

# Impact of Inflation (Consumer Price Index) on Bombay Stock Exchange (SENSEX)

Mr. Naresh Kedia

Faculty, Amity Business School, Amity University Madhya Pradesh, [nkedia@gwa.amity.edu](mailto:nkedia@gwa.amity.edu)

Prof. Anil Vashisht

Director, Amity Business School, Amity University Madhya Pradesh, [avashisht@gwa.amity.edu](mailto:avashisht@gwa.amity.edu)

## Abstract

**Introduction:** Bombay stock exchange (BSE) is the major stock exchange of the country which has very high market capitalization and about 5000 companies listed and their shares are being traded. Inflation being one of the major macroeconomic variables may impact the Sensex index of BSE. **Objective:** Impact of Inflation (Consumer Price Index) on Bombay Stock Exchange (SENSEX). **Material & Method:** Linear regression and analysis of variance is used for finding the impact to Inflation on BSE Sensex. **Results & Discussion:** There is significant impact of Inflation CPI (Consumer price index) on the BSE Sensex Index. The relationship is inverse as with the rise in inflation, there will be decrease in the BSE Sensex Index. **Application:** This research will help both institutional and retail investors to understand the volatility of BSE Sensex index in relation with inflation. **Conclusion:** Inflation (CPI) has a negative impact on the Sensex Index of Bombay Stock Exchange.

**Keywords:** Sensex Index, Consumer Price Index (Inflation), Stock Market.

## Introduction

Bombay Stock Exchange is a major stock exchange of the country and its market capitalization has increased substantially in last three decades. It is the 10<sup>th</sup> largest stock exchange in the world with \$2.2 trillion market capitalization as of April 2018. Macroeconomic variables are important parameter for Indian economy. Inflation is an important variable which may impact the stock market indices. With rising inflation and falling purchasing power of money investment volume may come down. The aim is to find out the relation between the Inflation (CPI)

and the Sensex Index of Bombay Stock Exchange. The consumer price index measurement is the real measurement of inflation as it is calculated on the basis of real prices paid by consumers. In any economy, changes in inflation rate influence the Stock Market Returns directly or indirectly. Low and stable inflation is considered necessary as a key objective of economic policy. The study of relationship between stock market and inflation is very important and significant for investors and policymakers.

## Material and Methods

This research is based on secondary data of Inflation (Consumer Price Index) and the Sensex Index data of Bombay Stock Exchange. The data has been collected from different websites and published sources of government data.

The data for Sensex Index (BSE) has been taken from April 2016 to October 2019. The closing index of the last day of every month has been taken into account. For inflation, the consumer price index of the same period is taken. A linear regression analysis is done through SPSS software to understand the impact of inflation on Sensex index of Bombay Stock Exchange.

**Null Hypothesis:** There is no significant impact of Inflation on Sensex Index of BSE.

**Alternate Hypothesis:** There is significant impact of Inflation on Sensex Index of BSE.

**Results and Discussion**

Table of Regression Analysis:

Table: 1: Variables of Analysis.

| Variables Entered |                   |        |
|-------------------|-------------------|--------|
| Model             | Variables Entered | Method |
| 1                 | CPI               | Enter  |

Source: SPSS Output

Table: 2: Value of Correlation and Regression.

| Summary |            |                   |                            |                            |
|---------|------------|-------------------|----------------------------|----------------------------|
| Model   | Value of R | Value of R Square | Value of Adjusted R Square | Std. Error of the Estimate |
| 1       | .948       | 0.898             | 0.896                      | 1403.42                    |

Table: 3: Analysis of Variance

| Model |            | 'Sum of Squares' | 'Mean Square' | F       | Sig. |
|-------|------------|------------------|---------------|---------|------|
| 1     | Regression | 7.134E8          | 7.134E8       | 362.182 | .000 |
|       | Residual   | 8.075E7          | 1969603.794   |         |      |
|       | Total      | 7.941E8          |               |         |      |

Table : 4: Regression Equation Variables

**Coefficients**

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t       | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|---------|------|
|       |            | B                           | Std. Error | Beta                      |         |      |
| 1     | (Constant) | 75775.058                   | 5732.554   |                           | -13.218 | .000 |
|       | CPI        | -798.877                    | 41.977     | .948                      | 19.031  | .000 |

Table 1: It represents two variables where SENSEX (BSE Index) is independent variable and CPI (Inflation: Consumer Price Index) is dependent variable.

BSEHEALTH: Sensex Index in BSE

CPI: Consumer Price Index of Inflation

Table 2: The value of R which is .948 represents that consumer price index (CPI Inflation) has 94.8% impact on the BSE Sensex Index. The relation is hugely significant which leads to the rejection of null hypothesis and acceptance of alternate Hypothesis. Thereby, Inflation (CPI) has significant impact on the BSE Sensex index.

R-Square is known to be the proportion of variance in the dependent variable (CPI: Inflation) which is predicted from the independent variable (BSE Sensex Index). The value of R square being .898 indicates that 89.8% of the variance in sensex index can be predicted from the variable CPI Inflation. R-Square is also called the coefficient of determination. The adjusted R-square tries to give a more honest value to find the R-squared for the population. The value of R-square is .898, while the value of Adjusted R-square is .896.

Table 3: This represents analysis of variance which is demarcated into the variance which is not explained by the independent variables (Residual, sometimes called Error) and variance which can be explained by independent variables (Regression).

These values are used to answer the question “Do the independent variables reliably predict the dependent variable?” In this case, as the table present, the significant value is less than 0.05 which implies that “Yes, the independent variables reliably predict the dependent variable”.

Table 4: This table represents the regression equation. Here, the coefficients represents that consumer price index has direct impact on the Sensex index inversely. That is, an increase in the inflation will lead to the downfall of sensex index. The equation will be:

$$\text{Sensex Index} = 75775.058 - 798.877 \text{ CPI}$$

### **.Conclusion**

It is observed from the analysis that Consumer Price Index has direct impact on Sensex Bombay Stock Exchange. A rise in inflation will lead to the downfall of the BSE Sensex index proportionately. With inflation being one the most important macroeconomic variable and BSE Sensex index, the major stock exchange of the country, this relationship will help investors to understand when is the right time to invest in this sector seeing the inflation rates. When the inflation rates are high, the market will go down, and when the inflation rates are low, the markets will go up.

**Conflict of Interest:** There is no conflict of interest as the research is its exploratory phase.

**Source of Funding:** Not required

**Ethical Clearance:** As secondary data has been used for the research, available on public domain therefore ethical clearance is not required. However, reference required for the data has been mentioned in the study.

### **References**

1. Mahmood, W. M., & Dinniah, N. M. (2009). Stock returns and macroeconomic variables: Evidence from the six Asian-Pacific countries. *International Research Journal of Finance and Economics*, 30, 154-164.
2. Mukhhopadhyaya, J. N. (2011). An Analytical Study of Indian Stock Market Volatility and Its Linkage with Oil and Gold Prices. *International Journal Of Business Management, Economics And Information Technology*, 3 (1), 91-109.
3. Mamta, J., Priyanka, M. L., & Mathur, T. N. (2012). Impact of Foreign Institutional Investment On Stock Market With Special Reference to BSE A Study of Last One Decade. *Asian Journal of Research in Banking and Finance*, 2(4).