Impact of Demonetization on Stock Price Movements in Banking Sector of India

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Abstract: - Demonetization is the act of stripping a money unit of its status as legal tender. It happens at whatever point there is a change of national currency: The present forms of currency is pulled from circulation and terminated, often to be supplanted with new notes or coins. On 8 November 2016, Prime Minister of India Narendra Modi declared the demonetisation in an unscheduled live broadcast address to the country at 20:15 IST. Which made peril in various levels of the general public and the economy foreseeing the effect of such approach on various part of a person and additionally corporate and sectorial ions. This review is intended to decide the effect of the same on the stock value developments of top banks in India, to look at the response of Indian lists (Sensex and Nifty and Bankex) and to research whether driving Indian PSU bank stocks demonstrate any arbitrary value developments or taking after patterns. For the reason information has been gathered for 4 months beginning from October 2016 to January 2017, and run test has been directed to check the irregularity of value developments. In spite of the fact that the general execution as far as BANKEX is indicating huge effect, the individual bank securities are not portraying such abnormal state of haphazardness.

Key words: Demonetization, BANKEX, SENSEX, NIFTY, EMH, Run Test

I. INTRODUCTION

Impact of demonetisation will be a sharp ‘V’ banks have done a Herculean job: Urjit Patel(2017), governor RBI. Marking 100 days of demonetisation, Reserve Bank of India (RBI) Governor Urjit Patel said the impact is going to be a sharp “V”, resulting in a downgrade of growth for a short period of time. He added that it was part of the plan to be printing currency notes to full capacity from day one and to reach a threshold point in the process when things become more or less normal. November 8, the most momentous day of this past year, saw Donald Trump spectacularly defeat Hillary Clinton to become the next President of the United States. On that same day, India’s Prime Minister, Narendra Modi, gave a surprise address in which he announced the demonetization of the 500 and 1000 rupee notes. Modi’s announcement sent shockwaves throughout the country and parts of the world. Given that the bills stripped of their legal tender status are so prominent within the Indian economy, how did the Indian government expect the people in possession of these bills to manage this news? The people were given a set of protocols to follow in order to exchange their demonetized notes for the new ones (or the old 100 rupee note, which is still valid). The (RBI) announced that citizens of India can go to any RBI location / any bank branch and deposite their demonetized bills for credit into their respective accounts. What about cash on hand needs? Recall that 86% of the cash in circulation exists in the form of 500-rupee and 1000-rupee notes—the ones demonetized on November 8.

The RBI suggested 2 ways by which a citizen of India could trade his old bills for fresh currencies. They could go to a bank and, with valid ID(Adhar), fill out a form to ensure security of the exchange. They could also withdraw limited amount of money from their accounts in the form of valid currencies. The RBI set up limits for both of these mechanisms, limits that it has had to continually adjust in light of economic disruptions.

So far, quite predictably, the new scheme has destabilized many aspects of the Indian economy more over it questioned the Banking system of India and its efficiency.

IMPACT ON BANKS

The All India Bank Officers Association (AIBOA) had given a call for demonstration against the problems that various banks and their employees were facing due to demonetization. Pointing out that the banking system itself is losing credibility because of frequent changes in RBI/government policies, AIBOC General Secretary Harvinder Singh said customer dissatisfaction is increasing because of chaos and confusion created in implementation of the scheme.

Bank employees are feeling increasingly targeted in the face of public anger. The constant notifications and the lack of cash provided have led banking establishments facing the wrath of clients. Banks staff members serve the people and are working overtime to keep their commitments, but are helpless when they do not get enough cash to meet the minimum requirement of the customers. The government’s constant flip-flop on exchanging and depositing old cash notes in the bank branches, besides changing the limits on cash withdrawals has also created lot of confusion among the people.

Bankers know banking best so they should be not involved in questioning for accepting deposits. Further, no accountability should be fixed on the bank officers in this respect as they are plunged with a job not anticipated of them. It is true that there are some black sheep among the bank employees and officers.
but just because of that one cannot paint all of the bank personnel and officers with one tainted brush. Apart from the given problems the banks’ staff have to face with some unruly customers. It is commendable that they are serving their customers with a smile and are also working overtime without extra wages.

Public sector bank officers are being subjected to the anger, anguish and wrath of customers or general public due to short supply of currency notes to the banks. The banks have been at the receiving end of much of the troubles, leading to a deterioration in bank-customer relationships, with increased reports of violence against banks and bank employees as public frustrations grow. There is acute shortage of Rs. 100 currency notes and hence even the recalibrated ATMs are not able to dispense cash to the customers. The banks have rightly demanded increased transparency in the cash flow and called on the RBI to ensure the protection of bank employees. The RBI authorities should assure the supply of adequate cash to all banks and branches so that ATMs are restored without further delay. There should be transparency in cash supply to banks by the banking regulator without any discrimination. Even Prime Minister Narendra Modi has appreciated the commendable work done by banks.

The above stated arguments neither shows the impact in quantity nor has been interpreted the efficiency of banking for last 4 months. The study has focused on the performance of top 5 PSU banks in the stock market to study the impact of demonetization on individual banks, as well the indices are taken into consideration to study the effect on overall sector.

II. LITERATURE REVIEW

The random-walk theory presumes that stock price is uncorrelated with historical prices. It assumes that there is no trend visible in stock price movements and they are independent. Therefore, the EMH theory suggests that historical prices have no predictive capacity over the future prices. Thus, subsequent price shift should be random (Alexander (1961); Fama, (1965); According to Robin and Jessica (2014) an event is an informational announcement of any kind which occurrence is assumed to be unexpected by the market. In financial literature majority of the empirical studies tried to investigate the impact of an event on the stock returns (abnormal returns), however, several other studies tried to explore trading volume and even volatility of the returns when certain event occurs. According to EMH the market is said to be efficient, if the stock prices react quickly and efficiently to the new information or event without any bias. Sathyanarayana, Gargesha (2016) in their study Impact of BREXIT Referendum on Indian Stock Market has concluded that the stock market depict the reaction of the information significantly, which shows the efficiency of Indian stocks. Shefali Tiwari(2016) in her study “Does Stock Market Respond to Financial Crisis?” studied the impact of financial crisis on the relationship between stock price and financial performance. The explored results showed that the relationship between the two changes during financial crisis as compared to pre or post period of crisis. The study was done with specific reference to services’ sector companies of BSE 30. Kartik Jain(2016) in his study “Detection of Rational Bubble in Indian Banking Sector: An in depth Study on S&P BSE BANKEX” concluded that Most of the times the bubble is formed due to herd behaviour and cognitive bias which are concepts taken from the behavioral finance.

TREORIAL ASPECT

The efficient market hypothesis (EMH) proposes that financial markets are efficient and that prices reflect all known and available information concerning to a stock or other security and that prices immediately adjust to new information available. Information includes not only what is currently known about a stock, but also future expectations if any, such as earnings or dividend payments. It seeks to explain the random walk hypothesis by positing that only new information will move stock prices significantly and since new information is presently unknown and occurs at random, future movements in stock prices are also unknown and, thus, move randomly. Hence, it is not possible to outperform the market by picking undervalued stocks, since the efficient market hypothesis posits that there are no undervalued or even overvalued stocks. The basis of the efficient market hypothesis is that the market consists of many rational investors who are constantly reading the news and react quickly to any new significant information about a security. Which act of investor is reflected on the stock prices, as the information is random in nature the stock prices depict random walk model.

III. RESEARCH DESIGN

DATA FOR THE PURPOSE OF THE STUDY

As the current empirical study was analytical in nature, the data for the purpose of the study was dependent on secondary sources. For the purpose of the study Sensex and Nifty Fifty indices were chosen. As the study focuses on banking sector, the S&P BSE BANKEX has been taken into consideration. Further the stock prices of leading PSU banks viz. SBI, PNB, IDBI, BOB and Union Bank are taken for study purpose. The dates and adjusted closing price of all the above said banks and indices are considered. The data is collected for the time period of 4 months i.e. from 1/10/2016 to 31/01/2017.

OBJECTIVES OF THE STUDY

The current has been undertaken with the following objectives.

1. To determine the impact of Demonetization on the stock price movements of top banks in India
2. To examine the reaction of Indian indices (Sensex and Nifty and Bankex) to Demonetization in India
3. To investigate whether leading Indian PSU bank stocks show random price movements

**HYPOTHESIS OF THE STUDY**

H0: There is no significant effect of demonetization on stock price movements in Banking sector in India. $I = \mu$

H1: There is a significant effect of demonetization on stock price movements in Banking sector in India. $I \neq \mu$

**PLAN OF ANALYSIS**

To investigate the impact of Demonetization in this research Run test has been carried out. The objective is to find out the randomness of stock prices.

**THE RUNS TEST**

The runs test is a non-parametric test that is designed to examine whether or not an observed sequence is random. The test is based on the premise that if a series of data is random, the observed number of runs in the series should be close to the expected number of the runs. A run can be defined as a sequence of consecutive price changes with the same sign. Therefore, price changes of stocks can be categorized into three kinds of run: upward run (prices go up), downward run (prices go down) and flat run (prices do not change). Under the null hypothesis of independence in share price changes (share returns), the total expected number of runs ($m$) can be estimated as:

$$M = \frac{(N(N+1)) - \sum_{i=1}^{3} n_i^2}{N}$$

where $N$ is the total number of observations (price changes or returns) and $n_i$ is the number of price changes (returns) in each category ($N = \sum_{i=1}^{3} n_i$).

For a large number of observations ($n>30$), the sampling distribution of is approximately normal and the standard error of ($\sigma_m$) is given by:

$$\sigma_m = \sqrt{\frac{\sum_{i=1}^{3} n_i^2 \left[ \sum_{i=1}^{3} n_i^2 + N(N+1) \right] - 2N \sum_{i=1}^{3} n_i^3 - N^3}{N^2(N-1)}}$$

The standard normal Z-statistics that can be used to test whether the actual number of runs is consistent with the hypothesis of independences is given by:

$$Z = (R \pm 0.5 - m)/\sigma_m$$

where $R$ is the actual number of runs, $m$ is the expected number of runs, and 0.5 is the continuity adjustment (Wallis and Roberts, 1956) in which the sign of the continuity adjustment is negative (-0.5) if $R>M$, and positive otherwise. Since there is evidence of dependence among share returns when $R$ is too small or too large, the test is a two-tailed one.

**IV. DATA ANALYSIS**

The impact of Demonetization on individual the stock price movements

The impact of the information is clearly visible from the Chart-1. On Dt 9/11/2019 when Demonetization was declared and effected all the above mentioned banks have shown remarkable change in the stock prices. IDBI bank has gone for a price hike from 69.45 to 72.5, SBI from 244.2 to 249.15, Bank of Baroda from 147.35 to 153.00, PNB from 142.0 to 159.00 and Union Bank 121.8 to 126.5, the percentage of hike as shown by the respective stock prices are 4.39% for IDBI, 2.09% for SBI, 3.83% for Bank of Baroda , 12.03% for PNB and 4% for Union Bank.

*The reaction of Indian indices*
The result of Run test shows a P value of 3.3% in case of SENSEX (BSE), 2.6% in case of NIFTY FIFTY (NSE) and 3.3% for BANKEX. As all the values are below 5% significance level the null hypotheses H0 is rejected and H1 is accepted. It is evident that the Indices show random movements. Hence there is a significant impact of the information related to demonetization on the stock markets in India as well as the Banking sector.

Run test of Top 5 PSU Banks stock prices

The result of Run test shows a P value of 9.5% in case of IDBI, 13.8% in case of SBI, 7.5% in case of Bank of Baroda, 5.9% in case of Union Bank which is above the tested significance level. It implies that these stock prices are not showing the significant effect of Demonetization. However PNB stock prices are showing a p value below 5% i.e. 3.9%.

V. CONCLUSION

The study has been done with an objective to find out the impact of demonetization on Banking sector in India. Although the overall performance of banking sector in terms of BANKEX is showing significant impact at 5% significance level the individual bank securities are operating at 10% significance level which is not sufficient to reject H0. This might drag other variables into the picture. Further study can be done to identify the impact of other variables such as NPA, Capitalization, Investor’s faith on the concerned bank etc.

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