

## THE EFFECT OF GENERAL ELECTIONS ON THE STOCK MARKET PERFORMANCE OF FIRMS: EVIDENCE FROM INDIA

Richa Garg<sup>\*1</sup>, Shahzad Munir<sup>\*2</sup>, Sohail Raza<sup>3</sup>

Wang Yanan Institute for Studies in Economics (WISE), Xiamen University, China<sup>1,2,3</sup>

Email Correspondent: [richakalimpong@hotmail.com](mailto:richakalimpong@hotmail.com)<sup>1</sup> [shahzadmunirm@outlook.com](mailto:shahzadmunirm@outlook.com)<sup>2</sup>

Email: [raza.sohailalig@gmail.com](mailto:raza.sohailalig@gmail.com)<sup>3</sup>

**Abstract :** The Indian general elections (Lok Sabha Elections) is billed as the ‘country’s biggest festival.’ India is the second most populous country in the world with around 900 million eligible voters in the year 2019. Making sure that all eligible voters poll their votes securely is difficult to do in a single day. Therefore, the election event in India lasts for several weeks. This paper studies the impact of Indian General Elections on the stock market performances of the firms using the election event data of 2004, 2009 and 2014 as the sample. Fixed Effect (FE) model, Random effect (RE) model and difference-in-difference (DID) methods are performed to estimate the effect of general election event on the stock market performances of the firms, measured by market capitalization of the firms and their stock returns.

**Keywords:** *Indian general election; Stock market; Difference-in-difference; Fixed Effect; Random Effect.*

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### 1. Introduction

Stock prices are considered to be sensitive to new information, that being said all new information is reflected upon the movement of stock prices. Generally, this is the case when the market is efficient. However, given some former studies, this is not always the case. The stock prices do not automatically reflect on every such information. It has been observed that the happening of an uncertain event (say, a terrorist attack, natural disaster) or an announcement (like changes in monetary policies) may affect the stock returns for a couple of days before it could adjust itself to normal prices (Fama, 1998). In addition to the announcement of an uncertain event, the stock market performance is also influenced by politics and government activities such as the adoption of new economic policies by politics (for instance, demonetization and adoption of Goods and Service Tax (GST) in India), changes in the government, Brexit referendum et cetera.

Amongst all, political uncertainty is considered to be one of the crucial factors that can negatively or positively affect the stock market performance. There has been a long history of research in this context. Depending on the type of event and the economic condition of the country, former studies done in this context drew different conclusions. For instance, Santa-Clara and Valkanov (2003) presented that the market performed better under Democrat than Republican presidencies. Wong and McAleer (2009) showed that the U.S. stock market performed better during the second half of the presidential cycle, particularly in case of a Republican incumbent. Additionally, Bowes (2018) found a significant effect of an uncertain election outcome on the stock return represented by,

higher conditional variance in S&P returns. Besides the US, there are numerous studies focusing on developed and developing economies. However, India has rarely been included in election effect studies on the stock market performances (Balaji, Kusuma, & Kumar, 2018; Sudarsana Reddy, 2018). Therefore this paper intends to study the effect of general elections on the stock market performances of firms in India. Using a panel of 561 firms across different states, the study accesses the market performances following the election event in each state.

## **2. Literature Review**

This paper is based upon an extensive literature that studies the effect of election event on the stock market returns and or stock market volatility of returns. A number of studies have found a significant positive impact of political uncertainty on the stock market. To begin with, Jensen and Schmith (2005) found a positive effect of presidential elections on the performance of Brazilian stock market. The stock market was observed to be more volatile during the elections. Bia-lkowski, Gottschalk, and Wisniewski (2008) used an event study approach to investigate the effect of elections on the stock returns of 27 OECD countries. It was observed that the election outcome surprise has a significant effect on the stock prices. In addition, Bia-lkowski et al. (2008) showed elections involving closely contested races observed a higher volatility due to increased uncertainty about the election results. On the contrary, Fu'ss and Bechtel (2008) studied the relationship between 'partisan politics' and stock market performances of small scaled firms in Germany. A positive relation was observed between the stock market performances of firms and the probability of right-leaning coalition winning the elections. Moreover, a higher probability of right-leaning coalition winning the elections was observed to be associated with increase in stock market volatility while overall electoral uncertainty showed a volatility reducing effect. Several other studies such as Abidin, Old, and Martin (2019) & Gillitzer and Prasad (2018) also reported a positive significant effect of the election event.

Above all, using a fixed effect approach Yan and Wooi (2016) studied in brief the effect of private and public sector banks on the stock market returns for Indonesia, Malaysia and Thailand. Stock market was observed to be positively affected following the Election Day. Interestingly, the cumulative average abnormal returns for private banks were observed to be less significant when compared to the public banks.

Some other studies have reported a negative impact or no significant impact of elections on the stock market. To name some, Oehler, Walker, and Wendt (2013) studied the effect of US presidential election results on the abnormal returns of firms listed on stock market. Focusing on the returns from eight industries, it was observed that mining and manufacturing industries are negatively affected due to the presidential elections while the effect on other industries such as financial sector and real estate are not statistically significant.

Furthermore, in the study conducted by Liew and Rowland (2016) it has been found that, in addition to a significant before and after election effect, a close competition between the two major political parties resulted in a negative stock market return. Prior research that investigated the impact of election event on the stock market performance in various global markets (Kenya and the US) has also reported mixed result (Kabiru, Ochieng, & Kinyua, 2015; Pesakovic & Ndekugri, 2017). Similarly, researches led by Celis and Shen (2015) and Chia (2018) contended that the election event had a

significant effect on the stock market volatility while no significant effect was observed on the stock returns. These findings also contribute to the growing literature reporting the impact of political connectedness of firms on the welfare of respective states. For instance, Bertrand, Kramarz, Schoar, and Thesmar (2007) have studied the firm behaviour in France and observed that the firms that are politically connected hire and fire around the election years. Following this Bertrand, Kramarz, Schoar, and Thesmar (2018) using a plant level dataset from France, presented that the politically connected CEO's created higher employment opportunities during the election years. To be added, it was observed that the connected firms observed a drop in accounting profitability in comparison to the non-connected firms. Moreover, this behaviour is evident in regions with higher political uncertainty. In former studies where parties are highly motivated by re-election, the study conducted by Asher and Novosad (2017) is worth mentioning in the context of India. This study shows that the governing parties influence voters' perception of ruling party by controlling the allocation of public resources across constituencies. They found that the regions governed by ruling party candidates observed a higher private sector employment, increased abnormal returns and increased gross domestic product (GDP) as measured by intensity of night lights. Several other papers have reported the influence of political parties on the local growth of an economy (Bhavnani, 2009; Tandon, 2018).

However in the context of India the literature is relatively scarce that investigates the election effect on the stock market. Sudarsana Reddy (2018) analyses the effect of general election on the volatility of stock market return basically focusing on the elections held in the year 2014. This study is based on the hypothesis that political news and events have a potential to positively or negatively affect the stock market. For analysis the author drew a sample of five companies from the population of 30 companies listed under Bombay Stock Exchange (BSE) Sensex. The results indicates that the announcement of election positively affect the stock market. Contrarily, Balaji et al. (2018) studies the effect of general elections on stock market with regards to National Stock Exchange (NSE) and Bombay Stock Exchange (BSE) index returns. Using t tests and f tests the paper concludes that the effect of election on the stock market return is maximum during short run (that is, 10 days post-election) in comparison to medium (20 days) and long term (30 days).

This study contributes upon the existing literature in the sense that this study uses a difference-in-difference design to study the variations in the performances of large states in comparison to small states in the post-election period. While, the fixed effect and random effect models examine the election effect on the market performances of the all firms in the post-election period.

### **3. Data**

#### **3.1 Data Sources**

All financial variables including stock price, outstanding shares, trading volume, net income, assets, and liabilities were obtained from Compustat using the Wharton Research Data Services (WRDS). We have obtained daily stock price and number of outstanding shares for all stocks traded in Bombay stock exchange and National Stock Exchange of India for the period 2004, 2009 and 2014 (the general election year). Quarterly and annual financial data from company's Income statement and Balance Sheet have also been acquired using WRDS to control for company-specific factors. The

portal of Election commission of India has been used to obtain election-related information, such as election announcement days, election dates and the number of phases in which the election event takes place.

Moreover, data for the headquarter location of the firms is obtained from the Compustat annual files which are then used to match with the company's financial data with their respective states. Since, the election event in India lasts over weeks and takes place in multiple phases; the firm-state data is used to perform a difference-in-difference by studying the variations in performances of large states in comparison to small states.

Additionally, the Global Industry Classification Standard (GICS) codes obtained from Compustat have been used to match the firms with their respective industry group and divide them into four major sectors. That is, (1) manufacturing; (2) finance, insurance and real estate; (3) services and (4) others.

### **3.2 Sample Construction**

Using the election event data, it is observed that each election phase is designed such that there is a gap of 5 to 7 days between each phase. According to the Election Commission of India, it is done to ensure peaceful and fair voting with effective logistic supports. Keeping in mind various public holidays and the schedule of school examinations, particularly the Central and State Board examinations the election event in India is planned accordingly in the month of April and May.

In constructing the analysis sample, the firms listed before 2004 have been matched with that of the firms in 2009 and 2014 and all the firms that went public after 2004 or were delisted before 2014 have been excluded. Furthermore, for the sake of simplicity the daily stock price, outstanding shares and market capitalization data of each firm have been converted to weekly data using average. Therefore a panel data has been constructed containing a total of 561 companies by using the active stocks between the second week of January and the last week of July for each election year as the sample.

Since the listed firms in the stock market are of different size so in order to ensure a fair comparison of the companies in the panel dataset, the market capitalization of each firm has been normalized as follows:

$$MarketCap_{it} = ShareOutstanding_{it} \times StockPrice_{it}$$

$$NormalizedMarketCap_{it} = \frac{MarketCap_{it}}{\left( \sum_{k=1}^{26} \frac{MarketCap_{it}}{26} \right)}$$

Where  $MarketCap_{it}$  is the total market capitalization of firm  $i$  in week  $t$  and  $k$  denotes a time period of 26 weeks in an estimation window starting from the second week of July until the last week of December during the pre-election year. The analysis sample consists of 561 companies in total and  $t$  runs from 1 to 30. The stock returns have been calculated as:

$$StockReturn_{it} = 100 \times \ln \left( \frac{StockPrice_t}{StockPrice_{t-1}} \right)$$

#### 4. Empirical Strategy

It has been a general perception that a political change brings in a new set of directions and these directions in turn affects economic outcome. That being said, with the announcement of new policies that the new government may bring in, the functioning of firms might be adversely or favourably affected; which in turn affects the stock prices of the firms. Therefore the goal of this study is to test whether general elections affect the stock market performances of the firms.

The election event in India takes place in multiple phases where citizens from different parts of the country poll on different dates resulting in the event to last approximately for a month. For each election event, the analysis sample consists of 30 weeks which is divided into two groups, namely the pre-event period and the post-event period. The weeks during which the citizens cast their vote is considered as the “event period” is included in the pre event period. The general elections of 2004, 2009 and 2014 were held in four, five and nine phases respectively. Therefore, the event period for 2004, 2009 and 2014 lasts for four, five and six weeks respectively

This paper focuses on the stock market performance of publicly listed firms located in a given state using the normalized market capitalization and stock returns as the outcome variables. Fixed Effect, Random effect and a difference-in-difference approach has been implemented to test the following hypothesis:

**$H_1$ : The election event affects the market capitalization of the publicly listed firms thereby affecting their stock market returns.**

##### 4.1 Fixed Effect

One of the advantages of using panel data is its ability to control for unobserved fixed effects. Given the election event design, the fixed effect approach, in this case, allows controlling for firm-specific fixed effect and time fixed effect. Meanwhile also allows controlling for within-cluster correlation in case of potential serial correlation. Firm fixed effect, year fixed effect and state level cluster have been used to control for time-specific shock and within-cluster correlation in the business cycle. The following equations have been used to estimate the fixed effect regression:

$$MV_{its} = \beta_0 + \beta_1 Post\_Election_{ts} + \beta_2 X'_{it} + \delta_i + u_{its} \quad (1)$$

$$Returns_{its} = \beta_0 + \beta_1 Post\_Election_{ts} + \beta_2 X'_{it} + \delta_i + u_{its} \quad (2)$$

Here,  $MV_{its}$  represents the normalized market performance of firm  $i$  during week  $t$  in states. Meanwhile  $Returns_{its}$  represents the stock returns of firm  $i$  during week  $t$  located in states;  $Post\_Election_{ts}$  is dummy variable that equals 1 after the elections are over in respective states.  $X'_{it}$  is a vector of control variables containing firm-specific control variables namely, trading volume, Returns on Equity, debt-equity ratio, asset turnover ratio, current ratio, Earnings per share, leverage and Revenue growth;  $\delta_i$  represents firm and time-specific fixed effect i.e., year fixed effect and  $u_{its}$  is the error term that controls for other unobserved factors in the model. From the above equations,  $\beta_1$  is the parameter of interest; which can be interpreted as the post-election effect on the stock market performance of the firms.



## 4.2 Random Effect

It is well known that a fixed effect model is able to control for unobserved fixed-effect factors and that it reduces the possibility of omitted variable bias by omitting the time-invariant factor from the model. However, in the case of potential serial correlation, random effect model is considered to be more appealing. This is because the random effect model assumes that the unobserved variable is uncorrelated with all explanatory variables at all time period resulting in more efficient estimators (Wooldridge, 2012). The random effect model can be written as follows:

$$MV_{its} = \beta_0 + \beta_1 Post\_Election_{ts} + \beta_2 X'_{it} + v_{its} \quad (3)$$

$$Returns_{its} = \beta_0 + \beta_1 Post\_Election_{ts} + \beta_2 X'_{it} + v_{its} \quad (4)$$

Here,  $v_{its} = \delta_i + u_{its}$  is composite error term. As  $\delta_i$  is the part of composite error in each time period, consequently  $v_{its}$  are serially correlated across time.

## 4.3 Difference-in-difference

The election event in India takes place in a number of phases; where some states poll vote in one single day while some other states have multiple phases of voting. The states are delimited into a number of constituencies depending on the size of the states (usually the density of population). According to the Election Commission of India, the larger states are assigned a multiple phase voting schedule in order to ensure peace and safety during the election event. The difference in the time period of election event across states, therefore allows performing a difference-in-difference estimation. This study focuses on the last three general elections held in India constituting the 14th, 15th and 16th General Elections (Lok Sabha Elections). Three sets of datasets have been constructed representing each election event. For difference-in-difference, the states that poll votes in more than one phases represents the treatment group, as they are the large states. The difference-in-difference model used for estimation is written as follows:

$$MV_{its} = \beta_1 State_t + \beta_2 Election_{ts} + \beta_3 State_t \times Election_{ts} + \gamma_t X'_{it} + u_{its} \quad (5)$$

$$Returns_{its} = \beta_1 State_t + \beta_2 Election_{ts} + \beta_3 State_t \times Election_{ts} + \gamma_t X'_{it} + u_{its} \quad (6)$$

Here,  $State_t$  is a dummy variable that is equal to 1 for each state that poll votes in multiple time period representing large states;  $Election_{ts}$  is a dummy variable which equals 1 for all states in the post-election period. The interaction of State and Election variable is the variable of interest that estimates (given by  $\beta_3$ ) the behaviour of large states that are treated in the post-election period.  $u_{its}$  represents the error term. Additionally, the model allows controlling for unobserved time-specific effect in terms of week and month fixed effects. Given, the data has been fragmented into three sets that allow studying each election event individually. Therefore, no year effect is added.

## 5. Empirical Results

This section of the paper provides evidence that general elections affect the stock market performances of the publicly listed firms measured by normalized market capitalization and stock returns of the firms.

### 5.1 Fixed Effect

Table 1 presents fixed effect estimates of the effect of general elections on the market capitalization and market returns of the publicly listed firms. Column (1) presents estimation results using equation (1). The estimates show that the market value of publicly listed firms rises by 29.60 percentage point following the election event. One possible explanation for the positive significant post-election effect perhaps could be given in terms of the market sentiments as they vary with the expectations of the new government. The stock market performance would be affected given that the party that wins the election and gets a chance to form the government would have the power to drive the growth of the economy through various policy measures. In other words, when a party forms the government it tries to stabilize the market with new policies or amendments in policies resulting in the positive growth of firms.

**Table 1: Fixed Effect Estimation using weekly data**

Dependent Variable	Normalised Market Capitalization		Stock Returns	
	All Sectors		All Sectors	
	(1)	(2)	(3)	(4)
<b><i>Post_Elelction</i></b>	<b>0.296***</b>	<b>0.296***</b>	<b>1.960***</b>	<b>1.960***</b>
	<b>(0.0110)</b>	<b>(0.0102)</b>	<b>(0.1720)</b>	<b>(0.1430)</b>
<i>Trading Volume</i>	0.0894***	0.0894***	2.315***	2.315***
	(0.0134)	(0.0132)	(0.2290)	(0.1660)
<i>ROE</i>	0.025	0.025	0.224	0.224
	(0.0181)	(0.0203)	(0.3560)	(0.3960)
<i>Debt Equity</i>	0.206***	0.206***	0.809	0.809
	(0.0763)	(0.0579)	(1.0350)	(0.9830)
<i>Asset Turnover</i>	0.136***	0.136***	1.282***	1.282***
	(0.0342)	(0.0418)	(0.4600)	(0.4010)
<i>Current Ratio</i>	0.000000352	0.000000352	0.0000121	0.0000121
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
<i>EPS</i>	0.000713***	0.000713***	0.0249***	0.0249***
	(0.0002)	(0.0002)	(0.0093)	(0.0066)
<i>Leverage</i>	-0.209***	-0.209***	-0.797	-0.797
	(0.0762)	(0.0596)	(1.0360)	(0.9720)
<i>Revenue Growth</i>	-0.000887	-0.000887	-0.0668	-0.0668
	(0.0008)	(0.0010)	(0.0543)	(0.0557)
Observations	36,411	36,411	36,003	36,003
R-squared	0.346	0.346	0.011	0.011
Total Companies	560	560	560	560
Firm Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES

Note: \*, \*\*, and \*\*\* represent significance at 10%, 5% and 1% levels respectively.

Column (2) presents estimation results clustered at the state level allowing for the presence of serial correlation. It is to be noted that clustering across states doesn't lead to change in the results. Column (3) and (4) presents estimation results using equation (2).

The estimates show that the market returns of the publicly listed firms increases by 1.96 percentage point in the period following the election event.

## 5.2 Estimation across Sectors

In order to further test the results for different sectors, the analysis sample has been divided into four sectors: manufacturing; finance, real estate, and insurance; services and others. The estimation results have been presented in Table 2, 3, 4 and 5 respectively.

When comparing all the tables, it is observed that all the sectors gains in terms of the market capitalization. The estimation from the manufacturing sector, as displayed in Table 2 shows that the market value of the listed firms increases by 29.9 percentage points. Additionally, the manufacturing sector generates a positive return accounting for 1.75 percentage point in the post-election period. Similarly, for firms belonging to financial, real estate and insurance sector (Table 3) the market value increases by up to 26.6 percentage points generating positive returns of 1.14 percent. The firms belonging to service sector (Table 4) also observes an increase in the market capital by 25 percentage point and increase in returns by 3.77 percent. All the results are significant at 1% and 5% significance level. On the contrary, the sector grouped as others (Table 5) presents a gain of 37.8 percent in the period following the general elections. However, the changes in stock returns from this sector are not statistically significant.

**Table 2: Fixed Effect Estimation across Sectors**

Dependent Variable	Normalised Market Capitalization		Stock Returns	
	<b>Manufacturing</b>		<b>Manufacturing</b>	
	(1)	(2)	(3)	(4)
<b><i>Post_Election</i></b>	<b>0.299***</b>	<b>0.299***</b>	<b>1.750***</b>	<b>1.750***</b>
	<b>(0.0129)</b>	<b>(0.0113)</b>	<b>(0.1950)</b>	<b>(0.1740)</b>
<i>Trading Volume</i>	0.106***	0.106***	2.195***	2.195***
	(0.0155)	(0.0203)	(0.2690)	(0.2300)
<i>ROE</i>	0.0219	0.0219	0.122	0.122
	(0.0183)	(0.0177)	(0.3640)	(0.4180)
<i>Debt Equity</i>	0.202**	0.202**	-0.0989	-0.0989
	(0.0824)	(0.0793)	(0.9460)	(1.0540)
<i>Asset Turnover</i>	0.121***	0.121**	1.042**	1.042**
	(0.0360)	(0.0470)	(0.4580)	(0.4890)
<i>Current Ratio</i>	0.000000187	0.000000187	1.09E-05	1.09E-05
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
<i>EPS</i>	0.000812***	0.000812***	0.0291**	0.0291***
	(0.0003)	(0.0002)	(0.0116)	(0.0088)
<i>Leverage</i>	-0.204**	-0.204**	0.112	0.112
	(0.0823)	(0.0813)	(0.9470)	(1.0440)
<i>Revenue Growth</i>	-0.00126*	-0.00126	-0.0476	-0.0476
	(0.0008)	(0.0008)	(0.0496)	(0.0510)
Observations	27,271	27,271	26,963	26,963
R-squared	0.352	0.352	0.011	0.011



Total Companies	414	414	414	414
Firm Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES

Note: \*, \*\*, and \*\*\* represent significance at 10%, 5% and 1% levels respectively

### 5.3 Random Effect

Table 6 presents the estimation results of the election effect on the stock market performance of firms using the Random effect approach. The result from Table 6 shows a positive after effect of election event on the market performances of all firms in the sample where the market capitalization increases by 29.6 percentage point resulting in an increase of returns by 1.96 percentage. The results from the random effect approach are consistent with that of the fixed effect approach; representing the spillover effect of general elections on the market performances of firms.

**Table 3: Fixed Effect Estimation across Sectors**

Dependent Variable	Normalised Market Capitalization		Stock Returns	
	<b>Financial Firms</b>		<b>Financial Firms</b>	
	(1)	(2)	(3)	(4)
<b><i>Post_Election</i></b>	<b>0.266***</b>	<b>0.266***</b>	<b>1.143**</b>	<b>1.143</b>
	<b>(0.0375)</b>	<b>(0.0253)</b>	<b>(0.4920)</b>	<b>(0.7880)</b>
<i>Trading Volume</i>	0.0661*	0.0661*	2.429***	2.429***
	(0.0394)	(0.0344)	(0.7020)	(0.5720)
<i>ROE</i>	0.290**	0.290***	6.670**	6.67
	(0.1140)	(0.0501)	(2.9300)	(4.4110)
<i>Debt Equity</i>	0.107	0.107	-1.872	-1.872
	(0.1290)	(0.0799)	(5.3240)	(6.5120)
<i>Asset Turnover</i>	-0.0809	-0.0809	-2.929	-2.929
	(0.1220)	(0.1060)	(2.1830)	(2.1530)
<i>Current Ratio</i>	1.83E-05	1.83e-05***	-0.000341	-0.000341***
	(0.0000)	(0.0000)	(0.0003)	(0.0001)
<i>EPS</i>	8.12E-05	8.12E-05	0.0033	0.0033
	(0.0003)	(0.0003)	(0.0122)	(0.0153)
<i>Leverage</i>	-0.0947	-0.0947	1.929	1.929
	(0.1270)	(0.0704)	(5.2540)	(6.2730)
<i>Revenue Growth</i>	0.00348	0.00348	-0.802***	-0.802***
	(0.0101)	(0.0033)	(0.1890)	(0.1590)
Observations	3,286	3,286	3,249	3,249
R-squared	0.399	0.399	0.015	0.015
Total Companies	54	54	54	54
Firm Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES

Note: \*, \*\*, and \*\*\* represent significance at 10%, 5% and 1% levels respectively.

**Table 4: Fixed Effect Estimation across Sectors**

Dependent Variable	Normalised Market Capitalization		Stock Returns	
	<b>Services</b>		<b>Services</b>	
	(1)	(2)	(3)	(4)
<b><i>Post_Election</i></b>	<b>0.253***</b>	<b>0.253***</b>	<b>3.768***</b>	<b>3.768***</b>
	<b>(0.0274)</b>	<b>(0.0252)</b>	<b>(0.5490)</b>	<b>(0.5870)</b>
<i>Trading Volume</i>	0.0601*	0.0601***	2.612***	2.612***
	(0.0304)	(0.0152)	(0.7250)	(0.5360)
<i>ROE</i>	-0.0376	-0.0376	-2.67	-2.670*
	(0.0760)	(0.0593)	(1.6440)	(1.4160)
<i>Debt Equity</i>	0.244	0.244	5.010**	5.010*
	(0.3000)	(0.2100)	(2.0970)	(2.3590)
<i>Asset Turnover</i>	0.412***	0.412**	2.533*	2.533*
	(0.1260)	(0.1390)	(1.2720)	(1.1600)
<i>Current Ratio</i>	2.16E-06	2.16E-06	3.10E-05	3.10E-05
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
<i>EPS</i>	0.00229	0.00229	0.0737**	0.0737**
	(0.0018)	(0.0016)	(0.0315)	(0.0262)
<i>Leverage</i>	-0.252	-0.252	-5.103**	-5.103*
	(0.2990)	(0.2300)	(2.1060)	(2.4450)
<i>Revenue Growth</i>	0.000276	0.000276	-0.0282	-0.0282
	(0.0022)	(0.0016)	(0.0310)	(0.0312)
Observations	4,083	4,083	4,039	4,039
R-squared	0.424	0.424	0.015	0.015
Total Companies	62	62	62	62
Firm Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES

Note: \*, \*\*, and \*\*\* represent significance at 10%, 5% and 1% levels respectively.

**Table 5: Fixed Effect Estimation across Sectors**

Dependent Variable	Normalised Market Capitalization		Stock Returns	
	<b>Others</b>		<b>Others</b>	
	(1)	(2)	(3)	(4)
<b><i>Post_Election</i></b>	<b>0.376***</b>	<b>0.376***</b>	<b>0.822</b>	<b>0.822</b>
	<b>(0.0786)</b>	<b>(0.0793)</b>	<b>(0.8140)</b>	<b>(0.6080)</b>
<i>Trading Volume</i>	0.0718	0.0718	3.013***	3.013***
	(0.0638)	(0.0736)	(0.7920)	(0.4870)
<i>ROE</i>	-0.211	-0.211	-1.217	-1.217
	(0.2060)	(0.1930)	(3.0020)	(1.8950)
<i>Debt Equity</i>	-0.0333	-0.0333	4.728	4.728
	(0.2130)	(0.2250)	(3.4640)	(2.7210)
<i>Asset Turnover</i>	0.00648	0.00648	2.245	2.245

	(0.2470)	(0.2720)	(4.1460)	(5.0390)
<i>Current Ratio</i>	1.55E-06	1.55E-06	-1.37E-05	-1.37E-05
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
<i>EPS</i>	0.00226	0.00226	0.0273	0.0273
	(0.0034)	(0.0037)	(0.0473)	(0.0349)
<i>Leverage</i>	-0.0242	-0.0242	-5.439	-5.439*
	(0.2180)	(0.2330)	(3.3350)	(2.6480)
<i>Revenue Growth</i>	0.019	0.019	-0.848***	-0.848***
	(0.0209)	(0.0300)	(0.2520)	(0.2220)
<i>Constant</i>				
Observations	1,771	1,771	1,752	1,752
R-squared	0.268	0.268	0.033	0.033
Total Companies	30	30	30	30
Firm Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES

Note: \*, \*\*, and \*\*\* represent significance at 10%, 5% and 1% levels respectively.

### 5.3 Difference-in-difference

In addition to fixed effect and random effect, a difference-in-difference approach has been used to study the effect of general elections in large states following the election event. Given the general elections in India takes place in phases, the states that poll votes in multiple phases are grouped under the treatment group while states that poll votes in one single day remains controlled. The period before and during the elections are treated as pre-election and the period following the event of the election is considered as a post-event.

Table 7 presents the difference-in-difference estimation results for the election events of 2004, 2009 and 2014. The variable of interest is the interaction of Election and Large State variable that represents the post-election effect in the states that have elections in the multiple periods. From the estimation results, it is observed that the market performances of the firms are positively affected in the post-election event. Firms from large states reports a gain in the year 2004 and 2009; an increment of 0.08 percent and 1.08 percentage points of market cap and stock returns are observed in the year 2004. For 2009, stock returns are observed to have gained 0.27 percent. However the estimation is not statistically significant for the year 2009. Important to note here is that, the stock returns increases in the post-election period except for the year 2014. Column (5) and (6) of Table 7 shows a negative effect of election event on the market performances of firms in the year 2014 where the market capitalization fell by 0.13 percentage point and stock returns fell by 0.14 percent.

**Table 6: Random Effect Estimation using Weekly data**

Dependent Variable	Normalised Market Capitalization	Stock Returns
	(1)	(2)
<b><i>Post_Election</i></b>	<b>0.296***</b>	<b>1.960***</b>
	<b>(0.0110)</b>	<b>(0.1720)</b>

<i>Trading Volume</i>	0.0823***	2.315***
	(0.0115)	(0.2290)
<i>ROE</i>	0.0259	0.2240
	(0.0180)	(0.3560)
<i>Debt Equity</i>	0.190***	0.8090
	(0.0702)	(1.0350)
<i>Asset Turnover</i>	0.124***	1.282***
	(0.0291)	(0.4600)
<i>Current Ratio</i>	0.0000	0.0000
	(0.0000)	(0.0000)
<i>EPS</i>	0.000591**	0.0249***
	(0.0002)	(0.0093)
<i>Leverage</i>	-0.192***	(0.7970)
	(0.0701)	(1.0360)
<i>Revenue Growth</i>	-0.000851	-0.0668
	(0.0009)	(0.0543)
<i>Constant</i>	0.824***	-11.58***
	(0.0811)	(1.3200)
Observations	36,411	36,003
R-squared	0.346	0.011
Total Companies	560	560
Firm Fixed Effects	NO	NO
Year Fixed Effects	YES	YES

Note: \*, \*\*, and \*\*\* represent significance at 10%, 5% and 1% levels respectively.

**Table 7: Difference in Difference Estimation**

Dependent Variable	Normaised Market Capitalization		Stock Returns		Normaised Market Capitalization		Stock Returns		Normaised Market Capitalization		Stock Returns	
	2004		2009		2009		2014		2014		2014	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Election × LargeState	0.0763*** (0.0273)	1.078*** (0.3980)	0.0078 (0.0108)	0.272 (0.1980)	-0.132*** (0.0214)	-0.14 (0.1750)						
Large States	2.207*** (0.3140)	2.414 (1.7430)	-0.525*** (0.0594)	-2.054** (0.9780)	-0.846*** (0.0816)	-1.426* (0.7420)						
Election	-0.0568* (0.0340)	0.35 (0.6280)	-0.0085 (0.0203)	-0.53 (0.4650)	0.0641** (0.0313)	0.261 (0.3340)						
Trading Volume	0.0688*** (0.0052)	0.930*** (0.0820)	0.0259*** (0.0026)	0.572*** (0.0462)	0.0354*** (0.0047)	0.438*** (0.0423)						
ROE	0.242*** (0.0254)	-0.551 (0.4030)	0.173*** (0.0258)	0.103 (0.1560)	0.0197*** (0.0065)	-0.0989 (0.0796)						
Debt Equity	0.189*** (0.0316)	0.268 (0.3730)	0.162*** (0.0189)	0.543** (0.2620)	0.0841* (0.0430)	0.385 (0.3370)						
Asset Turnover	0.0594*** (0.0119)	0.194 (0.1650)	0.129*** (0.0068)	0.453*** (0.0963)	0.202*** (0.0146)	0.364*** (0.0966)						
Current Ratio	-0.00225*** (0.0002)	0.00076 (0.0047)	7.05e-07*** (0.0000)	-0.0000027 (0.0000)	-0.00926*** (0.0012)	0.00669 (0.0153)						
EPS	0.00249*** (0.0003)	0.00874*** (0.0029)	0.00139*** (0.0002)	0.00269* (0.0014)	-0.00000143 (0.0001)	0.00189*** (0.0005)						
Leverage	-0.187*** (0.0314)	-0.282 (0.3680)	-0.154*** (0.0187)	-0.583** (0.2590)	-0.0855** (0.0429)	-0.399 (0.3370)						
Revenue Growth	-0.00189*** (0.0002)	-0.00118 (0.0043)	-0.00396*** (0.0007)	-0.0168 (0.0160)	-0.00404*** (0.0006)	0.0055 (0.0092)						
Constant	1.166*** (0.0389)	-6.948*** (0.5970)	0.621*** (0.0242)	-9.770*** (0.4610)	0.989*** (0.0531)	-2.779*** (0.4960)						
Observations	16,143	15,736	21,225	20,702	21,065	20,526						
R-squared	0.277	0.264	0.502	0.368	0.225	0.164						
Week Effects	YES	YES	YES	YES	YES	YES						
Month Effects	YES	YES	YES	YES	YES	YES						
State Effects	YES	YES	YES	YES	YES	YES						

The table shows difference-in-difference estimates of election event on the market capitalization and stock market returns (column 1, 2, 3, 4, 5 and 6) of publicly listed firms. Column 1 and 2 represents average weekly effect of election on the stock market performance for the year 2004 while column 3 and 4 reports estimations for the year 2009 and column 5 and 6 for the year 2014. Standard errors are in parenthesis. \*, \*\*, and \*\*\* represent significance at 10%, 5% and 1% levels respectively.

## 6. Conclusion

As the biggest festival of India, the impact of General Elections on the stock market performances has barely been pictured in the former studies. This paper employs a difference-in-difference approach, a fixed effect model and a random effect model to estimate the effect.

The empirical analysis using fixed effect shows a positive, statistically significant effect of general elections on the stock market performances of all the firms. A similar estimation from random effect model also presents evidence supporting the positive effect of general election on the firms' performances. Using a fixed effect approach, this paper further document heterogeneous effects across different economic sectors. Whereas the estimation from all the sectors experience a positive spillover effect, the effect on stock returns turns out to be statistically insignificant in the other sectors.

Given the election schedule for each election event, the large states (i.e., states polling in multiple phases) are compared to the small states in the difference-in-difference setting. The empirical analysis shows a positive post-election effect of large states on the market performances of firms for the year 2004 and 2009. While, a negative election effect is observed in the year 2014 which brings down the market capitalisation and stock returns of the publicly listed firms. One possible explanation for these phenomena could possibly be the change of government in 2014 and its focus on small states.

India during the elections of 2014 observed a rapid increase in "Modi wave", that is the rise of Narendra Modi as the Prime Ministerial candidate from the biggest opposition party, BJP. Their election manifesto in 2014 included "greater decentralization



through smaller states” allowing for smaller states to be well governed with a great deal of attention. Additionally, as stated in former studies a close competition between the major political parties could also be one of the potential reasons that results in a negative stock return. Secondly, the short term foreseeable risk that forms to be one of the major concerns of the companies is due to electoral uncertainty. Since the market sentiment vary with the expectations of the new government coming into power. The stock market performance would be affected given that the new government would have the power to drive the growth of the economy through various policy measures affecting the market performances in the short run (Asher & Novosad, 2017). Thus for a seamless continuity of policies or perhaps predictability of direction the market may favour the victory of an incumbent government.

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