A STUDY OF IMPACT OF INFLATION ON NATIONAL STOCK INDEX

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Abstract: *One of the vital challenges for India to become super economy in the world would be to control Inflation and maintain bullish sentiments in economy of the nation. Stock market being major barometer of the economy, this paper examines the impact of inflation bug on the economy barometer- Stock Market Index. Paper uses time series data to analyze the impact of Inflation on NSE Nifty using Regression analysis. The result shows that inflation is positively correlated with stock market index during time period 1995 – 2015.*
Keywords: *Inflation, NSE Nifty, Index, Regression*

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INTRODUCTION

The last decade has been characterized by historically vulnerable rates of Inflation virtually the world over. Almost all emerging countries are taking steps to control inflation as rising inflation can be matter of concern for the country's economy. India is considered to be the large market that doesn't have a monetary policy framework. This is one of the main reasons why India mostly faces rise in inflation after the financial crisis. Common factors for inflation are GDP deflator, regional inflation, historical inflation, asset price inflation.

Stock market plays an important role in determining the growth or fall of an economy of a country. Government, industry and even central banks of a country keep watch on the movement of stock market prices because it largely affects the economy of a country. Hamilton and Lin (1996), Engle (2004), Engle and Rangel (2005), Rizwan and Khan (2007), etc., established a strong predictive power of inflation on stock market volatility and returns. Fama (1981) states that stock prices are the reflector of various variables such as inflation, exchange rate, interest rate and industrial production.

Against this background this paper aims to investigate inflation impact on National Stock Index in India. The paper is organized as: Section 2 discusses literature review of inflation impact, section 3 covers methodology, analysis & findings are presented in section 4. Paper is concluded in section 5.

LITERATURE REVIEW

Daferighe, Emmanuel E, Charlie, Samuel Sunday, (2012) investigated the impact of inflation on stock market performance in Nigeria using time series data for twenty years from 1991-2010.Regression analysis was used to evaluate the influence of inflation on various measures of stock market performance. Market capitalization, Total value traded ratio, Percentage change in all-share index and turnover ratio. It was found out that there is negative relationship exists between inflation and the stock market performance measures but inflation had a positive relationship with the turnover ratio. Low level of inflation revealed that stock market investment is a good hedge against inflation in Nigeria. **Bhupender Singh** (2005) examined the effect of significant macroeconomic variables, inflation and exchange rate on the inflows of FII in India, and also tried to develop a theoretical framework to analyze such inter-relationship. **Paritosh Kumar** (2008) validated the long term relationship of stock prices with exchange rate and

inflation in Indian context. **Xiufang Wang** (2010) found evidence that there is a bilateral relationship between inflation and stock prices.

Mohammed Omran, John Pointon(2000) examine the impact of the inflation rate on the performance of the Egyptian stock market. Market activity and Market liquidity are considered as stock market performance variables. The study found out that there is short and long run relationship exists between the stock market performance variables and inflation rate. **Sohail & Hussain** (2009) identified that there were positive relationship between money supply, industrial production, effective exchange rate on stock return and negative relationship between inflation on stock exchange returns.

RESEARCH METHODOLOGY

This paper uses time series data of 19 years , 1995 – 2015. NSE index closing price(Last trading day of December, YOY) are taken from 1995 to 2014 and Inflation numbers(YOY) from 1995-2015. The formulated model is,

$CP = \alpha_0 + \beta_1 INF + \mu$, where CP = Closing price of Nifty,

INF = Inflation rate,

α_0 = constants of the model,

β_1 = coefficients of the model,

μ = error terms

The basic assumption for this work is,

H_0 = there is no statistical relation between stock market and inflation rate.

The data is analyzed using SPSS, and students' t test was used to test significance at 5% significance level.

ANALYSIS

Date	Nifty Closing Price	Inflation(%)	Opening Price	High	Low
29-Dec-95	908.53	9.69	912.72	912.72	906.32
31-Dec-96	899.1	10.41	918.15	922.1	895.6
31-Dec-97	1079.4	6.29	1058.45	1083.35	1057.75
31-Dec-98	884.25	15.32	900.55	902.9	884.25
30-Dec-99	1480.45	0.47	1489.2	1504.95	1476.75
29-Dec-00	1263.55	3.48	1249	1265.9	1242.25
31-Dec-01	1059.05	5.16	1033.9	1062.3	1033.9
31-Dec-02	1093.5	3.2	1091.85	1100.1	1091.7
31-Dec-03	1879.75	3.72	1868.9	1895.65	1852.5

31-Dec-04	2080.5	3.78	2059.85	2083	2059.85
30-Dec-05	2836.55	5.57	2823.95	2845.55	2812.75
29-Dec-06	3966.4	6.53	3971.65	3991.6	3960.45
31-Dec-07	6138.6	5.51	6095	6167.75	6095
31-Dec-08	2959.15	9.7	2979.8	3002.65	2937.35
31-Dec-09	5201.05	14.97	5171.2	5221.85	5168.75
31-Dec-10	6134.5	9.47	6105.1	6147.3	6103.55
30-Dec-11	4624.3	6.49	4659.95	4690.45	4608.9
31-Dec-12	5905.1	11.17	5901.2	5919	5897.15
31-Dec-13	6304	9.13	6307.35	6317.3	6287.3
31-Dec-14	8282.7	5.86	8243.9	8291	8243.75

Source : www.nseindia.com/www.inflation.eu.com

FINDINGS

Variables	Coefficient	t-statistics
Constant	1861.728	1.822
Inflation	152.255	1.240
Adjusted R^2	0.029	
R^2	0.083	
Durbin-Watson	0.563	

Adjusted R^2= 0.029, t_{cal}=1.822, t_{tab}=1.734 , 5% level of significance

The result shows that INF is 2.9% responsible for the movement of CP. Thus closing price of nifty is dependent on Inflation, and adjusted R^2 indicates that INF accounts for 2.9% variation in CP.

The T_{cal}=1.822 >T_{tab} = 1.734, which says that the assumption no statistical relation between inflation and nifty is rejected. Thus,

CP = 1861.728 = 152.255INF

The independent variable INF is positively correlated with Nifty, and statistically significant at 5% level of significance.

The value of Durbin- Watson is 0.563, thus autocorrelation exists in the study and variables are positively correlated(as d is substantially less than 2).

CONCLUSION

It is proved from the findings of this paper and number of papers written over the years, that stock market is affected by economic factors. One such factor is Inflation. Government should thus keep keen eye on these factors and take steps to keep economic factors on track. Credit and fiscal policy should be revised as an when needed to control inflation.

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