

Effect of Trump's Win on Specific Sector with Reference to Indian Stock Market

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ABSTRACT

Donald Trump's Victory as the US President leads to significant influence on the Indo-US ties. As expected this event will have both short term and long-term implications on the Indian economy. This study is aimed at exploring the impact of Trump's win on Indian Stock market, especially Energy, IT, and Pharma sectors. The present study utilizes two-way approach for studying the actual impact of the event on Indian Economy. Event window methodology has been adopted to analyze the effect of Trump's win on Indian stock market for pre, during and post trump win periods surrounding 60 days around the event day. Generalized Auto regressive Conditional Heteroskedastic (GARCH) model is used for testing volatility among the specific selected sectors and the overall Indian stock market. Results clearly proved that there is a significant impact of Trump's win on Indian stock market and specific sectors.

Keywords: Trump, Return, Nifty 50, Nifty Energy, Nifty IT, Nifty Pharma

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INTRODUCTION

India is the world's fastest growing major economy and is one of the most profitable markets in emerging economies for foreign investors. Any major economic or political change happening across the globe would impact the Indian stock market. One such major change which impact the stock market of India is the victory of Donald Trump.

Trump's presidency began on January 20, 2017 when he was elected as the 45th President of United States. This announcement had a significant impact on the Indo-US relations as US is India's vital trading partner and moreover it is India's second largest supplier of defense equipment. It impacted India in multiple ways. There are both positive and negative aspects of the news. It is anticipated that this news will weaken the Indian rupee against dollar as well as the Indian stock market.

Every major announcement and events whether economic or political impacts the different economies of the world. The impact of such events can be seen on the daily movements of stock returns causing less to high volatility on returns of various sectors.

This paper emphasizes on the impact of Trump's victory on Indo-US ties and its effect on the different sectors. Considering the Energy sector, Trump's promise to make US Energy self-sufficient will in turn open more business opportunities for Indian Oil Companies. As far as IT sector is concerned, Trump railed against outsourcing which in turn would have a negative impact on the Indian IT industries as they get a major chunk of their revenue from US. With the immigration rules Trump wants to woo Indians students and entrepreneurs to the United States but criticizes Indian IT industries which used H-1B non-immigrant visa for importing cheap labor from India and thereby denying jobs to Americans and lastly Trump's commitment to scrap Obamacare would have a serious impact on Indian pharmaceutical industry as pharmaceutical comprises of India's second largest exports to the US. India supplies around 40% of the medicines to US. The US Department of Justice (DoJ) carried out an investigation to curb the price cartelization by pharma companies which comprised of two Indian companies as well namely Sun Pharmaceutical Industries and Dr. Reddy's Laboratories. This will lead to a pressure on the cartels formed by such companies and which will pressurize the pricing power enjoyed by pharma companies. In this paper an attempt is made to focus on three major sectors getting affected namely, IT, Energy and Pharma and the volatility caused on the stock return of these various sectors due to Trump's victory.



OBJECTIVE

The study aims to examine the Indian stock market reactions specifically the returns before and after the Trump's victory. Study also focuses on analyzing the volatility of Indian Stock market particularly IT, Energy and Pharmaceutical sector stock returns, caused due to Trump's win and his continuously changing policies towards the international trade.

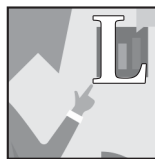


DATA AND METHODOLOGY

The research was conducted using secondary data related to daily closing prices of Nifty 50 and three sectoral indices namely Nifty Energy, Nifty Pharma, and Nifty IT for three years from January 2016 to December 2018. The data was taken from NSE website.

In this paper two approaches were used to test the stock price responses to Trump's Victory. In the first approach an event window of 61 days for Nifty 50 was constructed taking 30 days prior to Trump win i.e. -30 to -1 and 30 days post the Trump win i.e. +1 to +30 and the date when Trump's presidency begun as the event day or day 0. For constructing event window of total 61 days, returns were computed from the closing price of each sector index by calculating the change in value of each sector index from its previous day value. Average Abnormal Returns, Cumulative Average Abnormal Returns & t-values were computed to check the significance of abnormal returns.

The second approach focused upon forecasting and checking the volatility in the overall stock market. Volatility is a term for the fluctuations or changes in the stock values from their mean values. The CNX Nifty was taken as a dependent variable and three sectoral indices returns were taken as independent variables and returns from these indices will be analyzed using GARCH (1,1) Model for forecasting volatility caused due to Trump win.



LITERATURE REVIEW

Arya Kumar (2018) reviewed the effect of demonetization on the Indian stock market and identified, which all sectors were affected more even after completion of a year by using adjusted closing price and the period considered for analysis was 1st August 2016- 10th February 2017, i.e. three months before and after the demonetization. By applying run test, non-randomness in the share prices on Sensex and Nifty respectively was examined. Whereas sector analysis showed a mixed result that few showed randomness while few didn't. According to the Paired Samples Test demonetization had a significant effect on prices of Sensex. Also, except PSU Bank all the sectors present in Nifty were affected. But surprisingly it was observed that demonetization helped to increase the share value of few sectors like oil and gas and financial services while the share value of FMCG and auto were reduced. This study concluded that there is a significant impact of demonetization on stock market.

Maithili S Naik and Y V Reddy (2018) explored the impact of implementation of VIX on the stock market in India by employing the standard GARCH (1,1) model. Daily data from January 2000 to August 2016 has been used in this study and the period has been divided into pre-IVIX introduction period and the post-IVIX introduction period. The results indicate that there is a decline in the volatility of the spot market post introduction of IVIX which indicates improvement in the speed and quality of information by reason of IVIX introduction.

Ritika Jain (2017) examined the impact of demonetization on the stock prices of Indian banks listed on NSE by employing

event study analysis and regression. The event comprised of 60 days and four event windows were tested. The price movements were tracked for both the private sector and public sector using event study methodology and regression. A positive return was witnessed in the case of public sector banks post demonetization for a short period only, returns being strongest in the first few days. Whereas no such observation was seen in case of private sector banks.

Sathyarayanan, S., & Gargasha, S. (2016) examined the Impact of BREXIT Referendum on Indian benchmark indices Sensex and Nifty 50. They ascertained Abnormal returns (AR) and student t test to test the significance. Brexit referendum has an impact on Sensex on the event day only as none of the Abnormal Return (AR) were statistically significant at 5% other than the event day (0) and on day 12. By applying historical volatility (standard deviation) and GARCH (1,1) from 24-06-2015 to 19-07-2016, they found out that historical volatility in both Sensex and Nifty were not statistically significant and ARCH and GARCH showed no effect after the Brexit referendum for Sensex where GARCH effect was found before the referendum. Likewise, in case of Nifty fifty before the referendum there was a GARCH effect while neither ARCH nor GARCH effect after the referendum. This signifies the robustness of the Indian economy while there may be short term volatility in stock market and currency.

Wan SallhaYusoff, et al (2015) investigated the daily stock returns of the public sector companies associated with Taib from October 2,2013 to March 5, 2014. Short-run event methodology was used to study the effects of Taib's resignation news on the stock market. An actual and pre-event windows were constructed based upon four main events of interest such as Rumours of Taib Mahmud retirement, Resignation and retirement of Taib Mahmud as CM, Nomination to Balingan seat and BN won to recognize whether investors earned abnormal returns owing to these announcements. It was found that the mean average returns

after the event day was positive whereas on the actual event day mean average return turns out to be negative. The average return was lower for company's stock after the announcement of bad news. Based on efficient market hypothesis, the study concluded that there is an inefficient market, as in the short run political events, investors are able to predict and earn abnormal returns in politically connected companies upon the announcement of surprising political news.

Rafaqet Ali and Muhammad Afzal (2012) reviewed the impact of global financial crisis on the Indian stock market and the stock market of Pakistan. To conduct the research a daily data for a period from January 01, 2003 to August 31, 2010 of KSE-100 and BSE-100 was analyzed. Through EGARCH model volatility was checked. The result concluded that the Indian stock market was more affected by the global financial crisis than Pakistan stock markets.

Neetu Mehndiratta&ShuchiGupta(2010) observed the stock market reaction to dividend information by adopting an event study methodology to study information efficiency. They took the data of 15 most actively traded companies in the year 2009 which consists of the dates on which the board announces dividend, daily adjusted closing prices and CNX, S&P, NIFTY index of ordinary share prices. Abnormal return, average abnormal return and cumulative average abnormal return was computed to examine the incidence of market efficiency. The study concluded that an investor can gain significant value post event day but not prior or on the day of the event.



ANALYSIS AND RESULTS

Table 1 shows the Average Abnormal Returns, Cumulative Average Abnormal Returns & t-values of Abnormal returns. Above table has been constructed taking 30 days pre and 30 days post the event day i.e Trump's win as President of US. Average Abnormal Returns were computed by taking the

Table 1: Average Abnormal Returns, Cumulative Average Abnormal Returns & t-values

| Days | AAR | CAAR | t-Value | Days | AAR | CAAR | t-Value |
|------|-----------|-----------|-----------|------|-----------|------------|------------|
| -30 | 0.7104115 | 0.710412 | 11.326106 | 0 | -.4801652 | -0.0417488 | -7.6552834 |
| -29 | 0.0169892 | 0.7274012 | 0.2708597 | 1 | -.0547046 | -0.0964535 | -0.8721572 |
| -28 | 0.2819505 | 1.0093517 | 4.4951423 | 2 | -.3515055 | -0.447959 | -5.6040593 |
| -27 | 0.6071265 | 1.6164782 | 9.6794308 | 3 | -0.100749 | -0.548708 | -1.6062434 |
| -26 | -.0306885 | 1.5857897 | -.4892675 | 4 | 0.0763908 | -0.4723172 | 1.2178996 |
| -25 | -0.576489 | 1.0093007 | -.1909768 | 5 | 0.2088767 | -0.2634405 | 3.3301252 |
| -24 | 0.3523855 | 1.3616861 | 5.618089 | 6 | -.8453176 | -1.1087581 | -13.476916 |
| -23 | 0.0338187 | 1.3955048 | 0.5391718 | 7 | -.4457551 | -2.5545132 | -23.049704 |
| -22 | -.3600754 | 1.0354295 | -5.740689 | 8 | 0.4063849 | -2.1481283 | 6.4790036 |
| -21 | -.4683288 | 0.5671007 | -.4665754 | 9 | 0.8480226 | -1.3001057 | 13.520041 |
| -20 | -.6737244 | -.1066237 | -0.741203 | 10 | 0.444841 | -0.8552647 | 7.0921101 |
| -19 | -0.419516 | -.5261398 | -.6883529 | 11 | 0.2639706 | -0.5912941 | 4.2084882 |
| -18 | -.5847251 | -.1108648 | -9.322284 | 12 | -.2107137 | -0.8020079 | -3.3594133 |

| Days | AAR | CAAR | t-Value | Days | AAR | CAAR | t-Value |
|------|------------|------------|------------|------|------------|------------|------------|
| -17 | 0.4944604 | -0.6164045 | 7.883192 | 13 | 0.4367152 | -0.3652927 | 6.962559 |
| -16 | 0.6777472 | 0.0613427 | 10.805338 | 14 | 0.3665419 | 0.0012492 | 5.8437851 |
| -15 | 0.2677321 | 0.3290748 | 4.2684588 | 15 | -0.0896162 | -0.088367 | -1.4287534 |
| -14 | 0.4891403 | 0.8182151 | 7.798374 | 16 | 0.0934171 | 0.00505 | 1.48935 |
| -13 | 0.4581039 | 1.276319 | 7.3035602 | 17 | -0.3338803 | -0.3288303 | -5.3230611 |
| -12 | 0.1963411 | 1.4726602 | 3.1302709 | 18 | 0.0919111 | -0.2369192 | 1.4653405 |
| -11 | -0.2689478 | 1.2037124 | -0.2878408 | 19 | 0.6726003 | 0.4356811 | 10.723281 |
| -10 | -0.3949534 | 0.808759 | -0.2967502 | 20 | 1.1855697 | 1.6212508 | 18.901564 |
| -9 | 0.146821 | 0.95558 | 2.340771 | 21 | 0.1831921 | 1.8044429 | 2.9206361 |
| -8 | -0.3689605 | 0.5866195 | -0.8823454 | 22 | 0.5929031 | 2.397346 | 9.4526661 |
| -7 | -0.2223773 | 0.3642421 | -0.5453667 | 23 | -0.0138917 | 2.3834544 | -0.2214749 |
| -6 | 1.1446223 | 1.5088645 | 18.248738 | 24 | 0.6244358 | 3.0078902 | 9.9553934 |
| -5 | -0.561412 | 0.9474525 | -0.9506037 | 25 | -0.2543789 | 2.7535113 | -4.0555685 |
| -4 | -0.3947354 | 0.552717 | -0.2932752 | 26 | -0.3052477 | 2.4482636 | -4.8665701 |
| -3 | -0.3864531 | 0.166264 | -0.1612294 | 27 | 0.250187 | 2.6984506 | 3.9887372 |
| -2 | -0.1207569 | 0.045507 | -0.9252305 | 28 | 0.1093057 | 2.8077564 | 1.7426638 |
| -1 | 0.3929093 | 0.4384163 | 6.2641614 | 29 | 0.5266038 | 3.3343602 | 8.3956555 |
| 0 | -0.4801652 | -0.0417488 | -0.6552834 | 30 | 0.2347211 | 3.5690812 | 3.7421629 |

average of the abnormal returns of IT, Energy and Pharma Sectors. For calculating Abnormal returns of each sector, their expected returns were deducted from their actual daily returns. The Average Abnormal Returns appeared to be more negative prior to the event day as compared to period after the beginning of Trump's presidency. A negative incidence of Average Abnormal Returns was noticed continuously for 10 day pre event, event day and 3 days post event. Cumulative

Average Abnormal Returns at the end of the event window is not close to zero that shows the inefficiencies of the stock market which proves that Trump's selection as President of US has an impact on the Indian stock market. The t- values in the entire event window days shown in table 1 are significant at 5% level of significance except only 5 days in the event window of 61 days which indicates existence of abnormal returns and displays that the returns does not follow the random walk.

Table 2: Descriptive Statistics

| | Nifty 50 Return | Nifty Energy Returns | Nifty It Returns | Nifty Pharm a Returns |
|--------------|-----------------|----------------------|------------------|-----------------------|
| Mean | 0.000453 | 0.000754 | 0.000398 | 0.000326 |
| Median | 0.000624 | 0.001248 | 0.00034 | 0.000556 |
| Maximum | 0.033669 | 0.041433 | 0.047983 | 0.052144 |
| Minimum | -0.033171 | -0.079693 | -0.03956 | 0.046592 |
| Std. Dev. | 0.007937 | 0.011079 | 0.010658 | 0.012469 |
| Skewness | -0.17634 | -0.821752 | 0.103437 | 0.100778 |
| Kurtosis | 4.377083 | 8.07212 | 4.921562 | 4.060275 |
| Jarque-Bera | 62.39041 | 877.6992 | 115.3242 | 35.96343 |
| Sum Sq. Dev. | 0.046616 | 0.090828 | 0.084062 | 0.115055 |
| Observations | 741 | 741 | 741 | 741 |

Table 2 represents that the average Nifty energy returns in this sample is 0.000754 which is the highest among all the sectors whereas the average Nifty Pharma returns turned out to be the lowest i.e. 0.000326 followed by Nifty IT returns i.e. 0.000398 reflecting these two as the most affected sectors in the study span. For Nifty50 returns, the standard deviation (0.007937) is the least. Though the kurtosis values reflect a positive kurtosis for all the sectors as well as for Nifty50, signifying that the values are not normally distributed for all the sectors and shows peakedness. The table 2 depicts the value of variance and signifies that there is not much spread of data from their mean. Jarque-Bera statistics are high for Nifty Energy indicating that the series is not normally distributed.

Table 3: Augmented dickey fuller test (ADF Test) (At first difference)

| | t-statistics | Probability |
|--------------|--------------|-------------|
| Nifty 50 | -15.88788 | 0.0000 |
| Nifty energy | -14.44682 | 0.0000 |
| Nifty IT | -26.6631 | 0.0000 |
| Nifty pharma | -2.038546 | 0.0000 |

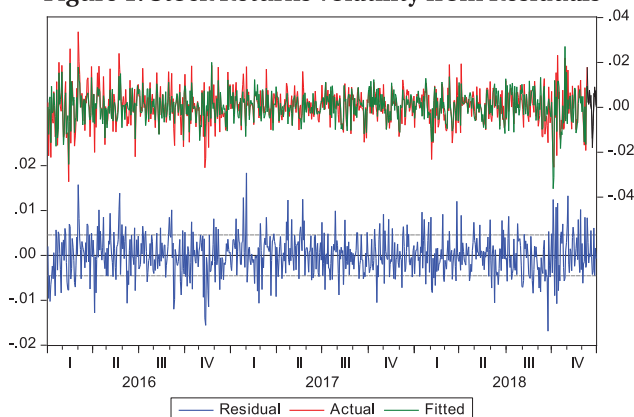
All the data series i.e. Nifty 50, Nifty energy, Nifty IT, Nifty Pharma are not stationary at level. In accordance, for further analysis, data series Nifty 50, Nifty energy, Nifty IT, Nifty Pharma are taken at first difference. ADF test results are represented in Table 3.

Table 4: Least Square Test Results

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|----------------------|-------------|------------|-------------|--------|
| C | 0.000116 | 0.000168 | 0.692762 | 0.4887 |
| NIFTY_ENERGY RETURNS | 0.401884 | 0.016445 | 24.43772 | 0 |
| NIFTY_IT RETURNS | 0.219859 | 0.016185 | 13.58397 | 0 |
| NIFTY_PHARMA RETURNS | 0.163831 | 0.014699 | 11.14568 | 0 |

For applying the model, the CNX Nifty was taken as dependent variable and three sectoral indices returns were taken as independent variables. The results in table 4 indicates that the

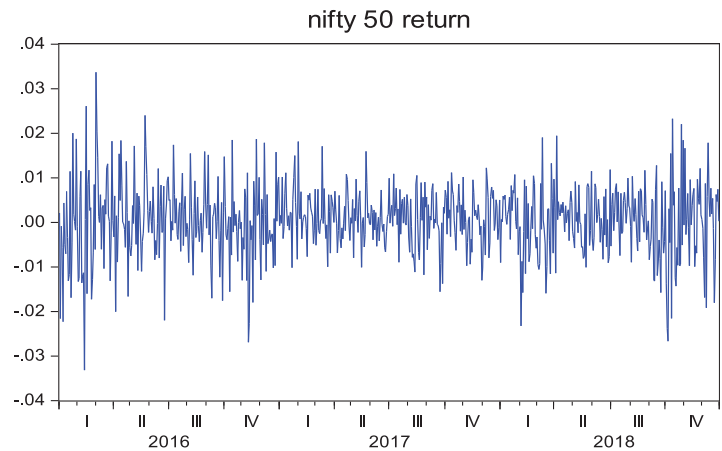
Figure 1: Stock Returns Volatility from Residuals



model is significant, depicting p values less than 0.05. Hence, the test can be conducted using the variables i.e. Nifty50 return and three sectoral returns.

Figure 1 shows the graphical representation of least square test results. Residuals when plotted on the graph depicts that the model is appropriately fit which means the actual returns and the fitted ones coincides each other as their value seems to be more or less same. Below figure 2 demonstrates the detailed graphical presentation of the volatility of CNX Nifty 50 returns.

Figure 2: NIFTY 50 Returns Residual Graph



It is visualized from the figure 2 that during the second quarter of the year 2016 there are more negative rallies owing to the exit of Great Britain from the European union in June. Again, in the fourth quarter of the same year, there is negative spike in the stock returns as Indian Prime minister announced Demonetization in the economy. Volatility seems to be high in the year 2017 resulting from the Trump's selection as President of US and his continuously changing economic policies towards international trade. Moreover year 2018 also begins with high volatility both ups and down in the market. These rallies continued in the first quarter of the year as a result of big PNB scam and budget predictions. Towards the end of 2018, when RBI governor resigned, it created volatility in the stock returns. It can be deduced that all such news, events and political announcements in any economy of the world has an impact on the country's stock market. Furthermore, the following tables represents the sector wise volatility caused due to Trump's victory.

Table 5: GARCH Model test result

| Variable | Coefficient | Std. Error | z-Statistic | Prob. |
|-------------|-------------|------------|-------------|--------|
| C | 1.60E-06 | 1.13E-06 | 1.420232 | 0.1555 |
| RESID(-1)^2 | 0.030696 | 0.016394 | 1.872415 | 0.0611 |
| GARCH(-1) | 0.890127 | 0.064741 | 13.74896 | 0.0000 |

Table 5 indicates the results of GARCH (1,1) model estimation for Nifty 50, Nifty Energy, Nifty Pharma, and Nifty IT. Volatility clusters and shocks seems to be quite persistent as the alpha and beta values are 0.920823, which is very close one.

High volatility clusters appeared because the IT, Energy and Pharma sectors were the most affected sectors during Trump's

presidency. Trump's 'hawkish' trade policy of 'America first' and his plans to renegotiate all foreign trade deals affected trade treaties with India. The Indian IT industry faced an anti-outsourcing backlash in the US, which included facing certain class action suits and rules that increased their cost of operations. The Indian IT companies increased their investments in the US, which included setting up local development centres.

Trump promised to unleash America's shale oil, natural gas and coal reserves to make U.S energy self-sufficient. He had also promised to open onshore and offshore leasing on federal lands and lift the moratorium on coal leasing. This expanded the business opportunities for Indian oil companies including the state-owned Oil and Natural Gas Corporation of India (ONGC) whose foreign arm ONGC Vides Limited (OVL) has been expanding its operations globally.

Trump aimed at reducing the generic drug prices, but it impacted Indian pharma companies minimally. Because Indian pharma companies such as Sun Pharma, Lupin, Dr Reddy's and others have a dominant presence in the generic US market.



CONCLUSION

Trump's coming to power had both positive and negative implications on Indian economy as any major happening in any part of the world undoubtedly influences the financial

markets across the globe. The result of the event study methodology indicates that the Average Abnormal Returns is more negative in the period preceding the event day as compared to period after the beginning of Trump's presidency. The Average Abnormal Returns showed negative results continuously for 10 days in the pre-event, event day and 3 days post event. Moreover, the study used ARCH and GARCH models to examine the Trump effect on different sectors of the Indian economy namely, Pharma, IT, and Energy. The result of GARCH model signifies that the alpha and beta values are near to zero which indicates the presence of volatility clusters and shocks in the data. Volatility appeared to be high in the year 2017 resulting from the Trump's selection as President of US. The study concludes that Trump's victory had a positive impact on the Indian Energy sector whereas a negative impact was seen on the Indian Pharma sector. Indian IT Sector was also affected because of the stringent immigration rules and regulation against outsourcing.

If all the Trump's policies and proposals are implemented, then there will be only few temporary negative consequences for India. But in the long run, Indian economy will be benefited by the increase in the number of skilled workers and investments. If IT & Medical professionals return to India, Modi's dream of brain gain will become true. India's development will be faster 'Buy American, Hire American' policy is very costly for many IT industries in US. Indian-based IT industries in US may shift their base to India, which is very beneficial to Indian economy. With the increase of talent pool in India, our country can attract more foreign investments.

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