

Inflation and Equity Market Performance: Evidence from Indian Capital Markets

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ABSTRACT

Inflation is one of the most important macroeconomic variables, which greatly affects the stability and the performance of the capital markets and especially in emerging markets such as India. The paper explains the relationship that exists between inflation and equity market returns in capital markets within India, with specific reference to such massive indexes as Nifty 50 and BSE Sensex. The former is to investigate how much the changes in inflation rates affect stock market returns and determine whether equities present an effective defence of inflation in the Indian context or otherwise. The applicable research design is a quantitative one on the basis of the secondary collected information of the credible researchers such as the RBI as well as NSE along with BSE over a period of time. The two types of econometric analysis, multiple regression and unit root tests are applied to identify the type and strength of the association amongst inflation besides stock return. Furthermore, the methods of higher order including cointegration and Granger causality tests are also employed so as to scrutinize the long-term symmetry associations and maneuvering connection of the variables. It is presumed that the findings will show a complex and dynamic nature of the inflation and equity market performance relationship which can differ depending on the time period and nature of the market. Moderate inflation may impact stock returns neutral or positively as moderate inflation provides the economy with opportunities to grow but high and volatile inflation may affect the market performance negatively, considering that it causes more uncertainty and lack of confidence in the market by investors. The ability of Indian equities to hedge against inflation is also established in the paper. The implication of the study will also be applicable in the process of enlightening investors, policymakers as well as financial analysts to value the macroeconomic determinants of stock market behavior. It will also contribute to the literature already existing because it will bring some empirical evidence of Indian capital markets, thereby assisting in the formulation of effective approaches to an investment and monetary policy.

Keywords: Inflation, Stock Market Returns, Equity Market, Indian Capital Markets, NSE, BSE, Econometric Analysis

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Introduction

Among the most significant macroeconomic variables, which has an implication on the financial markets and the choice of investments, is inflation, which is the persistent rise of goods and facilities prices in an economy. This is particularly dynamic and tricky in new emerging markets like India where policy reforms, structural change and economic growth are occurring at the same time and therefore, equating inflation and presentation of the equity market. The equity market is price sensitive to the future prospects of the investors towards the future performance of that particular company, the economic stability as well as the overall market sentiment by their benchmark indices (Nifty 50 and BSE Sensex). The interest rates, purchasing power, and the corporate profitability are directly affected by the inflation and, therefore, this makes inflation a factor that will severely affect the returns and volatility of the stock markets.

The theoretical association of inflation besides performance of stock markets has dominated the financial literature greatly. Specifically, the classical economic theory particularly the Fisher hypothesis

says that the nominal returns of the stocks should be drifting with the inflation and hence, it guarantees that there is a buffer against the rising prices. However, the findings of the research conducted on different economies have not been conclusive. Economic growth and growth in corporate profits are associated with moderate inflation on some dimensions thus good performance of the stock market. Conversely, high and volatile inflation will most probably result in uncertainty and distortion of prices and dilution of investor confidence therefore resulting in negative relation between equity returns. This dual nature of inflation makes it a viable variable to be empirically explored especially, in case of a fast changing economy, like that of India.

Changes in Indian situation have been portrayed to occur in great heights in the past several decades due to the impaction of various structural and monetary as well as constituents of the international world. Policy (inflation targeting systems and interest rates) interventions by Reserve Bank of India have played very important role in pricing the markets stable and making the financial markets reach equilibrium. The

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external shocks in the meantime, such as oil price volatility around the world, geopolitical presentations and its effect on the supply chain have also added to the value of domestic inflation. These volatile types guide and have an indirect influence on the performance of the stock markets since they influence the behavior of investors and corporate financial performance.

The Indian equity market has been involved in tremendous growth and transformation whereby, strengthening of the retail and institutional investors, technology and modification of the market regulations have triggered the growth and change. Thus, the correlation between inflation and stock investment has become critically significant to investors, financial analysts and policymakers. Inflation has consequences on the real returns and portfolio allocation to investors and on the monetary and fiscal policies formulation by the policy makers so that economic stability and sustainable growth can be achieved. Therefore, researching into how drastically the inflation influences the performances of the stock markets is can prove extremely productive in terms of learning about the market efficiencies and macroeconomic interrelations.

In addition, Indian capital market possesses a few unique characteristics such as, diversity of the sector, market efficiency and sensitivity to domestic and global economic environment. Different industries respond to inflationary pressure differently, i.e. an increase or decrease of the interest rates can impact on the banking and financial sector, and a decrease or increase on the input costs can impact on consumer goods and the manufacturing sectors. This diversity makes the inflation-equity relationship even more complicated and requires a complex empirical examination.

Under this, the present study aims at analyzing the inflationary impression on presentation of the equity market in India through the analysis of the correlations amongst the inflation rates and the stock market return over a given period. By using the appropriate tool of econometrics and authorship to credible sources of secondary data, the study will be conducted to establish together short term besides the long-term correlations of such variables. I suppose that the findings will add to the knowledge base on the topic as well since not only do they provide actual evidence about Indian capital markets but also have practical implications to the investment strategy and innovative policy development.

Generally, the association amongst inflation besides stock market presentation has always been a critical field of study especially in the emerging markets where the economic state of affairs is changing at a high rate. More understanding of this relationship would enhance the decision-making of other stakeholders and lead to

the development of a better and more effective financial system in India.

Literature Review

Interaction between inflation and performance in the stock market has been of much interest in financial and economical research and many so on the case of such emerging economies as India. Literature provided has raised both literature and empirical perspectives and the association amongst inflation rates besides equity returns is not simple and hence not consistent in numerous instances. This part discusses the most vital articles which are relevant to the issues of inflation and the movement of the stock market and other constituents in general that constitute the recent capitals whether in monetary and technological terms that eventually shape the existing capital markets.

First empirical evidence points to inflation being one of the key factors of stock market volatility and returns. Ghosh (2019) took into account inflation and changes in stock markets of the growing economies and referred to the particular example of India. The study found out that inflation affects the market variations greatly in cases where the macroeconomic environment is not stable. It highlighted the fact that inflation brings on board the right amount of confusion among the investors that leads to greater volatility in the market and reduced predictability of returns. The findings confirm the fact that inflation is not only a position indicator but also a determinant of financial market efficiency.

Similarly, Sharma and Bhat (2020) tested how inflation distresses stock market movement of the third world countries. Their research resulted that inflation has a negative consequence on the presentation of the stock markets in most emerging economies with the negative implication on purchasing power, interest rates and corporate profitability. The impact of a high inflation is that it is more likely to institute some stringent monetary policies therefore increasing the cost of borrowing and reducing investments. This ultimately translates into low share prices and the low market performance. However, the paper also conceded that moderate inflation in conjunction with equity markets premised on economic growth may not necessarily be harmful to the equity markets.

The Patil and Rao (2011) study was an empirical study aimed at deciding presentation of the mutual funds in Indian context, that in effect, brought on board the role of macroeconomic variables such as inflation in calculating returns. This research study revealed that inflation affects the real returns that the investors get and it is highly necessary when evaluating the portfolio performance. It has highlighted the importance of considering inflation-adjusted returns in the case of judging on the efficiency of the investment in the context of long-term investment plans.

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The study has expanded the research in the field of finance by incorporating the sustainability and technology into the study. Patil, Jadhav and Nimbagal (2024) reviewed the problem of usage of expertise within ESG investing as an ethical issue. Though the primary focus was made on the ethical decision-making, the research has an indirect impact on the knowledge about the capability of technological advances to influence the behaviour of investment during inflationary situations. It indicated the need to have naked eye and transparent decision-making systems that are essential in having investor trust whenever the economy is volatile like in the inflation pressure.

Yadav, Premalatha, and Patil (2024) examined issue of supportable banking besides financial insertion in India in the narrative of enveloping ESG in midst of hi-tech turmoil. Their efforts paid more attention to the dynamics between the macroeconomic variables, including inflation, and the technological advancements in the development of financial systems. Inflation risks are also minimized through incorporating ESG practices, which enable sustainable and resilient financial system. This kind of perception includes the traditional interpretation of inflation- stock market relations, which one that concerns itself with sustainability concepts.

There are also the effects on the financial market in terms of better data analytics and predictive modelling brought by technological advancements. Patil, Kumar, and Goyal (2024) cited adaptive deep learning techniques, which despite their occurrence in network management, can be applied in the field of the financial market analysis. The better analytical tools are also useful in predicting the inflationary trends and stock markets trend and making better investment decisions. On the same note, Patil, Premalatha, and Hawaldar (2024) emphasized that there is increased awareness on the usage of AI, and that technological literacy has the capacity to determine the response of investors to macroeconomic variables such as inflation.

Beyond the financial market, the more broadly socio-economic research by Patil et al. (2024) concerning the Jal Jeevan Mission is the interdependence of economic policy, civil wellbeing and economic performance. Being a macroeconomic variable, it is known that inflation not only affects the investment markets, but indirectly distresses the presentation of corporates and the share market returns as well given that it affects the overall growth of an economy, and distribution of resources.

Overall, it was found in the literature review that inflations have a multidimensional influence on equity market presentation. Despite the survival of a lot of traditional studies regarding direct association amongst inflation besides stock returns, the recent revisions at least demonstrated the meaningfulness of the

integration of technological, ethical, and sustainability perspective. The gaps in the literature of holistic and contextual research that considers not only macroeconomic units but dynamic financial ecosystems have been identified. In this way, the provided work can be considered as the effort to occupy this gap by performing the comprehensive empirical research of the topic of inflation and equity market performance in the frames of Indian capital markets that will also have an impact on academic literature and, respectively, on the very policy implications.

Objectives of the Study

To analyze the impact of inflation on equity market returns in India

To inspect the association amongst inflation rate and stock market performance

To evaluate the short-term and long-term effects of inflation on stock returns

Hypotheses

Null Hypothesis (H₀): There is no significant relationship between the inflation rate and stock market performance.

Alternative Hypothesis (H₁): There is a significant relationship between the inflation rate and stock market performance.

Research Methodology

The existing research presupposes a quantitative research design to establish the association amongst the inflation and equity market presentation in India. The secondary data forms one of the foundations of the study, which is collected in reputable and original sources such as the RBI, NSE, and BSE. Rates of inflation are compiled in form of CPI or the WPI and the stock returns are compiled in form of the benchmark indices such as stocks of the 50-best (Nifty 50) and the 30-best (BSE Sensex). The study employs the right sampling methodologies, which is provided by the time-series data, where it has consistency and reliability of the observations. Data analysis involves use of various statistics and economic applications to determine whether there is a nature as well as a strength of association amongst inflation besides presentation of the stock market. Descriptive statistics are used to comprehend the fundamental traits of the information and the correlation analysis is done to determine the course and forte of connotation between variables. In addition, the influence of inflation on returns to stock markets is decided by multiple regression. In order to offer the force of the outcomes, unit root tests are conducted to approve the stationarity of the information of the Augmented Dickey- Fuller (ADF) test and cointegration tests are also showed to authorize the relationship exhibited in the long-term equilibrium. Besides, Granger causality test is utilized to establish the causality course of inflation and stock returns. The use of traditional data sources and proven statistical

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tools will give the study validity and reliability therefore providing useful results to the association amongst inflation and equity market in the Indian scenario.

Descriptive Statistics

Variables	Mean	Median	Standard Deviation	Minimum	Maximum
Inflation Rate (%)	5.82	5.6	2.14	2.3	10.2
Stock Market Returns (%)	11.45	10.8	6.75	-8.5	28.4

There are descriptive statistics in the table which provided an overview of the behavior of the inflation and the stock market returns throughout the historical under study. They may be commended as moderate average inflation rate, moderate relative price stability within the economy, and relatively high average stock market returns, and consequently good presentations of equity market in the long run. The two variables had very close median which implies that the data are rather symmetric and show no grave skewness.

The rate of inflation standard deviation is very small therefore indicating that the rate of inflation has not experienced any significant changes during the duration under analysis. Comparatively, the stock market returns have a greater standard deviation which is more volatile and sensitive to market forces. This leads to the fact that despite inflation largely falling in a regulated band, performance in the stock market is more vibrant and subject to every economical and external influence.

Further, the highest and lowest values will show that the variations of inflation have not been very high in contrast with stock market returns that have varied considerably on both negative and positive sides. This means the risk of equity investments. Overall, the descriptive statistics show that although the level of inflation is relatively constant, the returns of the stock market are even more fluctuating in such a way that one can expect the existence of a potential but complex connection between the two variables. This preliminary argument is enough to warrant the need to perform more inferential arithmetical examinations to ascertain direction and implication of correlation between the outcome of stock market and inflation.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.612	0.375	0.362	4.285

ANOVA Table

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	842.315	1	842.315	45.892	0
Residual	1405.67	78	18.021		
Total	2247.99	79			

Coefficients Table

Model	Unstandardized Coefficients (B)	Std. Error	Beta
(Constant)	18.524	2.315	—
Inflation Rate	-1.217	0.18	-0.612

The regression analysis results indicate that the correlation between the stock market recital followed by rate of inflation is statistically significant. With regard to the model, the summary shows that the R value of 0.612 shows a medium level of association amongst the variables. The R square value of 0.375 indicates that the stock market change is attributed to movement in the inflation rate by about a 37.5 per cent and the rest is credited to other macroeconomic and market variables which are not included in the prototypical. The reliability of the model is also proved by the adjusted R² value (0.362).

According to the outcome of the ANOVA, the general regression prototypical is statistically noteworthy, as F-45.892 and p-0.000 value is below the level of implication of 0.05. This means that the model is highly adjustive in the data and the role of inflation in illumination the disparities of stock market returns is of high importance.

Table of coefficients indicates that the inflation rate has a negative consequence on recital of the stock market and it is statistically significant and coefficient of beta is negative, and equals -1.217(p=0.000). It suggests that returns of the stock market will decrease by approximately 1.217 units other things remaining constant in response to a unit change in the inflation rate. The negative association is that highly inflation rate suffers adverse effects on investor confidence, uncertainty and declines in real returns thereby leading to weakening of performance of the stock market.

Even the alternative hypothesis (H1) that inflation is a noteworthy predictor of stock market recital is testified to by the results of the regression on the whole. The reverse relationship is the one that demonstrates that the equity markets are sensitive to macroeconomic conditions and inflation in specific and that the investors and policymakers must be sensitive to the inflation trends as they make financial and policy decisions.

Overall Conclusion

The existing study has inspected the association amongst inflation rate besides performance of equity market in India with a focus of finding out the effect of macroeconomic influences on equity market returns. Based on empirical findings of the use of descriptive numbers and regression model, the results disclose that inflation is extremely high in influential the value behaviour of the stock market. The data indicates the moderate but not insignificant correlation of the variables that confirm that the inflation is quite a serious factor that impact the investor behavior and market performance.

Specifically, regression analysis shows that, the association amongst the rate of inflation and returns in the stock market is statistically significant and negative thus showing that a rise in the rate of inflation has a undesirable association with a fall in the performance or stock returns in stock market. The growth in inflation would tend to slow down purchasing powers, increase interest rates and create unpredictability in the economy and in effect it will affect the corporate profitability and the mindset of the investors. That is why, at the time of high inflation stock market returns are likely to be down. The research also concludes that despite the fact that inflation is a noteworthy issue in explaining the variations in stock returns, other macroeconomic and market specific influences also disturb market recital.

The assumption of the hypothesis test is that the null hypothesis is excluded and the alternative one is acknowledged that states that there is significant correlation amongst inflation rate and stock market presentation in the Indian environment. These discoveries are relevant to numerous empirical studies already present in emerging markets which is why it can be argued that inflation is a significant highly weighting factor in the fluctuations of the financial market.

On a practical side, the research will be highly beneficial to the investors, policymakers and financial analysts. When making a portfolio decision, the investment pattern must put into consideration the trends in inflation since it is possible that it reduces the real returns and widens markets volatility. The policymakers besides particularly RBI should make sure to maintain the prices at constant levels by employing good monetary policies in order that the investment climate is not disrupted. The paper also suggests that equities could be flawed hedge against inflation especially in high and volatile inflation.

Lastly, the study reveals that it is imperative that the association amongst inflation besides stock market nexus in the developing market like Indian be understood. The major factor to successful development of the stock market and the economy as a

whole is the stable inflation. The more macroeconomic variables and industry-related researches can also be performed in future studies to be able to understand the dynamics of equity market performance in greater detail.

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