

The Impact of Inflation on Institutional Investors Behaviour in the Indian Stock Market

Pavithra R¹, Dr. J. Shanthilakshmi²

¹Pavithra R. II MBA, Jansons School of Business, Coimbatore, Tamil Nadu

²Dr. J. Shanthilakshmi., Professor (HR) Jansons School of Business, Coimbatore.

ABSTRACT

Inflation has a significant impact on equity markets as it can lead to a reduction in purchasing power and a reduction in real income, which in turn affects the cost of equity. While inflation generally has a negative impact on equity markets, it can have a positive effect in some cases. Investors in the Indian stock market can react to inflation by adapting their investment strategies, including changes in asset allocation, sector rotation, risk management, monitoring central banks' activities and adjusting their investment horizon. Institutional Investors (IIs), such as pension funds, insurance companies and mutual funds, may adjust their investment strategies in order to include more inflation-linked assets, such as Treasury Inflation-Protected Securities (TIPS) or inflation-indexed bonds, in order to preserve their purchasing power. In addition, their portfolios can be reallocated to assets less susceptible to the negative effects of inflation, such as equities, gold and real estate. Institutional Investors can also move their investments to sectors that tend to perform well during inflationary periods, such as consumer staples, utilities and natural resources. In addition, risk management strategies, such as diversification, hedging, or investment in inflation-protected securities, may be used to protect portfolios from inflation-induced volatility. Finally, Institutional Investors closely monitor the central bank's activities, such as interest rates of the Reserve Bank of India (RBI) and monetary policy adjustments, which may affect inflationary expectations and market sentiment. This study aims to analyse the impact of inflation on Institutional Investors' (IIs) investment behaviour in the Indian stock market.

Keywords: Inflation, Investors, Institutional investors, risk management,

1. Introduction

Inflation negatively affects equity markets by decreasing purchasing power and real income. Additionally, high inflation increases interest rates, which impacts the cost of equity. While inflation is typically detrimental to equity markets, there are instances where the inflationary effect is positive. Despite this, investing in equity markets, including the Indian stock market and indexes such as Nifty and Sensex, has become increasingly popular and it is important to understand how inflation affects investments.

Inflation, commonly defined as a rise in the overall price level of goods and services, can have a significant impact on the purchasing power of a currency. When inflation is left unchecked, it can lead to a reduction in consumer spending, which in turn negatively affects the economy. In order to control inflation, governments may implement policies that can also affect employment and economic growth. While some stocks, such as value stocks, may perform better during inflationary periods, others, such as growth stocks, may struggle. Inflation can have different impacts on various types of investors, including individual,

institutional, bond, and stock investors. For instance, individual investors may allocate more of their portfolios to assets like real estate, commodities, or stocks of companies with pricing power to hedge against inflation. Institutional investors may adjust their strategies to incorporate more inflation-linked assets, such as Treasury Inflation-Protected Securities (TIPS) or inflation-indexed bonds to preserve their portfolios' purchasing power. Stock investors may consider sectors that have historically performed well during inflation, such as consumer staples, utilities, and natural resources. Speculative investors, including day traders or those involved in options trading, may adjust their strategies to take advantage of short-term fluctuations caused by inflationary pressures, seek opportunities for quick gains, or hedge against potential losses.

However, the effect of inflation on investor behaviour is influenced by several factors, such as investors' risk tolerance, financial goals, and investment time horizon. This study specifically examines the impact of inflation on Institutional Investors' behaviour in the Indian stock market, rather than considering all types of investors.

1.1 Problem Statement

Inflation's impact on interest rates influences the valuation of bonds and stocks. As inflation rises, so do interest rates, leading to capital losses for bond holders like banks and mutual fund investors. This occurs because rising interest rates result in decreased bond prices, reducing the Yield To Maturity (YTM). The higher cost of capital for companies then leads to lower valuations of future cash flows. Equity valuation is based on the discounted cash flow method, where the present value of future cash flows is calculated using a discount rate. When the discount rate increases, the present value of future cash flows decreases, leading to a lower equity valuation. Inflation can have both positive and negative effects on stocks and bonds. While rising inflation may be associated with an increase in GDP growth, it can also lead to downside risk for stocks and bonds if it becomes excessive. In the US and Japan, the primary economic goal is to revive inflation to a 2% level, which is expected to stimulate growth. However, extremely high inflation can erode purchasing power. Therefore, it is crucial to find the right balance between the positive and negative effects of inflation for macroeconomic stability. This study examines the behavioural changes in FIIs and DIIs caused by inflation and their trading activity between 2017 and 2023.

1.2 Objectives

- To determine the relationship between Institutional Investors trading activity and inflation.
- To assess the impact of inflation on trading activity of Institutional Investors

2. Review of Literature

Joo and Mir (2014), conducted a study to examine the impact of FIIs on stock market volatility using time series data from 1999 to 2013 on SENSEX, Nifty, and FIIs. They used the augmented Dickey-Fuller test to check for stationarity and the GARCH model to evaluate volatility, finding a significant relationship between the stock market's volatility and FIIs. The study also revealed the influence of FIIs on the volatility of SENSEX and Nifty.

Siddiqui and Azad (2012), analysed the relationship between market indexes and FIIs in India from 2000 to 2010. They discovered a significant impact of FIIs on stock returns for the Auto, Metal, and IT Indexes. A mild significant impact was observed for SENSEX, BSE 500, BSE 100, BSE Capital Index, BSE Consumer Durables Index, and PSU Index. However, no significant impact was found for BANKEX, Realty, FMCG, Oil and Gas, and Power Indexes.

Dhingra et al. (2016), explored the interactions between FIIs and the stock returns and volatility of the market using dynamic and static models. They found evidence of FIIs destabilizing the market using vector auto-regression.

Shikha Jalota (2017), focused on the behavioural aspects of FIIs and domestic Institutional Investors (DIIs) to examine their relationship. The study found that investors have a positive outlook on India and favourable sentiments following the government's recent announcement of reform measures. The study also observed that FIIs tend to withdraw their investments during times of market volatility in India, while the behaviour of DIIs in India is influenced by these conditions.

Omkar et al. (2022), investigated the effects of foreign Institutional Investors (FIIs) on the Indian stock market following the pandemic. The study found that FIIs turned into investors, causing domestic Institutional Investors to engage in profit booking, which led to the Nifty reaching 17,500 by the next financial year (2021-22). The findings support the alternative hypothesis, demonstrating that FIIs have a significant impact on the Indian stock market. The study also showed that FIIs have a negative dependency on the BSE Sensex and Nifty.

In contrast, H. Kaur (2015), examined the impact of inflation on the stock market index, which serves as a barometer of the nation's economy. The study used time series data and regression analysis to show that inflation was positively correlated with the NSE Nifty during the period of 1995-2015. This suggests that controlling inflation and maintaining bullish sentiments in the economy will be crucial for India to become a super economy in the world.

3. Research Design

This descriptive study has employed both qualitative and quantitative research approach. The research is based on secondary data of FII and DII from 2017 to 2023. The secondary data are collected through various web platforms, statistical analysis, news articles etc. Data for the trading activity of FII and DII was collected from the Bombay Stock Exchange (BSE) and National Stock Exchange (NSE) websites. Correlation test was applied in order to assess that whether any relationship exist between the two series of data of Indexes (Nifty and Sensex) and Inflation, between Indexes and Institutional Investors (IIs) trading activity and between Inflation and Institutional Investors' trading.

4. Analysis

4.1 Correlation analysis on Indexes and Inflation

The stock market and inflation are closely connected. Rising prices can impact investments, and it is crucial for investors to adjust. Generally, inflation is linked to lower returns for major stock market indexes, such as the Sensex and Nifty 50. In this analysis, the relationship between inflation and the indexes is examined to determine the direction of the variables.

Table 4.1: Correlation analysis on Indexes and Inflation

	<i>INFLATION</i>	<i>NIFTY</i>	<i>SENSEX</i>
<i>INFLATION</i>	1		
<i>NIFTY</i>	0.717873	1	
<i>SENSEX</i>	0.850929	0.890132	1

Hypothesis: Inflation in India and Nifty, Sensex indexes have no significant relationship

The correlation value ($r= 0.71$) indicates that there is a direct relationship between the inflation and indexes. It is understood that indexes will increase when inflation is increasing and it is inferred that the

market movement is positively correlated with inflation which is the one of the factors that affects the stock market.

4.2 Correlation on Indexes and Institutional Investors’ trading activity

Institutional Investors (Foreign Institutional Investors (FII) and Domestic Institutional Investors (DII)) are only considered from all types of investors in the stock market and the correlation is analysed between them and the indexes (Nifty and Sensex) to check the relationship. The data of trading activity of Institutional Investors is constrained to trading in only two asset categories, that is Equity and Debt.

Table 4.2: Correlation on Indexes and Institutional Investors’ trading activity

	<i>NIFTY</i>	<i>SENSEX</i>	<i>IIs trading</i>
<i>NIFTY</i>	1		
<i>SENSEX</i>	0.890132	1	
<i>IIs trading</i>	-0.72779	-0.7446	1

Hypothesis :2 There is no relationship between Institutional Investors trading activity in Indian stock market and Nifty and Sensex indexes

The analysis indicates that there is an inverse relationship between Institutional Investors trading activity and Nifty and Sensex indexes.

Table 4.3: Correlation analysis of Institutional Investors’ trading activity with Inflation rate

	<i>IIs investments</i>	<i>Inflation rate</i>
<i>IIs investments</i>	1	
<i>Inflation rate</i>	-0.519251207	1

Hypothesis 3: There is no relationship between Institutional Investors trading activity and inflation.

Institutional Investors trading activity in Indian stock market (IIs) and inflation has inverse relationship. This inverse correlation indicates that Institutional Investors trading that is net purchase or sell of each year may increase when there is decrease in inflation rate.

4.4 Regression Analysis

Hypothesis 4: There is no significant relation between Institutional Investors’ trading activity and Inflation.

Table 4.4: Regression analysis of Institutional Investors’ trading activity with Inflation rate.

<i>Regression Statistics</i>	
Multiple R	0.554528419
R Square	0.307501768
Adjusted R Square	0.169002121
Standard Error	1.064524059
Observations	7

<i>ANOVA</i>					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	2.515995816	2.515995816	2.220235036	0.19639811
Residual	5	5.666057366	1.133211473		
Total	6	8.182053181			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.4914124	1.6239431	0.91838955	0.40054868	-2.6831	5.66589	-2.6831	5.6659
Inflation	-46.685979	31.3319191	-1.4900453	0.19639811	-127.23	33.8553	-127.23	33.8553

Multiple R is 0.5545284, which indicates a linear relationship between the predictor Inflation and the response variable Institutional Investors trading activity more than half a way.

R-Squared is 0.307501768, which indicates that 30.75% of the variance in the IIs trading activity that can be explained by Inflation. The F value is 2.22 which is less than 2.5 which means the null hypothesis is failed to be rejected. That is the strong relationship between Institutional Investors trading activity and Inflation cannot be concluded to exists.

The p-value is 0.1964, which is more than the common significance level of 0.05. This indicates that the null hypothesis is not statistically significant, and the null hypothesis is accepted.

It is statistically evident there is no significant relation between Institutional Investors’ trading activity and inflation.

5. Findings and Conclusion

There is a direct relationship between the inflation and indexes. It is understood that indexes will increase when inflation is increasing and it is inferred that the market movement is directly related with inflation which is the one of the factors that affects the stock market.

The analysis indicates that there is an inverse relationship between Institutional Investors trading activity and indexes which indicates that the inflation factor, which is one of the factors that affects indexes, does not affect Institutional Investors’ trading activity as much.

Institutional Investors trading activity in Indian stock market (IIs) and inflation has inverse relationship. This inverse correlation indicates that Institutional Investors trading that is net purchase or sell of each year may increase when there is decrease in inflation rate.

The change in the trading activity of Institutional Investors is not significantly affected by inflation rates rather it could be affected by various other factors at the micro and macro level.

This study starts with the assumption that the inflation rate of a country could affect institutional investor trading in equity and debt securities. Inflationary risk is also one of the risks that can impact stock gains, dividend yields, volatility, etc. Among many other factors affect stock market volatility at the company, industry, and economic level, inflation is one of these factors. This study tests the inflation factor alone to determine the impact and relationship with Institutional Investors, rather than considering all types of investors.

The results of the analysis on hypothesis testing show that the assumption is not true. Institutional Investors’ trading is affected majorly by many other factors. They possibly consider all the factors that discount the price of a stock.

However, in the analysis, it is found to be a positive correlation between the indexes and inflation, indicating a relationship between the two. Nevertheless, the relationship between inflation and stock market indexes is complex and multi-faceted. While moderate inflation of around 2-4% has generally been associated with the highest stock market returns, periods of high inflation pose numerous challenges for corporate earnings, valuations, and investor sentiment. The impact of inflation also varies across different

types of indexes, depending on their sector exposures, index compositions, and constituent companies' ability to navigate rising costs. Large cap, defensive, and value-oriented indexes tend to demonstrate more resilience during inflationary periods, while growth, cyclical, and small cap indexes face relatively greater pressures. Therefore, to preserve wealth during inflation, Institutional Investors can employ several strategies to navigate the impact of inflation on stock market indexes.

Shift toward sectors with pricing power: Consider increasing exposure to sectors such as healthcare, consumer staples, and utilities that have the ability to pass higher costs to consumers. These sectors tend to hold better during periods of high inflation.

Large cap companies: Large companies typically have stronger balance sheets and more pricing power, allowing them to withstand rising costs and margin pressures better. Large-cap indexes tend to outperform during inflationary periods.

Prefer value stocks over growth: Value stocks tend to have more stable fundamentals, pay higher dividends, and are less sensitive to interest rates, making them relatively attractive investments when inflation and interest rates rise.

Reducing exposure to cyclical sectors: Materials, industrial, and consumer discretionary stocks face greater challenges during inflation because rising costs squeeze profit margins and dampen consumer spending. Limit exposure to cyclical sectors.

Consider companies with profitable dividend growth for protection; dividends that grow in line with or faster than inflation can offer some protection for investors. Search for businesses with strong cash flows and earnings potential.

Diversifying globally to reduce inflation's impact: Investing in international companies can help minimize the effects of inflation in any one country or market. Different countries may face different cost pressures and policy responses.

Maintaining a long-term buy-and-hold strategy: Although inflation can cause short-term disruptions, a long-term approach focused on high-quality companies has historically outperformed. The portfolio is periodically rebalanced.

Stay informed but avoid overreacting: monitor inflation data, central bank policy, and economic indicators but avoid making drastic portfolio changes based on short-term market fluctuations. Make gradual adjustments to align with long-term goals.

These are the behavioural changes or actions taken by Institutional Investors to mitigate inflation risk, despite no significant changes in overall investments, as observed in this study.

While no strategy can guarantee returns, a balanced and measured approach tailored to one's goals and risk tolerance can help soften the impact of inflation on stock market investments over time.

Bibliography

1. Bashir Ahmad Joo, Zahoor Ahmad Mir (2014). Impact of FIIs investment on volatility of Indian stock market: An empirical investigation. *Journal of Business & Economic Policy*. Vol. 1, No. 2.
2. Areej Aftab Siddiqui, N.A. Azad (2012). Foreign Institutional Investment Flows and Indian Financial Market: Relationship and Way Forward. *Vision: The Journal of Business Perspective*. Vol. 16, Issue 3.
3. VS Dhingra, S Gandhi, HP Bulsara (2016). Foreign institutional investments in India: An empirical analysis of dynamic interactions with stock market return and volatility. *IIMB Management Review*. Vol 28, Issue 4.

4. Dr. Shikha Jalota (2017). FII and DII in Indian Stock Market: A Behavioural Study. *International Journal of Research in Finance and Marketing*. Vol. 7, Issue 5.
5. Omkar S Chitnis, Priyanka Khanzode, Amit Kanchanbaras (2022). Investigating effect of FII on Indian Stock Market – A study in Indian Diaspora. *Unnayan “International Bulletin of Management and economics”*. Volume-XIV, Issue – II.
6. Herpreet Kaur (2015). A study of impact of inflation on national stock index. *International Journal of Advanced Research in Management and Social Sciences*. Vol. 4, No. 7.

Websites:

1. www.bseindia.com
2. www.nseindia.com
3. www.indianfoline.com
4. www.rbi.org.in
5. www.forbes.com
6. www.researchgate.net
7. www.moneycontrol.com
8. www.motilaloswal.com

Appendix:

Table: 1 Data on Inflation rate, NIFTY AND SENSEX during 2017-2024

YEAR	INFLATION RATE	NIFTY	SENSEX
2017-18	3.33%	10,114	36,068
2018-19	3.94%	11,570	41,254
2019-20	3.73%	8,598	47,751
2020-21	6.62%	14,691	58,254
2021-22	5.13%	17,465	60,841
2022-23	6.70%	17,360	72,240
2023-24	5.70%	22,327	73,651

Source: NSE India, BSE India

Table 2: IIs’ Net Investment for the period 2017-2024

YEAR	IIs’ Net Investment
2017-18	2,90,466.50
2018-19	6,35,980.30
2019-20	2,50,282.50
2020-21	1,68,271.40
2021-22	-94,022.30
2022-23	1,33,583.40
2023-24	-87,852.60

Source: NSE India, BSE India