%	4.08%	9.21%	
2012	11.25%	3.25%	-1.96%	-0.49%	-6.35%	7.47%	-1.11%	1.12%	7.65%	-1.37%	
2011	10.64%	-2.75%	9.10%	-1.59%	-3.31%	1.85%	-3.44%	-8.36%	-1.34%	7.60%	
2010	-6.34%	0.44%	6.68%	0.18%	-3.50%	4.46%	0.95%	0.58%	11.67%	-0.18%	
2009	0.00%	-5.65%	9.19%	17.46%	28.26%	-0.90%	8.12%	-0.02%	9.32%	-7.18%	
Positive Count%	35.29%	41.18%	70.59%	70.59%	64.71%	64.71%	70.59%	52.94%	50.00%	62.50%	
Negative Count%	58.82%	58.82%	29.41%	29.41%	35.29%	35.29%	29.41%	47.06%	50.00%	37.50%	
Legends :- 10%-10% to - 5%-5% to 0%0% to 5%5%											



to 10%>10%

Interpretation -BSE

1. Average Monthly Trends

- **Best Months:** April (+2.60%), May (+2.42%), and July (+2.21%) show strong average performance, indicating seasonal bullishness.
- **Weak Months:** February (-1.43%) and January (-0.20%) tend to be the weakest, showing negative average returns over the years.

2. Positive vs. Negative Frequency

- Months with **highest positive frequency** ($\geq 70\%$ positive years): **March, April, July.**
- Months with **highest negative frequency:** **January** and **February** (both 58.82% negative years).

3. Yearly Performance Patterns

- **Bullish Years** (e.g., 2017, 2014, 2009) often have consistent gains in multiple months, especially in Q2 and Q4.
- **Bearish Years** (e.g., 2011, 2015) often show negative or flat growth in the majority of months.
- Years of crisis (e.g., 2020 COVID impact) showed sharp monthly declines followed by strong rebounds.

4. Special Observations

- **Post-Budget Volatility:** February often shows corrections, possibly due to post-budget adjustments.
- **Mid-Year Rally:** April to July tends to be a strong window historically.
- **December Effect:** December returns are mixed — slightly positive on average but with a 43.75% chance of being negative, often due to year-end profit booking.

BSE INVESTORS

□ For Investors

- **Optimal Buying Windows:** Consider increasing equity exposure in **March, April, May, and July**, historically strong months.
- **Risk Management:** Be cautious with fresh investments in **January and February**, which often deliver negative returns.

□ For Traders

- Use **short-term long trades** in April–July when bullish probability is higher.
- Consider **hedging positions** or lightening equity exposure in February and September when negative trends are more likely.

□ **For Portfolio Managers**

- Align portfolio rebalancing with seasonally weaker months to acquire undervalued positions at better prices.
- Use positive seasonal months to book partial profits, especially before periods of historical weakness.

9. Suggestions- For Investors: NSE

- Consider increasing equity exposure in historically strong months (April, May, July).
- Exercise caution or reduce exposure in February and January.
- **For Traders:**
 - Seasonal weakness in certain months can be used for short-selling or hedging strategies.
 - Use historical probability data as a supplementary indicator with technical and fundamental analysis.
- **For Portfolio Managers:**
 - Align rebalancing activities with months of historically higher volatility or negative bias to optimize entry points.

10. Conclusion

The seasonality analysis of the BSE Sensex over 17 years reveals a recurring monthly performance pattern, with April, May, and July emerging as historically strong months, and January and February showing consistent weakness. These patterns, while not guarantees, provide valuable probabilistic guidance to enhance investment decisions. Incorporating such historical seasonality into trading and investment strategies can improve timing, risk management, and portfolio performance. The BSE Sensex exhibits clear seasonal patterns, with April, May, and July emerging as consistently strong months, and January and February as historically weak periods. Over the long term, March–July offers higher upside potential, while early Q1 (Jan–Feb) and late Q3 (Sep) carry relatively higher downside risk. While seasonality does not guarantee future outcomes, integrating historical monthly performance into investment and trading strategies can enhance returns and reduce risks. This analysis can be a supplementary tool alongside fundamental and technical analysis, helping investors better time their market entries and exits.

REFERENCE:



- *There Seasonality in the Sensex Monthly Returns?* — (working paper / IDEAS/RePEc / CORE). [IDEAS/RePEcCORE](#)
- NSE, “Stock Market Seasonality: A Study of the Indian Stock Market” (NSE Research Paper). [NSE India Search Archives](#)
- *Month-of-the-Year Effect: Empirical Evidence from Indian Stock Market* (article, PMC / 2022). [PMC](#)
- *Calendar Anomalies in the Indian Stock Market* (ResearchGate / book/paper reviewing multiple calendar effects). [ResearchGate](#)
- *Diminishing calendar anomalies: case of Indian equity markets* (recent study). [ResearchGate](#)
- Additional useful reads (methodology / background): Research articles on seasonal patterns and GARCH application to Indian markets.

Reference: Sharma, R., & Mehta, P. (2021). Volatility and Performance Analysis of Indian Stock Market: Evidence from BSE Sensex and NSE Nifty. International Journal of Financial Management, 11(2), 35–48.

Reference: Ramesh, K., & Gupta, S. (2019). Macroeconomic Variables and Stock Market Performance: An Empirical Study of BSE and NSE. Journal of Economics and Business Research, 25(3), 78–92.

Reference: Priya, M. (2018). A Study on Investor Perception and Behaviour towards Equity Investments in India. Unpublished Doctoral Thesis, Bharathiar University, Coimbatore