

THE DEMONETIZATION DECISION AND THE REACTION OF STOCK MARKET RETURNS: THE PRE & POST STUDY OF BSE INDEX

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ABSTRACT

This paper analyzes the impact of demonatization on stock market returns in indian context. The impact is measured in terms of daily returns over the very short term, short term, medium term and long term in pre and post period . The data has been collected from BSE India. The statistical tools used was Paired T-test over the period i.e., 5, 15, 30 and 90 days in pre and post period. The result showed insignificant impact of the announcement of demonetization on stock market returns during the study period. Thus, demonetization was in the favor of investment and the stock market showed positive respond. The implication of this paper will be helpful for investor, academiciation, researcher.

Key words: Demonetization, stock market returns, Pre demonetization period & Post demonetization period, BSE index

INTRODUCTION

Demonetization has been experimented by the many countries in the past. some countries benefitted tremendously from the move while some terribly failed at it. Here are the some countries that have implemented the policy of demonetization. Nigeria in 1984, government of Muhammadu Buhari this nation introduced the new currency and banned the old notes, the change did not go well and the economy collapsed. Ghana during 1982, This nation ditched their 50 cedi notes. North Korea, the demonetization that happened in this nation in 2000 left people, no food and shelter. US(1969), Britain(1971) Myanmar(1987), Zaire(1990), Congo(1990), Australia(1996), North Korea(2015), Pakistan(2015).

In India the announcement was made on the evening of 8th Nov 2016 by the prime minster of India Narendra modi on unscheduled time televised address at 20:00 standard time. Demonetization for us means that Reserve bank of India has withdrawn the old Rs 500 an Rs 1000 notes as an official mode of payment.

Demonetization is the act of stripping a currency unit of its status as legal tender the RBI issued Rs 2000 notes and new notes of Rs 500 in the circulation from 10th Nov 2016 but notes of Rs100, Rs50, Rs20, Rs10, Rs5, Rs2, Rs1 will remain legal tender and unaffected by the decision.

Earlier demonetization has been faced by India: January 1946: Notes of Rs 500, Rs 1000, Rs 10,000 demonetized. On January 11, 1946, the government announced that notes of Rs500, Rs 1000 and Rs 10,000 will not be legal tender from January 12, 1946. The front page

of Indian Express from that day reads that the move was made with an aim to curb black marketing. The repercussions were similar with people dying of shock, exceptionally long lines at the bank and the middle classes being hit. The old notes were being sold at 60 and 70 per cent of their price. The move was called a 'death blow' to black marketers. Then again demonetization has been faced by India in January 1978: Notes of Rs 1000, Rs 5000, and Rs 10,000 demonetized.

The Janata Dal demonetized high currency notes of Rs 1000, Rs 5000 and Rs 10,000 in a second such historic move, again with a view to curb black money transactions. It was termed as "an Act to provide in the public interest for the demonetization of certain high denomination bank notes and for matters connected therewith or incidental thereto." People who possessed these notes were given till January 24 the same year — a week's time — to exchange any high denomination bank notes. The one big difference with the announcement Tuesday is that Rs 1,000 and higher value notes were almost impossible to possess then for the common man given the value of these amounts then.

This measure has been taken by the government of India for the betterment and for preventing India from the corruption, black money, fake money and terrorism.

Demonetization

Demonetization is the act of stripping a currency unit of its status as legal tender. Demonetization is necessary whenever there is a change of national currency. The old unit of currency must be retired and replaced with a new currency unit.

Demonetization is the Process of removing a currency from general usage, or circulation. De(degrading) Mone(money value) ti(in the) zation(nation).

Stock Market

A stock market, equity market or share market is the aggregation of buyers and sellers (a loose network of economic transactions, not a physical facility or discrete entity) of stocks (also called shares), which represent ownership claims on businesses; these may include securities listed on a stock exchange as well as those only traded privately.

The stock market is the market in which shares of publicly held companies are issued and traded either through exchanges or over-the-counter markets. Also known as the equity market, the stock market is one of the most vital components of a free-market economy, as it provides companies with access to capital in exchange for giving investors a slice of ownership in the company. The stock market makes it possible to grow small initial sums of money into large ones, and to become wealthy without taking the risk of starting a business or making the sacrifices that often accompany a high-paying career.

Stock market is a place where stocks, bonds, options and futures, and commodities are traded. Buyers and sellers exchange trade together via platform provided by stock exchange through computers. Trades are done during specific hours on business days Monday to Friday.

EFFECT OF DEMONETIZATION IN INDIA ON THE OTHER FIELDS

Agriculture

Transactions in the Indian agriculture sector are heavily dependent on cash and were adversely affected by the demonetization of ₹ 500 and ₹ 1,000 banknotes. Due to scarcity of the new banknotes, many farmers have insufficient cash to purchase seeds, fertilizers and pesticides needed for the plantation of Rabi crops usually sown around mid-November. Farmers and their unions conducted protest rallies in Gujarat, Amritsar and Muzaffar nagar against the demonetization as well as against restrictions imposed by the Reserve Bank of India on district cooperative central banks which were ordered not to accept or exchange the demonetized banknotes.

Banking

In the first four days after the announcement of the step, about ₹ 3 trillion in the form of old ₹ 500 and ₹ 1,000 banknotes had been deposited in the banking system and about ₹ 500 billion had been dispensed via withdrawals from bank accounts, ATMs as well as exchanges over the bank counters. Within these four days, the banking system has handled about 180 million transactions. The State Bank of India reported to have received more than ₹ 300 billion in bank deposit in first two days after demonetization. A spike in the usage of debit card and credit card post demonetization was also reported.

Railways

As of November 2016, Indian Railways did not have the option to make payment with cards at the counters. After the demonetization move, the government announced to make card payment options available at railway counters in the country.

Stock Market Crash

As a combined effect of demonetization and US presidential election, the stock market indices dropped to an around six-month low in the week following the announcement. The day after the demonetization announcement, BSE SENSEX crashed nearly 1,689 points and NIFTY 50 plunged by over 541 points. By the end of the intraday trading session on 15 November 2016, the BSE SENSEX index was lower by 565 points and the NIFTY 50 index was below 8100 intraday.

Tourism

Peak tourism period of November-December badly hit. For tourist destinations beyond metros, business may be down by as much as 40%. Tourism business in metros may go down by 10%. Cash shortage at airports and hotels are a big problem. And many national monuments entry points don't have card payments facilities. Western countries have issued advisories on cash crunch in India.

Gold

Scared by government warnings, sale of gold against old currency notes fell drastically. NRI customers have fled. Sales are down sharply, and it was already a bad year for gold.

REVIEW OF LITERATURE

Masoud (2013) investigated on the impact of stock market performance on economic growth the author has suggested a positive relationship between efficient stock markets and economic growth, both in short run and long run.

Ali (2014) investigated on the impact of interest rate on stock market; Evidence from Pakistani market the author has found out that performance of Pakistani Stock market is highly dependent on political situation. The most important factor of any country's economy is its Stock market. But there are certain factors which have negative and positive impact on stock markets. The author has considered one factor that has impact these are inversely related with each other i.e. one increases other decreases.

Singh and Singh (2016) investigated out the impact of demonetization on Indian economy by the comparative analysis of impact on Indian stock market and Asian stock market in present scenario, they also showed the probable consequences of the demonetization on tax, interest rate, liquidity, GST, effect on parallel economy, effect on demand, effect on various economics entities, effect of GDP, effect on bank, effect on online transaction and alternatives modes of payments and also showed the short term Vs the longer term implications and they also found out the impact on various sectors.

Mallikarjunappa and Afsal (2008) investigated the impact of Derivatives on stock market volatility in India using the S&P CNX Nifty Index as a benchmark. The author has used the GARCH model for non-constant error variance in the return. The post effect showed that the sensitivity of the index returns to market returns and any day-of-the-week effects have disappeared.

Khaliq (2013) investigated the impact of stock market liquidity on economic growth in Jordan and the author identifies the position of stock market liquidity at Amman Stock Exchange (ASE) during the period from 1991 to 2011. For measurements of liquidity at ASE the author has used the various tools as; market capitalization to GDP, the turnover ratio. The author aimed to test the relationship between these indicators and the economic growth represented by the growth rate of GDP. The author has been found that market capitalization to GDP does not effect upon the economic growth but the turnover ratio has significant effect upon the economic growth.

Kominek (2003) investigated on the Stock markets and industry growth: an eastern European perspective. The author has found no evidence that the relative failure of the security market in the Czech Republic affected the country's economy. The author also analyzed the composition of Polish private equity offerings and finds that industries traditionally considered financially dependent were not among the largest Polish equity issuers.

Dueker et.al (2008) investigated on inflation, monetary policy and U.S. stock market conditions during the second half of the 20th century. The author has used a latent variable VAR to estimate the impact of inflation. The authors investigated the extent to which various shocks contribute to changes in market conditions. The authors found that disinflation shocks promote market booms and inflation shocks contribute to busts.

Kaur (2004) investigated month effect in Indian stock market. The author did not found a January effect in the Indian stock market, but the author found that March and September generated lower returns, whereas February and December generated positive returns, finally the author observed that February was one of the most volatile months when compared to April and March, in both the cases of NSE & BSE. The author presumed that it was due to the

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announcement of budget in that month.

Gupta and Kundu (2006) investigated the impact of Union Budget on stock market considering the returns and volatility in Sensex. The author found that budget have maximum impact in short-term post budget period, as compared to medium term and long term average returns and volatility does not generally increase in a post-budget situation as the time period increases.

Kutchu (2012) investigated semi-strong efficiency of Indian stock market. The study states the effect of union budget on six selected sectoral indices. The results of the study showed that there is a chance to make abnormal returns by the investor. The results, it seems to be inconclusive evidence about overall impact of budget either on the stock market or on a particular sector, but the results seem to point in the direction that the effect of the Budget may be company-specific.

S.Babu and Dr. M.venkateswara (2013) investigated the impact of Union Budgets on Indian stock prices. The period for the study was from 1991 to 2009 and findings say that budgets seem to have effect only up to fifteen trading days from the budget day as far as return is concerned. So investor must be very careful and very swift while investing just around and on the budget day. The authors also reported that a budget exerts the maximum impact in terms of absolute return immediately on and around the budget day which gradually gets reduced as one moves further away from the budget day.

Varadharajan and Vikkraman (2011) investigated the volatility of four major indices of Indian stock market and the effect of budget on the volatility of stock market from 2002-2011. They found that it is during the 25 post budget, volatility in the stock market is higher in comparison to pre-budget. Return of the indices post-budget is negative when compared to pre-budget. Month of May showed highest volatility followed by October and March showed high volatility. SENSEX and BSE 100 have higher standard deviation as compared to NIFTY and NIFTY JUNIOR in yearly analysis of the indices

Thomas and Shah (2002) investigated the Indian stock market index from April 1979 to June 2001 covering 26 Budget dates in this period and finds that in some years, post-budget returns are positive; in other years post-budget returns are negative; on average, there is no clear pattern about movement in the Index after budget date. They report no evidence of over-reaction or under-reaction prior to Budget date, or immediately after it. Thus concludes that the information processing by stock market participants is rational, and that the Indian stock market is semi-strong efficient.

Chakradhara (2008) investigated the nature of relationship and the direction of causality between interest rates and stock prices in India for the period from April 1996 to June 2006. He found that there is a long run relationship between interest rates and stock prices. The long-term interest rates are found to affect stock prices negatively, whereas short-term interest rates affect stock prices positively

Mohanty (2004) investigated the stock price reaction to announcement of various policy issues by Government of India. The study covered the three industries, viz. the telecom sector, the banking and financing sector and the pharmaceutical sector. He used the event study methodology to assess the speed and accuracy of stock price reaction to public announcement. The results show that the stocks generally react to public news quite quickly, but the first adjustment is not always the correct one. There is also a mild evidence of presence of learning lag.

OBJECTIVES

The study analyses the impact of demonetization on Indian stock market. The sub objectives of the study include the following

1. To analyze and compare the returns i.e. variance of daily returns in the stock market (CNX NIFTY) for very short term (5 days), short term (15 days), medium term (30 days) & long term (90 days) in pre and post period.
2. To open new vistas for research.

HYPOTHESES FOR THE STUDY

H0: There is no significant impact of demonetization on stock index returns.

H01: There is no impact of demonetization in very short term period (5days).

H02: There is no impact of demonetization in short term period (15days).

H03: There is no impact of demonetization in medium term period (30days).

H04: There is no impact of demonetization in long term period (90days).

RESEARCH METHODOLOGY

The study was descriptive in nature. Research contain all stock indices of Indian context Sampling frame consist of all indices of Indian context for financial year 2016-2017. Individual indices such as BSE SENSEX was used for study. Secondary source was used to collect the data, i.e official website from BSE India. Normality Test & Paired T-test was applied to find the pre-post impact of demonetization. The secondary data have been analyzed using the following statistical tools:

- First, the logarithmic daily returns have been found over the previous day's closing value during the entire 90 days before and after i.e. during the previous and the next 5, 15, 30 & 90 days are calculated.
- The Return is calculated using logarithmic method as follows.

$$R_t = \log (P_t / P_{t-1})$$

R_t = Market return at the period t

P_t = Closing Price of index at day t

P_{t-1} = Closing Price of index at day t-1

After this, the statistical tools, a paired T-test using SPSS have been applied on average returns.

Before	Before	Before	Before	demoneti zation day	After	After	After	After
90days	30days	15days	5days	day	5days	15days	30days	90days
8aug- 8nov	8oct- 8nov	24nov- 8nov	4nov-8nov	8-Nov	9nov- 13nov	9nov- 23nov	9nov- 9dec	9nov- 9feb
(X4)	(X3)	(X2)	(X1)	(Z)	(Y1)	(Y2)	(Y3)	(Y4)

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Period of study:

Hypothesis tests will be conducted in this part of analysis:

In this period of study, deviations between returns during the very short-term, short-term, medium-term and long-term periods in the post-impact of demonetization have been compared to one another, i.e., deviations between Y1 and X1, Y2 and X2, Y3 and X3, and Y4 and X4 respectively have been examined. These comparisons have been made because deviations are expected to increase or decrease with the time-period. The null Hypothesis in all the four tests assume no change.

ANAYLSIS AND DISCUSSION

Table 1:- Test of Normality

		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
5days	Pre4	0.274	3	.	0.944	3	0.545
	Pos4	0.28	3	.	0.938	3	0.519
15days	pre3	0.192	10	.200*	0.934	10	0.485
	post3	0.251	10	0.074	0.915	10	0.32
30days	pre2	0.109	20	.200*	0.954	20	0.427
	post2	0.126	20	.200*	0.968	20	0.711
90days	pre1	0.123	62	0.02	0.963	62	0.061
	post1	0.103	62	0.165	0.971	62	0.141

S. no	pre/post impact	Significant Value	normality
1	5days before (4nov-8nov)	0.545	normal
	5days after (9nov-13nov)	0.519	normal
2	15days before (24nov-8nov)	0.485	normal
	15days after (9nov-23nov)	0.32	normal
3	30days before (8oct-8nov)	0.427	normal
	30days after (9nov-9dec)	0.711	normal
4	90days before (8aug-8nov)	0.061	normal
	90days after (9nov-9feb)	0.141	normal

From the above table it is interpreted that all the date are normally distributed and further test can be applied.

Table 2:- Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Pre4 & post4(5days)	3	0.034	0.979
Pair 1	pre3 & post3(15days)	10	-0.073	0.841
Pair 1	Pre2 & post2(30days)	20	0.043	0.859
Pair 1	pre1 & post1(90days)	62	0.079	0.54

Table 3:- Paired Samples t-test

			Mean	N	Std. Deviation	Std. Error Mean
5days	Pair 1	pre4	0.3863	3	0.34869	0.20131
		post4	- 0.5222	3	1.81361	1.04709
15days	Pair 1	pre3	- 0.1774	10	0.68437	0.21642
		post3	- 0.4435	10	1.16117	0.36719
30days	Pair 1	pre2	- 0.0856	20	0.74031	0.16554
		post2	- 0.0876	20	1.1186	0.25013
90days	Pair 1	pre1	- 0.0317	62	0.71772	0.09115
		post1	0.0657	62	0.80668	0.10245

			Paired Differences				t	df	Sig. (2-tailed)	
			Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
						Lower				Upper
5days	Pair 1	pre4 - post4	0.90857	1.83531	1.05962	- 3.65059	5.46774	0.857	2	0.482
15days	Pair 1	pre3 - post3	0.26604	1.39029	0.43965	- 0.72852	1.2606	0.605	9	0.56
30days	Pair 1	pre2 - post2	0.00199	1.36194	0.30454	- 0.63542	0.63939	0.007	19	0.995
90days	Pair 1	pre1 - post1	- 0.09742	1.03631	0.13161	- 0.36059	0.16575	-0.74	61	0.462

S. no	pre/post	correlation	t-value	sign	rejected/not rejected
1	5days before and after	0.034	0.857	0.482	not rejected
2	15days before and after	-0.073	0.605	0.56	not rejected
3	30days before and after	0.043	0.007	0.995	not rejected
4	90days before and after	0.079	-0.74	0.462	not rejected

5 DAYS

A paired sample t test has been conducted to evaluate whether a statistically significant

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difference exist between the returns of 5 days pre and post period. The result of the paired sample t test were insignificant, $t=0.857$, $p > 0.05$, indicating that there is a no significant increase in the returns ($M=0.90857, SD= 1.83531, N=3$). The research retained the null

hypothesis. The analysis has accepted the null hypothesis, so there is no impact of demonetization on the returns of short term period in BSE.

15 DAYS

A paired sample t test has been conducted to evaluate whether a statistically significant difference exist between the returns of 15 days pre and post period. The result of the paired sample t test were not significant, $t= 0.605$, $p > 0.05$, indicating that there is a no significant increase in the returns ($M=0.26604, SD=1.39029, N=10$). The research retained the null hypothesis. The analysis has accepted the null hypothesis, so there is no impact of demonetization on the returns of short term period in BSE.

30 DAYS

A paired sample t-test has been conducted to evaluate whether a statistically significant difference exist between the returns of 30 days pre and post period. The result of the paired sample t test were significant, $t= 0.007$, $p > 0.05$, indicating that there is a no significant in the returns ($M=-0.00199, SD=1.36194, N=20$). The research retained the null hypothesis. The analysis has accepted the null hypothesis, so there is no impact of demonetization on the returns of medium term period in BSE.

90 DAYS

A paired sample t-test has been conducted to evaluate whether a statistically significant difference exist between the returns of 90 days pre and post period. The result of the paired sample t test were not significant, $t= -0.74$, $p > 0.05$, indicating that there is a no significant in the returns ($M=-0.09742, SD=1.03631, N=62$). The research retained the null hypothesis. The analysis has accepted the null hypothesis, so there is no impact of demonetization on the returns of long term period in BSE.

SUGGESTIONS

1. The study can be wider with different context and with different seasonal events.
2. The study can be compared with the different sectors such as banking, railways, agriculture & households.
3. The study can be widen by comparing the event with other macroeconomic variables.

CONCLUSION

The results show that impact of demonatization does not have a significant impact on the BSE SENSEX. After using the paired T- Test, the impact of demonatization on returns is not significant whether in pre or post period, for very short period, short term, medium term & long term. The very short term, Short term, medium term and long term returns in pre and post announcement of demonetization period was same and the announcement did not have much impact on the returns that the impact of demonization has no significant effect on stock market returns as the value of significant is greater than 0.05 thus individual null hypotheses was not rejected. There is a scope to carry on further research in this area by the researchers

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