

EFFECT OF DEMONETIZATION OVER THE STOCK PRICES: A CASE STUDY OF NIFTY INDICES

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Abstract

India has announced the demonetization of currency notes from economy on 8 Nov. 2016, which results into the removing of 86% of total circulated money from economy. The immediate reduction in the circulation of money has created significant disruption in the economy. The present paper is concerned with the impact of demonetization over the stock prices in the Indian stock market. The Percentage and GARCH model are used to analyze the available secondary data of stock prices. The results indicate that there is fluctuating trend of prices after implementing demonetization; however this trend does not exist for longer time period. Further analysis shows significant difference in the standard deviation of the observations, indicates the presence of volatility up to some extent. In general the study concludes that demonetization has only short term impact over stock prices.

Keywords: Demonetization, Volatility, GARCH, Nifty index

Introduction

As many countries in the past adopted the demonetization, either this was effective or not, with the objective of solving the problems of an economy like inflation, corruption and to eradicate black money from the economy. On the same opinion, India also announced the cancellation of Rs. 500 and Rs. 1000 notes of the Mahatma Gandhi series on 8 Nov., 2016, according to which 86% of total circulated money being removed from the economy. The government has the opinion that the action would curtail the shadow economy and crack down on the use of illicit and counterfeit cash to fund illegal activity and terrorism. So, this step is basically taken to remove the black money, corruption, counterfeit notes and to attack terrorism at its roots.

Demonetization has been adopted twice before in India in 1946 and 1978. But, it is first time in India to adopt such a policy on this scale. The sudden nature of the announcement and the prolonged cash shortages in the weeks that followed has created significant disruption throughout the economy, threatening economic output. So, as an immediate impact of reducing circulated money from the economy all the sectors like financial market as well as commodity market etc was affected at large due to the shortage of cash in the economy. There are varied opinions amongst the researchers regarding its impact in the future. However, all the researchers were expecting the short term crash in about every sector of the economy.

Literature Review

Recently studies have attempted to study the impact of demonetization on various sectors of the economy in these two or three months. Some of these are reviewed in this section.

Singh P.S. et al. (2016), have the opinion that, if money disappears, as some hoarders would not like to be seen with cash pile, is not beneficial, however if money finds its way, it could have a meaningful impact. Paper concluded that past experiences shows that the move was one that fails to fix a debt-burdened and inflation-ridden economy.

Sabnavis M. et al. (2016), in their report highlights that, this change will be proved positively for the economy in the long run, i.e. black money will definitely lose out and formal economy will eventually make the system more accountable and efficient.

Chelladurai M. et al. (2016), examined impact of demonetization as nifty and sensex both have lost and FIIs have pulled out the investment and exacerbated the volatility in the Indian market during the period of demonetization.

Bansal CMA Jai (2017), found that GDP of the country decreases to some extent as compared to the previous years due to demonetization as the manufacturing and service sector both were crashed down but only the agriculture sector shows positive improvement.

Veerakumar K. (2017), has conducted the study on people impact on demonetization which results that demonetization helps to destroy black money and corruption and terrorism has also destroyed to some extent as per the respondents' responses and cash less transactions through debit, credit cards has increased.

Objective of the study

The paper is an exposition of the immediate impact of demonetization over the stock prices in India. Drawing inferences from the major stock indices i.e. NSE Nifty of the largest stock exchange of India. The study takes a look on impact of demonetization over the stock prices i.e. its trend and volatility. Specifically, the objectives of paper include:

- 1) To study the immediate impact of demonetization over stock price.
- 2) To study and measure the volatility in the stock prices.

Scope of the study

The scope of study is limited to analyse the trend of stock prices after the implementation of demonetization policy in India i.e. 8 Nov., 2016. Further, the volatility in the stock prices has been estimated, as most of the economists have the opinion that it is the range of volatility which makes the economy more risky and uncertain. For this purpose, the prices of NSE Nifty has been selected as NSE is the leading stock exchange in India and fourth largest in the world and had major impact over Indian stock market and Nifty is the benchmark stock market index for Indian equity market.

Research Methodology

The present study is exploratory in nature based on secondary data which is collected from the reports published by NSE stock exchange. The paper involves the detailed analysis of stock prices from the date 8Nov 2016 to 30Nov 2016 which includes 16 observations in total. The simple percentage analysis has been done to estimate the trend of stock prices after the implementation of demonetization. The detailed percentage change has been presented in the table and graph form.

Further, to measure the volatility present in the stock prices the GARCH (1,1) model has been used as it takes into account the persistence effect. As the GARCH (1,1) model is popular in practical implications. The model for the stock prices volatility is worked out as a following equation:

$$\sigma_{n=r}^2 V_L + \alpha u_{n-1}^2 + \beta \sigma_{n-1}^2$$

Results and Findings

The study is carried out using weekly data of Nifty indices covering the period from the day November 8, 2016 throughout the month of November i.e. 30 Nov., 2016 for a total of 16 observations. The analyses of prices has been provided below to study the impact of demonetization on the stock prices

The following table depicts the percentage change in the stock prices with time:

Table 1.1

Nifty indices (Nov. 8 - Nov. 30, 2016)

Date	Price	High	Low	Change %
8-Nov-16	8543.55	8559.4	8480.1	0.55%
9-Nov-16	8432	8476.2	8002.25	-1.31%
10-Nov-16	8525.75	8598.45	8510.7	1.11%
11-Nov-16	8296.3	8460.6	8284.95	-2.69%
15-Nov-16	8108.45	8288.55	8093.2	-2.26%
16-Nov-16	8111.6	8210.05	8089.4	0.04%
17-Nov-16	8079.95	8151.25	8060.3	-0.39%
18-Nov-16	8074.1	8128.95	8048.3	-0.07%
21-Nov-16	7929.1	8102.45	7916.4	-1.80%
22-Nov-16	8002.3	8019.05	7938.15	0.92%
23-Nov-16	8033.3	8055.2	7973.1	0.39%
24-Nov-16	7965.5	8024.85	7952.55	-0.84%
25-Nov-16	8114.3	8122.25	7976.75	1.87%
28-Nov-16	8126.9	8146.5	8066.5	0.16%

29-Nov-16	8142.15	8197.35	8128.7	0.19%
30-Nov-16	8224.5	8234.25	8139.25	1.01%

Table 1.1, indicates that on the first day (9Nov. 2016) after the implementation of demonetization policy the closing prices of Nifty has been fallen by 1.31%, but immediately on next day it raise by almost same percentage (1.11%). Further, the prices for the next six days (11Nov. to 21Nov.) shows the downfall trend, however after that it shows upward trend for next 7 days (22Nov. to 30 Nov). Overall it shows that the prices of Nifty shows a fluctuating trend for first three days, followed by downward trend for next few days and at last it shows a rising trend. From which we can say that demonetization has fluctuation and negative effect over stock prices which makes the investment in stock riskier for first few days only, but after that the effect was not remain negative. At the end we can say that demonetization have only a short term negative impact over Nifty Indices.

The above trend of stock prices has been shown in following graph.

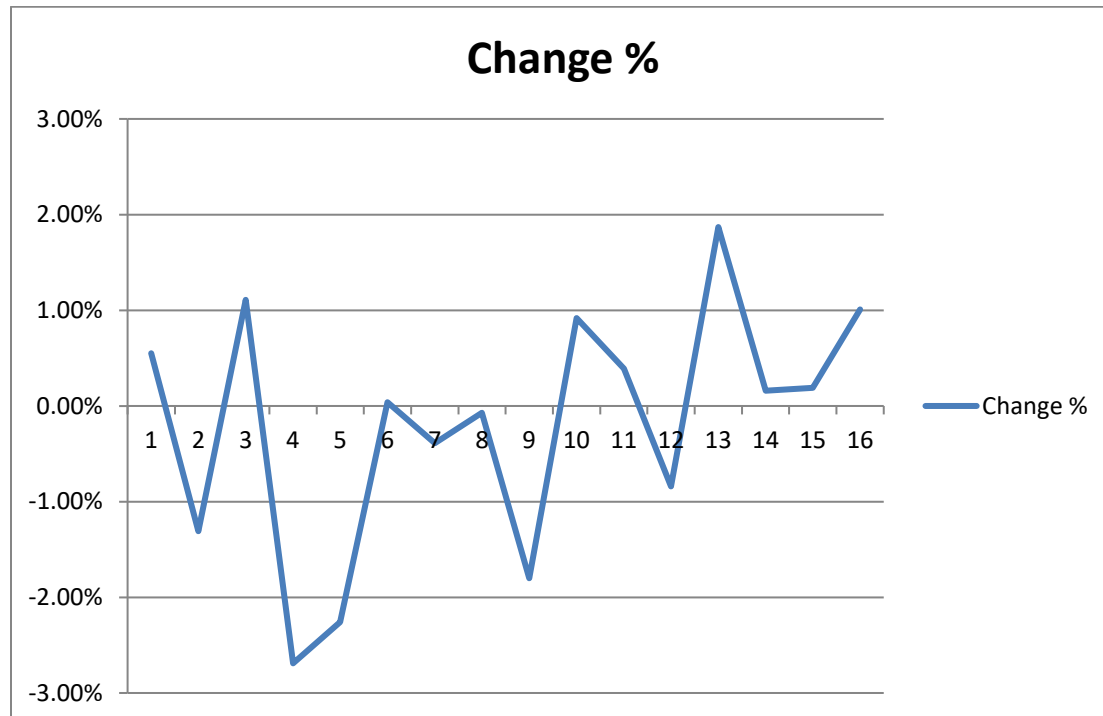


Figure 1.1 : Graphical Representation of Change in Prices

The GARCH (1,1) Model estimations has been provided below in table 1.2.

Table 1.2

GARCH estimates of Volatility of Nifty indices

Parameters	Values
LR Mean	8169.39
Constant of Equation	19413821
Coefficient of ARCH Component	0.35
Coefficient of GARCH Component	0.35
Standard Deviation	0.03

The table 1.2, shows the long run mean i.e. 8169.39. Further, the coefficient of ARCH and GARCH components have the same value i.e. 0.35, which implies no difference in ARCH and GARCH estimates. However, the standard Deviation of the equation has the value 0.03, which has significant difference as compared to the target statistics of the model.

Conclusion

The paper concludes that the demonetization policy has fluctuating effect over the prices which implies a significant effect over the stock price immediately after its implementation, but the effect is carried for next week only which implies that the negative effect is only for short period. Further, GARCH (1,1) model shows there exists a significant difference in target and actual standard deviation of the observations providing the evidence for the existence of significant volatility up to some extent.

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