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A SUBNATIONAL STUDY OF 16 INDIAN STATES, 1958 – 2004**

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**DOES TIMING OF ELECTIONS INSTIGATE RIOTS?  
A SUBNATIONAL STUDY OF 16 INDIAN STATES, 1958 – 2004**

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**ABSTRACT**

We investigate whether timing of the elections leads to riots or not within India. In other words, does timing of elections instigate riots? The theoretical underpinning is that an incumbent government and opposition parties exercises control over their agents to instigate communal mob violence and riots during the election years. The motto behind instigating riots is that it leads to polarization of voters and thus benefits the respective constituents (incumbent government & opposition parties). Using time series cross-sectional data for 16 major Indian states for the period 1958 – 2004, we find that scheduled elections are associated with increase in riots. Also intensity of riots, proxied by rate of growth rate of riots increases in scheduled election years. We also find that riots and intensity of riots are responsive to the propinquity to an election year. Meaning, as incumbent government nears the elections, riots and intensity of riots keeps increasing, while this is exactly opposite during the early years of incumbent government in office. These results suggest that elections generate “riots cycle” in regionally, ethnically, culturally and socially diverse country like India.

**Keywords:** Riots; election cycles; India

**JEL classification:** D72

## **1. Introduction**

In electoral competition framework, there are different models which deal with the effect of elections on government behavior. The first such model, 'political business cycle' was formulated by Nordhuas (1975), Lindbeck (1976) and Tufte (1978). They argue that politicians manipulate the economic policies during the election period, by increasing the spending to boost economic growth on one hand and on the other hand, the incumbent government aims to keep the unemployment under control, leading to business cycles. While, Rogoff & Sibert (1988) and Rogoff (1990) advocates 'budget cycles' by increasing the spending on consumption and reducing taxes before the elections to highlight that the incumbent is competent enough to deliver public services. Recently, Khemani (2004) developed the 'career concern' model in which she argues that pressure of elections will be higher on politicians to provide better public services and increase developmental spending and reduce non-development expenditure, highlighting that fiscal manipulation would be low and selective only on some of the taxes and spendings which directly effect the people. In a new set of studies by Vadlamannati (2008a, b, c) find electoral cycles for globalization process for 78 democratic countries and also for economic reforms for 26 transition economies. All these studies deal with government policies with specific reference to economic policies. However, instead of looking at only economic policies, I probe the effect of elections on social issues like political violence. I undertake this investigation for two specific reasons: one, assuming that political competition between incumbent government and opposition political parties indulge in manipulating the social and religious events in instigating mob violence; communal violence and riots during the election years to gain political mileage from polarized voters. Therefore, one can assume electoral process acts as a derivative in instrumenting political violence. Two, it would be interesting to test for the presence of 'electoral cycles' in riots and its intensity, which largely remains unexplored in the literature. Thus, this study bridges this gap and addresses several questions: Does incumbent government and / or opposition parties manipulate the social and religious events to instigate riots just before the elections to gain political mileage? Whether there exists 'electoral riots cycle'? Do midterm elections have any impact on instigating riots? And what are the policy implications that we can derive from the results?

The main contributions of this paper are as follows. First, to our knowledge, we are the first to demonstrate in a rigorous manner that elections, more specifically scheduled elections indeed have a positive effect on the occurrence of riots and its intensity. Second, through the use of instrumental electoral cycle for both riots and intensity of riots, we show that both of them are responsive to the propinquity to an election year and thereby generating 'electoral riots cycle'. Finally, the existing literature in comparative political economy does not document these results for regions within India.

### **Why India?**

I selected India to conduct this study in the first place for several reasons. India happens to be world's second largest developing country with a profound history of stable democracy. The Constitution of India allows the elections commission to conduct both

union and state legislative elections for every five year term. The state legislative elections are conducted for Vidhan Sabha (State assembly) once in five years. The participation in union and state elections in world's second largest democracy is quite high. The average turnout in State legislative elections in India is about 62.8% (Election Commission, 2004). This apart, the other major reason which makes the selection of Indian regions interesting is the subnational variations across the state with respect in geopolitical, socioeconomic and macroeconomic factors which play an important role in determining the outbreak of riots would be useful in studying the relationship between electoral cycles and riots.

Over the decades, riots which take the shape of communal or regional or even political have been an integral part of Indian society. The riots have been plaguing the Indian society ever since India obtained independence. The graph1 in annexure captures the total number of riots in India from 1953 to 2006. These numbers are the sum of number of riots occurred in each of the 26 states every year. We find that the number of riots significantly increased till 1971. The period from 1971 to 1992 was marked with highest number of riots in independent India. However, the interesting finding which emerges from this graph is that post 1992 there has been a steady decline in riots. Incidentally this coincides with the economic liberalization program which India initiated with the help of World Bank in 1991. The growth rate of riots captured in graph 2 also points out this fact that post 1992, the rate of growth of increase in riots is infact negative and is declining. The period between 1960 and 1985 saw the riots registering highest growth rate.

There is a common consensus amongst researchers, NGOs and general public that riots in India are preplanned and well organized and are not instantaneous. Many agree that it is the political community which organizes the riots though control over their agents to polarize the society before the elections. Brass (2003) shows how political class is engaged in organizing and institutionalizing riots in India. While the ruling incumbent might engage in precipitating riots before the elections to evade the questions on developmental and public services issues, the opposition initiates riots to by exploiting the situation of economic insecurity and social unrest amongst the poor to gain political mileage from the elections. Therefore, India provides an excellent case study to examine the existence of 'electoral riots cycle' theory.

## **2. Election Cycles & Riots: Theoretical Underpinnings**

According to the electoral competition theories the opportunistic politicians resort to manipulating the economic policies during election years for political gains. Thus, country's long term economic benefits are kept on stake by manipulating the economic policies to reduce their short term political losses (avoiding electoral defeats). Infact the 'political business cycle' theory propounded by Nordhaus (1975), Lindbeck (1976) and Tufte (1978), the 'budget cycle' theory formulated by Rogoff & Sibert (1988) and Rogoff (1990) and 'career concern' model by Khemani (2004) demonstrate the manipulation of incumbent governments to persuade voters just before the election period and thereby generate electoral business cycles. These models finds support in the literature specially related developing countries (Ames, 1987; Schuknecht, 1996 & 1999; Moyo, 1999; Shi

& Svensson, 2000; Block, 2002; Chaudhuri & Dasgupta, 2005 and Vadlamannati, 2008a, b, c). However, going beyond economic policies, the effect of elections and electoral cycles are evident even amongst social policies like controlling property violence and more importantly spurring political violence.

In fact there is vast amount of literature which shows that indeed elections lead to increase in political violence specially in developing and under developed economies. The study by Chaturvedi (2005) supports our argument that both incumbent government and opposition parties resort to violence just before the scheduled elections. In his political model, he depicts that political competition between the two parties in the state, one the incumbent party with its resources and the second the opposition party through its party network foment political unrest. Further, the study by Chaturvedi & Mukherji (2005) examining the relationship between violent crimes and elections for 45 democratic countries finds significant positive relationship between the two. However, they also find that this relationship is highly significant for developing countries, while the same is less significant in developed countries. Wantchekon & Ellman (2000) and Wantchekon (1999) formulate what is called as 'strategic voting' by the voters. They argue that strategic and forward looking voters, who take into account the possibility of post-election unrest, mostly initiated by the political parties, can vote in a pattern that avoids the incidence of political violence. Taking the specific case of Indian states, Wilkinson (2004) argues that the degree of electoral competition proxied by party fractionalization is a key determinant of Hindu-Muslim riots. The findings of his study includes that states with higher party fractionalization has lower levels of Hindu-Muslim riots. Similarly, Serigenti (2005) finds for Indian states that increase in effective number of political parties is associated with lower levels of riots.

But why do incumbent governments and to an extent opposition parties in Indian states need political violence to win votes? In its most basic form, proponents of economic voting theory argue that voters who are most hurt by the government policies which lead to strained economic conditions are more likely to punish the incumbent governments in the elections (Burdekin, 1988; Lewis-Beck, 1991; Gleisner, R. F, 1992; Çarko lu, 1997; Wilkin et al. 1997; Fielding, 1998 & 2000; Lewis-Beck & Paldam, 2000; Chappell & Veiga, 2000; Lewis-Beck & Stegmaier, 2000; Youde, 2005; Nordhaus, 2006; Akarca & Tansel, 2006a & b; Duch & Stevenson, 2006; Mitchell & Willett, 2006 and Veiga & Veiga, 2006). Usually, voters relay more on the macroeconomic conditions of the country while voting (Lewis-Beck, 1988), though certain elections are found to be issue based elections. But in majority of the cases, it is the economic situation on the ground which matters the most and is the driving factor for the voters (Alvarez et al., 2000). It is the government policies which actually shape up the socioeconomic conditions of the society. Often in developing countries it is observed that the policies initiated by the incumbent governments might not lead to inclusive growth. Even in the case of India there is substantial evidence to show that economic growth and development process resulting from government's economic policies is not inclusive of the poor (Gupta, 1999 & Vadlamannati, 2008). This is evident by comparing the growth in GDP and Percapita GDP with the pace at which poverty and inequality levels are reduced. On one hand, the rate of growth of reduction in poverty and inequality levels has been very low during the

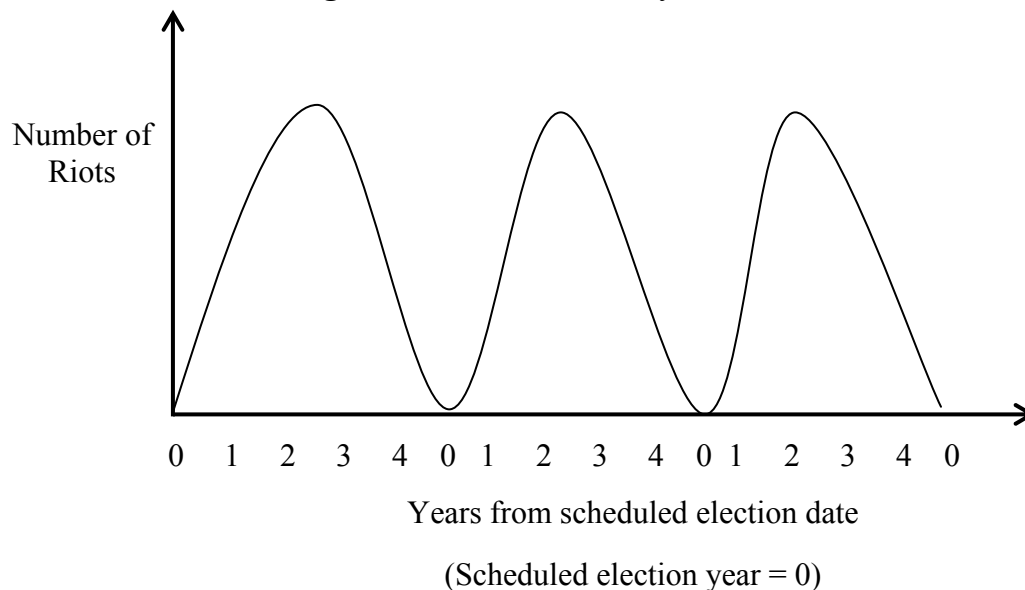
last two decades (Dutta, 1991) and on the other hand, India witnessed rapid surge in economic growth, industrial and services growth, urbanization and FDI inflows, highlighting that the development process tends to be 'exclusive'. Even the incumbent governments are well aware of this ground reality and hence are pressurized to deliver the prudent public services to their citizens just before the elections to prove their competence. However, failing to achieve these developmental goals in their five year tenure, the incumbent governments often resort to instigating mod violence; communal violence leading to riots just before the elections. On the other hand, exploiting this scenario, the opposition parties through their agents resort to political violence during the election years to gain political mileage from the polarized voters. This kind of political competition leads to instigating political violence and riots as and when they near the scheduled election year. But, the political violence and riots would be come down once the incumbent government gets back to the office post elections, thus creating 'electoral riots cycles'. However, this is exactly opposite in the case of midterm elections. This is because the timing of midterm elections (which occur anytime after a previous election) is unanticipated and hence, it does not provide incumbent government and political opposition parties the scope to manipulate the social events and thereby instigate the riots.

Taking into account the discussion on riots and electoral cycles, brings us to our first two propositions:

**Hypothesis 1 (H1): Increase in riots and intensity of riots is associated with scheduled election years.**

**Hypothesis 2 (H2): Increase in riots and intensity of riots is greater as incumbent government nears scheduled election year.**

**Figure 1: 'Electoral Riots Cycle'**



Based on the first two hypotheses, I assume that there is an ‘electoral riots cycle’ which basically means riots and intensity of riots are responsive to the propinquity to the scheduled election year. Meaning, as incumbent government nears the scheduled elections (election year being 0 in figure 1), riots and intensity of riots keeps increasing, while this is exactly opposite during the early years of incumbent government in office.

Here it is very important to make a distinction between scheduled elections and midterm elections. The scheduled elections are those which are constituted by the Constitution of India and occur once in every five years. Whereas, midterm elections are those that occur one, two, three or four years after the previous election (either scheduled or midterm), that is, before the completion of the full term of the present elected government in office. Therefore, this distinction between the two becomes even more important to the choices of instigating violence and riots by the political parties because the timing of midterm elections is usually sudden and unanticipated. So it is not reasonable to expect incumbent governments and political parties to ignite riots and violence to influence election outcomes during midterm elections. This leads to our final proposition:

**Hypothesis 3 (H3): Increase in riots and intensity of riots are NOT associated with midterm elections because of its unanticipated and uncertain timing.**

Each of these hypotheses is examined in the empirical analysis which would follow this section. The rest of the paper is organized as follows: Section 3 deals with research design with specific focus on measuring riots and intensity of riots, creating instrumental electoral cycles for midterm elections and full electoral cycle for distance from scheduled election year, followed by data sources and identifying the empirical strategy to be employed. Section 4 presents discussion on the results derived from our empirical analysis. Final section concludes the study and highlights the implications of the results.

### **3. Research Design**

#### **3. 1. Measuring “Riots & Intensity of Riots”**

The dependent variable in our study is riots. We take into account two distinct forms of riots. One is the number of riots taken place during each year in every state. The event of riot is recorded when such incident involves atleast five or more persons. This is the recorded value of number of riots in each state from 1958 – 2004<sup>1</sup>. Second is the intensity of riots. There are many variables which could have been used as proxy, like number of deaths; number of arsons; number of participants and so on. However, lack of data on any such items for all the 16 states forced us to take into consideration the growth rate of riots as best available proxy for intensity of riots<sup>2</sup>. This obviously means that higher the rate of growth of riots in current year to previous year, greater the intensity of riots. We employ

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<sup>1</sup> Though the riots data for all the states are recorded from 1954, due to non availability of data on other control variables forced us to start our sample period from 1958.

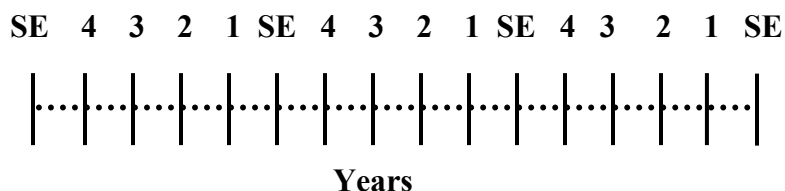
<sup>2</sup> Also, lack of data on certain key macroeconomic and socioeconomic variables forced us to restrict our sample of states to only 16. This was done despite having data on number of riots for atleast another eight states.

data for these variables from annual Series of 1954-2004 original materials published by the National Crime Records Bureau, Ministry of Home Affairs, and Government of India. This data was later compiled by Monty G. Marshall and Donna Ramsey Marshall (2005) Center for Systemic Peace<sup>3</sup>.

### 3. 2. Constructing Instrumental Electoral Cycles

The need for constructing instrumental electoral cycle arises from the question whether timing of elections are endogenous to riots carried by the respective agents of the incumbent government or opposition parties. Theoretically speaking, this may not be true because the scheduled elections are fixed on four basis by constitution of India. However, over the period of time, especially in the 1980s, we witnessed quite a few midterm state legislative elections. These occur due to various reasons which include drifting away the members from ruling alliance, political instability because the governments sometimes do not possess the required numbers to prove its majority in the legislative assemblies, shifting of political alignments within the alliance group and so on. Infact in our sample of 16 states for the period 1958 to 2004, out of total 161 state legislative elections, 28 happens to be midterm elections and rests are scheduled elections. This means over 22% of the total state legislative elections in our sample period are marked by midterm elections. The exact timing of these midterm elections is sudden and unanticipated. Since these events are unexpected, it may or may not lead to instigation of riots, as neither the incumbent government nor the opposition parties would have ample time to plan and react to these midterm elections. One possible solution to address this problem is to distinguish between the effects of scheduled and midterm elections on the outcome of interest – riots and intensity of riots. To this end, I employ the technique of Khemani (2004) in constructing what is called as “*instrumental electoral cycle*” which help distinguish the scheduled and midterm elections.

**Figure 1:** Scheduled election cycle



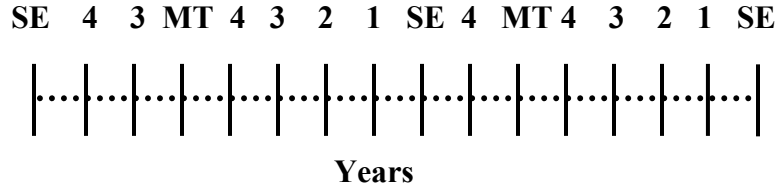
Note: SE= Scheduled Elections

The typical scheduled election cycle is the one which follows a 4-year cycle and is renewed after every schedule election year, that is, it again begins with 4, 3, 2 and 1. The figure 1 best captures this cycle. In our models, to capture the scheduled elections effect and distinguish with midterm elections, we give the value of 1 for scheduled elections year and 0 otherwise. One may note that we do not give the same dummy coding to midterm elections here because we capture its effect in separate cycle called ‘midterm electoral cycle’.

<sup>3</sup> The data can be downloaded from: <http://www.systemicpeace.org/inscr/>



**Figure 2: Midterm election cycle**



Note: SE= Schedule Elections; MT= Midterm Elections

The midterm election cycle also follows a 4-year cycle, apart from regular scheduled elections; it is also renewed after every midterm election. Many times, the scheduled elections coincide with election years in midterm election cycle. The midterm election years variable is coded as 4, 3, 2, 1 year before a scheduled election year. The year after any midterm election is again coded as 4 years before a scheduled election followed by 3, 2 and 1. The timeline of the midterm election cycle is captured in figure 2. Based on these discussions, we formulate the empirical model to estimate the direct effect of the scheduled and midterm elections on riots and intensity of riots:

$$R_t = \delta_1 + \sum_{T=1}^4 \psi_2 SE^T_{it} + \sum_{T=1}^4 \psi_3 MTC^T_{it} + \psi_4 R_{it-1} + \varepsilon_{it} \dots\dots\dots (3)$$

Where: **i** = country; **t** = time; **δ** = intercept for the equation; **ψ** = regression coefficients for variable “n”; **ε** = error term for country at time “t”. The dependent variable is **R** = which is number of riots and intensity of occurred in every state in a given year. We log the value of riots. The hypothesis variables presented here are: **SE** = Scheduled Elections and **T** = 1 for scheduled election years and 0 otherwise; **MTC** = Midterm election cycle and **T** = 1, 2, 3 & 4 before scheduled/midterm elections. This means for example: **MTC<sup>0</sup><sub>t</sub>** is 1 if t is a scheduled/midterm election year in respective state; **MTC<sup>1</sup><sub>t</sub>** is 1 if t is one year before a scheduled/midterm election year; **MTC<sup>2</sup><sub>t</sub>** is 2 if t is two years before a scheduled/midterm election year; **MTC<sup>3</sup><sub>t</sub>** is 3 if t is three years before a scheduled/midterm election year and **MTC<sup>4</sup><sub>t</sub>** is 4 if t is three years before a scheduled/midterm election year in the respective states. States in India vary in size, political climate and the levels of socioeconomic developmental aspects are different. Therefore, the results from above specification (equation 1) might suffer from omitted variable bias due to absence of other control variables. In suspicion that there are other factors other than our hypothesis variables affecting riots and its intensity, we estimate the same equation by including some observable state characteristics control variables (**CV<sub>t</sub>**). The description of these variables is given in the next section. This model allows to tests key hypotheses mentioned earlier: H1; H2 & H3. Thus, using these control variables, equation (3) would therefore be modified as follows:

$$R_t = \alpha_1 + \sum_{T=1}^4 \Omega_2 SE^T_{it} + \sum_{T=1}^4 \Omega_3 MTC^T_{it} + \Omega_4 CV_{it} + \zeta_{it} \dots\dots\dots (2)$$

To capture the effects of distance from election years on riots and intensity of riots, we developed ‘full electoral cycle’ which is nothing but election cycle year dummies. We formulate four dummy variables namely: 4-years before elections variables which take the value of 1 in the 4<sup>th</sup> year before every scheduled election year and 0 otherwise. The second dummy includes 3-years before elections variable which has the value 1 in the 3<sup>rd</sup> year before every scheduled election year and 0 otherwise. The third dummy variable is 2-years before elections variable include the value of 1 in the 2<sup>nd</sup> year before every scheduled election year and 0 otherwise. Finally, 1-year before elections variable takes the value of 1 in the 1<sup>st</sup> year before every scheduled election year and 0 otherwise. These variables measure how the temporal distance from a scheduled election year affects riots and intensity of riots vis-à-vis an election year. The model is specified as follows:

$$R_t = \lambda_1 + \sum_{F=1}^4 \beta_2 SE^F_t + \sum_{F=1}^4 \beta_3 MTC^F_t + \beta_4 CV_t + \beta_5 D1_t + \beta_6 D2_t + \beta_7 D3_t + \beta_8 D4_t + \upsilon_t$$

..... (3)

Where, **D1, 2, 3, 4...** are the distance from scheduled election year dummies. The empirical analysis covers 16 regional states from India (see annexure 6) for the period 1958 to 2006. We use pooled time-series cross-sectional (TSCS) to fixed effects method because some of the variables like literate population and religious & linguistic fractionalization index are time invariant series. We estimate all models using year dummies to estimate any effects of trending data. However, the pooled time-series cross-sectional data may exhibit Heteroskedasticity and serial correlation problems. While these problems do not bias the estimated coefficients as pooled regression analysis in itself is a more robust method for large sample consisting of cross section and time series data. However, they often tend to cause biased standard errors for coefficients, producing invalid statistical inferences (White, 1980). To deal with these problems, we estimated for all the models the Huber-White robust standard errors clustered over countries. These estimated standard errors are robust to both Heteroskedasticity and to a general type of serial correlation within the cross-section unit (Rogers, 1993 and Williams, 2000).

### 3. 3. Control Variables

We also include analysis of important control variables which determine riots and its intensity. To this end, we introduce set of independent variables namely, macroeconomic, institutional and political factors. We include these variables in lagged values to control for any possible reverse causality effect.

#### 3. 3. i. Socioeconomic factors

##### a. Economic growth & Development

Economic conditions play a significant role in determining the peace and stability in the society. But the relationship between economic growth and development and political violence is not clear. According to the modernization theory, economic growth and

development leads to decline in political violence as development process tends to reduce threats and the likelihood of violence is less (Lipset, 1959 & 1994). Also, the findings in the conflicts literature show that economic growth reduces the likelihood of conflicts (Collier & Hoeffler 1998, 2004; Miguel, Satyanath & Sergenti 2004; Sergenti 2005). This was echoed by the study of Rodrik & Subramanian (2004) in the case of Indian states. On the other hand, dependency theory claims that economic growth and development would most of the times lead to rebellion and thereby instigating violence. This is because if the goods in the society are unevenly distributed as disproportionate wealth being generated out of rapid economic growth by the rich and elites leads to economic unrest and outbreak of violence. The relationship between economic development and state repression surely deserves to be tested in the case of Indian states. This is because studies like that of Gupta (1999) argue that there is uneven progress and growth within India. There is a higher level of economic growth and development in industrial states including some of the Western and Southern states, while large numbers of Central, North and Eastern states are isolated from the growth story of India. Due to conflicting arguments, we make no assumption on the relationship between economic growth and riots, but we do believe that economic development process is associated with decline in riots. To capture economic growth we include GDP growth rate and logged values of percapita GDP in INR millions for economic development process. The data for both these variables come from Reserve Bank of India database and the Economic Organization and Public Policy Programme (EOPP here after), London School of Economics.

### **b. Population Pressures**

Literature points out the possibility that populous states are more likely to experience riots (Sergenti 2005). This is because large levels of population place the pressure on the state's scarce natural resources and on governments to deliver the public services. This can lead to rebellion amongst people and outbreak of conflicts thereby. We control for a state's population size by including logged value of population in lakhs. The data for this variable comes from EOPP.

### **c. Literacy**

Human development is seen as a form of distribution of assets (Perotti 1996; Bourguignon 2002). Pioneer studies like Barro (2001) and Lee & Barro (2001) confirm the importance of higher schooling levels as the key determinant of development, and these findings are confirmed by many other empirical studies. Higher education levels reflect the way in which the states invest in human capital. This leads to overall well being leading to civil peace in the society. This builds up the argument that the possibility that violence in a state is less likely with higher levels of socioeconomic well-being. But, in the case of India, the findings are again contradicting as Justino (2004) finds a significant negative impact of human development in the form of School enrollment associated with number of riots. However, Vadlamannati (2008), Urdal (2008) and Sergenti (2005) could not find any significant impact of literacy rates on conflicts risk and riots respectively. To account for the possibility of violence eruption in states is less

likely with higher levels of educated population, we include the values of literate population in lakhs adopted from the dataset generated by Urdal (2008)<sup>4</sup>.

#### **d. Poverty**

Poor socioeconomic conditions in the form of poverty levels, people living below 1 US\$ per day, pose serious problems for the governments. The larger percentage of people living below poverty line create social discord leading to political instability and risk of societal conflict between 'haves and have nots'. There is a vast amount of literature which has shown that persistent poverty levels in the society are responsible for the outbreak of riots and civil conflicts. Popular among such studies include Do & Iyer (2007) highlighting that conflict intensity is significantly higher in places with greater poverty in the provinces of Nepal. Blomberg, Hess & Thacker (2006); Murshed (2007) and Justino (2008) argue that higher levels of poverty are detrimental to development leading to conflicts. To capture this effect, we include time series data of poverty rates obtained for all the states from EOPP webpage.

#### **e. Agriculture Yield**

The relationship between agriculture and riots is far from clear in literature. However, there are significant findings that agriculture has an impact on outbreak of conflicts. Infact it was found that in over 25 cases, agriculture was either directly or indirectly instrumental in instigating conflicts (De Soysa & Gleiditisch, 2005). This assumes even more importance in the case of India as more than 70% of its population resides in rural areas and more than 60% of the population is dependent on agriculture sector. Hence, we believe that higher the yield of agriculture crops, greater the civil peace. We include the average yield of agriculture crops in each state taken from the dataset of Urdal (2008).

### **3. 3. ii. Institutional & Political factors**

#### **f. Religious & Linguistic fractionalization**

The relationship between ethnic composition and outbreak of riots and conflicts is also not very clear. Many works in the literature shows that ethnic composition has a significant impact on internal conflicts (Hibbs, 1973; Muller & Seligson 1987; Lindström, 1996; Collier & Hoeffler, 2004; Ellingsen, 2000; Sambanis, 2001 and García & Marta, 2002). While others could not find any significant affect (Henderson, 2000; Fearon & Laitin, 2003). But we strongly believe that there could be significant association of religious and linguistic fractionalization with riots in India. With over 28 states, 29 official languages spoken by more than a million native speakers and nine major religions being practiced, it would be imperative to include religious and linguistic composition as a key determinant of riots. The data for this time invariant index was sourced from the study of Urdal (2008).

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<sup>4</sup> I thank Dr. Henrik Urdal, Center for Study for Civil War (CSCW), PRIO for generously sharing the data.

### **g. Rise of Right Wing Political Parties**

It is widely believed that instigating riots and conflicts by certain sections of political fraternity is a means to protect their political power. The higher electoral competition often gives rise to violence (Bawn, 1995). This is true atleast in Indian case as we have seen the instances of the incumbent government exercising the control over their agents to instigate communal mob violence and riots. We have seen this happening in case of Ayodhya, Aligarh in Uttar Pradesh before state elections in 1992, Mumbai Riots before 1994 state elections in Maharashtra, Godhra riots before 2002 Gujarat elections. There is a perception that communal violence and riots are largely associated with the presence of extreme right wing ideology political parties in power. In India, the rise of Bharatiya Janata Party (BJP hereafter) as Hindu national party since early 1990s is seen as extreme right wing ideology political party<sup>5</sup>. While historically the Indian National Congress (INC henceforth) which single handedly ruled India for almost over 40 years is widely seen as grand secular party of India. Historically, the Muslim, Christian religious minorities and other Hindu minorities are comfortable with INC led governments. On the other hand, the BJP is known for its 'Hindu nationalistic ideology' is traditionally pro-upper caste and anti religious minority groups. The INC blames BJP for championing for socio-religious cultural values of the country's majority community by instigating communal riots and violence against minorities. At the same time, BJP also accuses INC of playing the card of minority politics highlighting the role of INC in inciting and participating in anti-Sikh riots that killed thousands in 1984. BJP also accuses INC for showing favoritism towards appeasing Muslim and Christian communities to consolidate the minority vote bank and deliberately fragmenting Hindu community.

Over the years, BJP was largely restricted to North of India as its votes primarily came from in Northern and Western India and to an extent from Karnataka in the South. In Northern India, BJP captured power in 1991 in the then largest state Uttar Pradesh<sup>6</sup> by instigating communal violence. Lal Krishna Advani's country wide 'rath yatra' in 1991 for the construction of God Ram temple in Ayodhya in the place of Mosque led to massive outrage of communal violence which cause many victims. The destruction of Babri Mosque in Ayodhya by Hindu activities including BJP workers, Rashtriya Swayam Sevak Sangh (RSS hereafter); Vishwa Hindu Parishat (VHP hereafter) and other Hindu organizational activists led to social insecurity amongst 140 million Muslim population only increasing communal tensions. This had spillover effects on other parts of India as many states like Gujarat, Maharashtra, Madhya Pradesh, Rajasthan, Andhra Pradesh

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<sup>5</sup> The BJP was previously known as Jan Sangh and was formed in 1980 by Atal Bihari Vajpayee and Lal Krishna Advani. It is an important member of 'Sangh Parivar' (family of a Hindu unit). BJP in its ideology is anti western, socialism and Nehruvian Secularism and predominantly aims for building up of 'Hindu Rashtra' (Empire of Hindus) dominated by upper castes. Over the years it has strongly developed negative attitude towards minorities, particularly towards Muslims and Christians. Even in the economic development aspect, the idea of development substantially differs from the rest of political fraternity. BJP believes in 'Swadeshi' policy (economic independence and self reliant policy).

<sup>6</sup> At the moment the present largest state in India is Maharashtra as Uttar Pradesh was bifurcated in 2000 and Uttarakhand was formed.

witnessed heavy casualties in communal mob violence between Hindus and Muslims<sup>7</sup>. Experts like Basu (2001) argue that the success of BJP came from provoking communal violence prior to gaining control in some of the biggest states. Wilkinson (2004) also believes that the communal card is played by BJP to gain and regain the power. The best example perhaps came from Godhra riots in Gujarat in 2002, which was largely done to retain the power by BJP. There were large numbers of Muslims deaths recorded during those riots, which is termed by the national and international media as one of the worst ever riots India has ever seen. Also, ever since the BJP led NDA government was in power in center from 1998 – 2004, there were reports of large number of attacks on Muslims and Christians particularly in the states of Gujarat and Orissa. Thus, there is ample evidence to argue that the rise of BJP and its traditional allies are associated with increase in riots. We include simple dummy variable which takes the value of 1 if the state is ruled by BJP and its allies like Shiv Sena and 0 otherwise. Similarly, we also include another dummy variable which codes the value 1 if the BJP led government was heading the central government and 0 otherwise.

#### **h. Lagged Dependent Variable**

Several studies include a lagged dependent variable to control for autocorrelation which satisfies the conditional independence assumptions required for estimation procedures. A lagged dependent variable is also meant to control for regional diffusion and spill-over effects (Neumayer, 2005). There are two reasons for the inclusion of a lagged dependent variable. First, a methodological reason, that is to control for autocorrelation, endogeneity, and omitted variables (Beck & Katz, 1996). Second, a theoretical reason, that holds that there is an influence of past events as a baseline for their present events forming cyclical trends. Thus, we include lagged dependent variable for number of riots. However, we do not include the same for growth rate of riots and it does not make proper sense for theoretical justification.

### **4. Empirical Results & Estimates**

#### **4. 1. Descriptive Statistical Analysis**

The sample of state-years that we examine in total make up of 745 observations because we do not have seven years data from 1958 to 1964 for Haryana<sup>8</sup>. In Annexure 1, we present summary statistics for this sample for all the variables that we employ in the regression analysis. The mean value for number of log riots is 7.75 per state-year with a standard deviation of roughly 1.58. The sample also includes growth rate of riots which was taken as proxy for intensity of riots. The mean value for growth rate of riots is around 7.02% with minimum value of -80% and maximum growth rate of 1500%. The standard deviation is on higher side with 65.24%. Regarding GDP growth rate we can find that the median growth rate is 11.60%. Moreover, the variance in GDP growth rates

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<sup>7</sup> Many see the Mumbai blasts by terror outfits in 1993 as a response to the demolition carried out by Hindu activities of Babri Mosque.

<sup>8</sup> In 1965 Haryana was carved out of Punjab state. Therefore, the Haryana data in our sample starts from 1965.

is quite high, with a standard deviation of 8.94% and growth rates ranging from -17.60% to 57.13%. With respect to percapita GDP, the mean value is log 7.60 with a standard deviation of 1.35. The statistics for Poverty rate are frightening and so do for literate population. The mean value of the former is 42.83%. While the minimum value is 11.58%, the maximum value however is 79.89%. Also, the variance across the states is quite large with a standard deviation of around 13.57%. We can see that the highest value of literate population is around 898 lakhs and the minimum value is just 77 lakhs highlighting that the inter-state variations are large. Interm of agricultural yield, the median value is around 10% with minimum of 4.55% and maximum value of 40.30%, again suggesting significant cross-state variations.

In Annexure 2 we present the detailed information about the growth rate of riots during scheduled election years for all the states in our sample for our study period. We see that in states like: Andhra Pradesh; Gujarat; Jammu & Kashmir; Karnataka; Kerala; Maharashtra; Orissa; Punjab; Rajasthan and Tamil Nadu, there was large number of positive growth rate in riots during the scheduled election years. While only in Bihar surprisingly, we find that there is a negative growth rate of riots during the scheduled election years. In other states like: Assam; Haryana; Madhya Pradesh; Uttar Pradesh and West Bengal we find that four times the growth rate of riots out of eight scheduled elections was positive, while rest of the times it was negative. On the whole, taking into consideration all these states during the period 1958 – 2004, we find that out of 133 occasions, 87 times there was positive growth rate in riots while 47 times the growth rate was negative. This gives us that first glimpse that there is certainly some impact of scheduled elections on instigating riots. But it is not as comprehensive as we would have expected. Based on these values, we then classified these states under three categories. These include: number of states with more positives to negative growth rate; number of states with more negatives to positive growth rate and even growth rates during the whole study period. In total we find that 10 states fall under the first category, while 5 states come under last category of even growth rates. Only one state, Bihar is under the second category. This also suggests that in majority of the states there is raw evidence of some positive relationship between scheduled elections and growth rate of riots. The dummy variable construction was done using the information of Elections Commission of India's data on Union and State election results.

#### **4. 2. Regression Estimates**

The results of regression estimates in assessing the impact of scheduled, midterm elections and electoral cycle on riots and intensity of riots is presented in table 1 and 2. We present total eight models (without control variables) in table 1 in which first four models (1 to 4) are related to riots, followed by another four models (5 to 8) are related to intensity of riots. Similarly, in table 2 we capture the same results but also include some of the key determinants of riots as control variables. The four models (9 to 12) capture riots, while the last four deals with intensity of riots. Addressing the problems of stability of these results, sensitivity analysis is conducted of which the results are displayed in annexures. We also control for the problem of Heteroskedasticity using White Heteroskedasticity-consistent standard errors & covariance.

The regression results confirm the hypothesis offered for electoral cycles on riots in the Indian context. Specifically, the results from the equation 1 show that scheduled elections have a significant positive effect on the riots. Concentrating on results of equation 1 indicates the direct relationship between riots and electoral cycle. The coefficients reported in model 1 (see table 1) indicate that the presence of scheduled election year is leading to increase in riots by 0.08% with 1% statistical significance. We include a lagged dependent variable to control for autocorrelation. A lagged dependent variable is also meant to control for the spill-over effects (Neumayer, 2005). The results of lagged dependent variable show 1% significant and positive relationship. This suggests that there is an impact of past events as a baseline for their present events. Using lagged dependent variables, we were also able to counter the problem of auto correlation (see the Durbin Watson statistic results).

**Table 1:** Election Cycle; Riots & Intensity of Riots equation function

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Variables	Log (Riots)	Log (Riots)	Log (Riots)	Log (Riots)	Riots Growth rate	Riots Growth rate	Riots Growth rate	Riots Growth rate
Constant	0.14 (0.12) 0.08 *	0.16 (0.12)	0.10 (0.12) 0.11 *	0.22 *** (0.13)	7.26 + (4.68) 6.47 ***	6.13 (7.58)	0.64 (7.11) 10.24 *	22.31 * (4.64)
Scheduled Election year	(0.02)	----- 0.003	(0.03) 0.02 **	-----	(4.15)	----- 0.97	(3.83) 2.60 **	-----
Mid-term Election year	-----	(0.01)	(0.01)	----- -0.09 *	-----	(1.37)	(1.27)	----- -19.11 *
1 year before Elections	-----	-----	-----	(0.03) -0.12 *	-----	-----	-----	(7.28) -21.07 *
2 years before Elections	-----	-----	-----	(0.03) -0.04 +	-----	-----	-----	(7.15) -13.54 **
3 years before Elections	-----	-----	-----	(0.03) -0.06 ***	-----	-----	-----	(7.04) -14.25 **
4 years before Elections	-----	-----	-----	(0.04)	-----	-----	-----	(7.36)
Log (Riots (t - 1))	0.99 * (0.02)	0.99 * (0.01)	0.99 * (0.02)	0.99 * (0.02)	-----	-----	-----	-----
Time Dummy	-0.002 ** (0.00)	-0.002 ** (0.00)	-0.002 ** (0.00)	-0.003 (0.00)	-0.06 (0.27)	-0.05 (0.27)	-0.06 (0.27)	-0.13 (0.25)
R-squared	0.969319	0.968964	0.969483	0.969725	0.001594	0.000428	0.003260	0.015927
Adjusted R-squared	0.969192	0.968835	0.969314	0.969474	0.001157	0.002326	0.000865	0.009122
Log likelihood	-100.8475	-105.0467	-98.89748	-95.98920	-4079.175	-4079.601	-4078.566	-4073.904
F-statistic	7635.15 *	7544.93 *	5750.11 *	3854.41 *	0.579	0.155	0.790	2.34 **
<b>Durbin-Watson stat</b>	<b>2.151648</b>	<b>2.165203</b>	<b>2.168649</b>	<b>2.167646</b>	<b>1.40</b>	<b>1.405149</b>	<b>1.402316</b>	<b>1.411417</b>
Number of States	16	16	16	16	16	16	16	16
Total No. of Observations	730	730	730	730	730	730	730	730

**Note:** \* Significant at 1% confidence level; \*\* Significant at 5% confidence level & \*\*\* Significant at 10% confidence level; + Significant at 5% confidence level. All models are controlled for Heteroskedasticity. White Heteroskedasticity-Consistent Standard Errors are reported in parenthesis.



In model 2, we replace scheduled elections years with the midterm election cycle. We found that it is not significant, suggesting that midterm elections do not have an impact on riots because of the uncertainty of occurrence associated with such elections. In model 3 however, when we introduced both scheduled and midterm elections, we found that both to be positive and statistically significant. The scheduled elections years have both higher coefficient and significance values to midterm elections, highlighting that the impact of scheduled elections on riots is clear and greater. In models related to intensity of riots, we find exactly similar results, but we did not include lagged dependent variable as it does not make sense to see if the growth rate in the past effects the current ones. The scheduled elections years are associated positively with higher growth rate of riots to its previous years. While this is statistically significant at 10% confidence level, we could not find any such evidence for midterm elections (see models 5 & 6; table 1). The model 7 again shows that when introduced together, the impact of scheduled elections on growth rate of riots is much higher and significant than that of midterm elections. This reconfirms that the impact of scheduled elections are not only associated strongly with riots, but also with its intensity.

In models 4 and 8 (in table 1), we introduce full electoral cycles for both riots and its intensity. We find that the impact of these variables is negative. This suggests that the distance from scheduled elections years are not associated with riots. But when we consider the coefficient values of all these four variables (4 years before election years; 3 years before elections years; 2 years before election years and 1 year before election year) for both riots and intensity of riots, we find that they keep increasing as and when they near the scheduled election year. We found earlier in model 1 and 5 that in the scheduled election years impact on riots and its growth rate is positive. This relationship in a graphical format depicts a U-shaped kind of relationship. This is captured in graphs 3 and 4 in annexures for both riots and intensity of riots respectively. But, these results might suffer from possible omitted variable bias. Hence the results should be validated by including some of the important socioeconomic, institutional and political variables which formulate key determinants of riots. A step in this direction is the results captured from model 9 to 16 in table 2.

**Table 2:** Election Cycle, Riots & Intensity of Riots equation function 2

Variables	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14	Model 15	Model 16
	Log (Riots)	Log (Riots)	Log (Riots)	Log (Riots)	Riots Growth rate	Riots Growth rate	Riots Growth rate	Riots Growth rate
Constant	0.47 ** (0.23)	0.51 ** (0.23)	0.43 *** (0.22)	0.49 ** (0.22)	-54.78 (70.20)	-54.27 (73.63)	-61.92 (73.06)	-57.45 (72.61)
Scheduled Election year	0.07 * (0.02)	-----	0.10 * (0.02)	-----	6.00 *** (3.83)	-----	10.03 * (3.65)	-----
Mid-term Election year	-----	0.003 (0.00)	0.02 ** (0.00)	-----	-----	1.14 (1.56)	2.75 *** (1.58)	-----
1 year before Elections	-----	-----	-----	-0.09 * (0.03)	-----	-----	-----	-18.63 ** (7.57)
2 years before Elections	-----	-----	-----	-0.11 * (0.03)	-----	-----	-----	-19.68 * (7.57)

				(0.03)				(6.96)
	-----	-----	-----	-0.03	-----	-----	-----	-12.20 ***
3 years before Elections				(0.03)				(6.82)
	-----	-----	-----	-0.06 ***	-----	-----	-----	-12.91 **
4 years before Elections				(0.03)				(6.77)
GDP Growth rate (t - 1)	0.002	0.002	0.002	0.002	0.18	0.18	0.17	0.19
	(0.00)	(0.00)	(0.00)	(0.00)	(0.22)	(0.22)	(0.22)	(0.22)
Log	-0.08 ***	-0.09 **	-0.08 ***	-0.07 ***	14.34	14.16	14.92	17.46
(Economic Development (t - 1))	(0.04)	(0.04)	(0.04)	(0.04)	(12.52)	(12.81)	(12.75)	(13.76)
	0.01	0.01	0.01	0.01	6.34 **	6.40 **	6.62 **	6.29 **
Log (Population (t - 1))	(0.03)	(0.02)	(0.02)	(0.02)	(2.94)	(3.05)	(3.04)	(2.97)
	0.007	0.007	0.007	0.007	3.03	3.00	3.02	3.05
Fractionalization (t - 1)	(0.01)	(0.01)	(0.01)	(0.01)	(2.87)	(2.88)	(2.86)	(2.90)
	0.0001	0.0001	0.0001	0.0001	-0.04	-0.04	-0.04	-0.04
Literate Population (t - 1)	(9.71E-05)	(9.71E-05)	(9.73E-05)	(9.89E-05)	(0.03)	(0.04)	(0.03)	(0.04)
	0.002 ***	0.002 ***	0.002 ***	0.002 ***	0.66 **	0.65 **	0.66 **	0.66 **
Poverty rate (t - 1)	(0.00)	(0.00)	(0.00)	(0.00)	(0.33)	(0.33)	(0.33)	(0.33)
	-0.003	-0.003	-0.003	-0.003	1.94	1.93	1.94	1.86
Agriculture Yield (t - 1)	(0.00)	(0.00)	(0.00)	(0.00)	(1.63)	(1.63)	(1.63)	(1.61)
	0.06 **	0.07 **	0.06 **	0.05 ***	10.94 **	11.59 **	10.64 **	7.65 ***
BJP Government at Center	(0.02)	(0.02)	(0.02)	(0.02)	(5.26)	(5.22)	(5.19)	(4.48)
	-0.03	-0.02	-0.03	-0.04	-1.49	-1.27	-2.24	-4.20
BJP Government at States	(0.06)	(0.06)	(0.06)	(0.06)	(12.97)	(13.23)	(13.30)	(13.65)
	0.96 *	0.96 *	0.96 *	0.96 *	-----	-----	-----	-----
Log (Riots (t - 1))	(0.02)	(0.02)	(0.02)	(0.02)				
	0.006	0.007 ***	0.006	0.005	-1.29 +	-1.29 +	-1.32 +	-1.56 ***
Time Dummy	(0.00)	(0.00)	(0.00)	(0.00)	(0.87)	(0.89)	(0.89)	(0.97)
R-squared	0.970170	0.969885	0.970310	0.970518	0.031158	0.030325	0.032998	0.043319
Adjusted R-squared	0.969670	0.969380	0.969770	0.969898	0.016295	0.015449	0.016791	0.024560
Log Likelihood	-90.60142	-94.06245	-88.88156	-86.31551	-4068.219	-4068.532	-4067.526	64.43701
F-statistic	1940.54 *	1921.63 *	1797.48 *	1564.77 *	2.10 **	2.038 **	2.04 **	2.309 *
<b>Durbin-Watson stat</b>	<b>2.146510</b>	<b>2.160069</b>	<b>2.164505</b>	<b>2.157224</b>	<b>1.493944</b>	<b>1.496368</b>	<b>1.494006</b>	<b>1.496868</b>
Number of States	16	16	16	16	16	16	16	16
Total No. of Observations	730	730	730	730	730	730	730	730

**Note:** \* Significant at 1% confidence level; \*\* Significant at 5% confidence level; \*\*\* Significant at 10% confidence level; + Significant at 5% confidence level. All models are controlled for Heteroskedasticity. White Heteroskedasticity-Consistent Standard Errors are reported in parenthesis.

The coefficients of scheduled elections reported in models 9 and 13 (see table 2) indicate that scheduled election years are strongly associated with increase in riots and intensity of riots. We find that for every single scheduled election year, the riots are increased by 0.07% and the same increase for intensity of riots is around 6%. Infact adding control variables did not change the statistical significance level of both the variable. These results remain consistent and are robust to the changes introduced in the model. In model 10 and 14 we replace scheduled election years with midterm electoral cycle. We find that though it has positive sign, it remains statistically insignificant, suggesting that midterm

elections necessarily always need not result in instigating riots and its intensity because of the uncertainty in timing associated with it.

We present full electoral cycle using distance from election year dummies in model 12 (see table 2). The results show some interesting findings. We find that all the variables, 4, 3, 2, and 1 year distance from scheduled election year is negative. The coefficient values of these variables show some interesting trends. I find that riots would decrease by just -0.06% during the first year of incumbent government in office. This negative effect is -0.03% during the second year of incumbent government in office. While, riots would decrease by more than -0.09% in the third year of incumbent government in office, it increases by -0.02% in the fourth year in office, registering a 1% significant increase in riots of -0.09% in the year before a scheduled election. This however, turns positive in the election year resulting in increase in riots. The coefficients plotted in graph 5 (see annexures) clearly depict a 'cyclical movement' in carrying out the riots by the incumbent governments. The graph shows almost U-shaped kind of relationship between scheduled elections and riots. We also find similar such cyclical relationship between electoral cycle and intensity of riots presented in model 16. I find that intensity of riots would decrease by just -12.91% during the first year of incumbent government in office. This negative effect is -12.20% during the second year of incumbent government in office. But intensity of riots would decrease to -19.68% in the third year of incumbent government in office and then it increases slightly to -18.63% in the fourth year in office, registering a 5% significance level. This relationship turns positive during the actual election year. These coefficients are again plotted in graph 6 showing U-shaped relationship between the two. These results confirm the three hypothesis, H1; H2 & H3.

Within the control variables, we find that economic growth is neither negative nor statistically significant. But, we find that economic development process is negatively associated with riots, though its impact on intensity of riots is insignificant. For every 1% increase in log percapita GDP is leading to 0.08% decline in number of riots. The relationship between riots, economic growth and development are captured in scatter chart in graphs 7 and 8 in annexures. One can see that the impact of economic growth on riots is nil, while there is marginal negative effect of economic development on riots. Surprisingly our results are exactly opposite to that of the findings of Miguel, Satyanath & Sergenti (2004) and Sergenti (2005) in Indian context. They found that economic growth lead to decline in riots. Moreover, Sergenti (2005) also shows that economic development (percapita GDP) does not have any significant effect on riots and bears positive sign. However, our arguments are consistent with Gupta (1999) that mere growth would not be helpful, but it should translate into higher levels of economic development. In other words the growth process within India is not inclusive. This is precisely one of the reasons why income inequalities in the states are still at higher levels. There is also wide range of economic disparity amongst the states in India. Though the economic reforms process have ushered higher levels of economic growth, its benefits are not reaching to the poor. The study by Gupta (1999) supports the fact the economic growth process in India remains exclusive and has helped only certain sections of the society.

Consistent with the findings of Hauge & Ellingsen (2001) and De Soysa (2002) Urdal (2005) we find positive link between population levels, riots and intensity of riots. We find this relationship to be positive when put on a scatter graph 9 (see annexures). Though the results for riots remain insignificant, we find 5% statistical significance for intensity of riots and these remain consistent across all the models. The results related to religious & linguistic fractionalization and agricultural yield are insignificant throughout. Even the signs are mixed across the models. Given the very rate of literacy in most of the states in India and more particularly in rural India, we could not find any significant relationship with riots. Though the sign for riots is positive, the coefficient values are very low. But, we find insignificant negative association with intensity of riots (see table 2). The results of poverty levels are in line with Boix (2004) and Justnio (2004) who find that poverty and inequality often risk conflicts and riots. We find 10% and 5% significant positive impact of Poverty levels on riots and intensity of riots respectively. This also means that poverty play an important role in instigating violence and this relationship is also captured in scatter graph 10 in annexures.

The most interesting findings of the control variables are that of political factors. We find that each year presence of BJP led government at center would significantly increase the events of riots by 0.06% and intensity of riots by 10.94%. On the contrary, we could not find any significant impact of presence of BJP led government at states neither on riots nor its intensity. This is probably because till 1998, almost all the states in India were ruled with either INC or the respective regional parties. Even though in some states pre-1998, BJP came to power (like in Uttar Pradesh in 1991 and Rajasthan in 1994) it could not last in the government for full term. Also, the lagged dependent variable shows 1% significant positive relationship. This suggests that past events are more likely to affect the events in the current year.

### **4. 3. Robustness Check**

We ran several tests of sensitivity. First, we ran all the results again by dividing the total sample group into two. Each set includes eight states, wherein the first group includes: Andhra Pradesh; Karnataka; Kerala; Tamil Nadu; Orissa; West Bengal; Bihar and Assam. The second set of sample group includes: Gujarat; Jammu & Kashmir; Maharashtra; Punjab; Rajasthan; Haryana; Madhya Pradesh and Uttar Pradesh. The results for both the sample groups show no significant changes in the results which we obtained in baseline models earlier. Second, we also ran the results for all states in sample but this time cutting short the study period into two halves, 1958-1980 and 1981-2004. Despite this bifurcation, the results largely remained consistent across the board in both the sample periods. Third, I convert all the variables from current levels to first differenced variables. The results show no major changes from baseline model<sup>9</sup>.

Finally, we perform sensitivity tests for our models by replacing both riots and intensity of riots with interactive variables with the two dummy variables which take into account the value 1 if the BJP is in power in states and 0 otherwise. We interact this dummy variable with number of riots. Next, we include another interactive variable which is

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<sup>9</sup> Due to space constraints, all these results are not shown here. They will be provided on request.

assigned the value of 1 if the INC is in power in states and 0 otherwise. Then we interact this dummy variable with riots. These variables capture the conditioning effects of partisan politics on instigating riots. These results are presented in annexure 4. In models 17 to 19, riots during BJP government was included while models from 20 to 22 include riots during INC government. The results once again reconfirm our earlier finding that irrespective of BJP or INC in government, scheduled elections has a significant positive impact on riots. We also find that midterm elections do not have any major impact on riots. Also, we find that the electoral cycle in both the case depicts cyclical movement on riots. The models 19 and 22 show that as the scheduled elections draws nearer, the negative effect on riots diminishes. The coefficients of electoral cycle on riots for both riots during BJP and INC governments show U-shaped kind of relationship.

## **5. Conclusion & Summary**

Literature on political competition demonstrates how incumbent politicians might manipulate economic policies to persuade voters before an election, and thereby generate political budget cycles (Nordhuas, 1975; Lindbeck, 1976; Tufte, 1978; Rogoff & Sibert, 1988; Rogoff, 1990; Khemani 2004). Several studies followed thereafter based on these models but are mostly restricted to economic policies. We extend these political business cycles models to general social issues like political violence. Using the cross sectional time series data for 16 Indian states for the period 1958 – 2004, we examine the impact of scheduled elections, midterm elections and electoral cycle on riots and intensity of riots, an extreme form of political violence.

We make use of National Crime Bureau of government of India's data on number of riots occurred in each state in every year and compute the rate of growth of riots which is taken as proxy for intensity of riots. We then formulate 'electoral riots cycle' based on the premise that elections are associated with outbreak of riots and reduce considerably during the post elections period. Because the economic policies adopted by the governments tend to be exclusive of the poor and benefits only some sections of the society, the incumbent governments are pressurized before the elections to counter the anti incumbency factor. Thus, the incumbent governments resort to political violence during then election years. One the other hand, the opposition parties often to gain political mileage during the election years are engaged in instigating political violence to influence the voters. Thus, both the incumbent government and opposition parties exercise control over their agents to instigate violence as and when they near the scheduled election years. The motto behind instigating riots is that it leads to polarization of voters and thus benefits the respective constituents (incumbent government & opposition parties). Based on this theory, we offered and tested three related hypotheses on electoral cycle related to riots and intensity of riots.

We demonstrate through our findings that scheduled elections are very strongly associated with increase in number of riots and intensity of riots. While there is a strong electoral cycle in riots and intensity of riots, which experiences a marked increase in election years, the impact of midterm elections is found to be insignificant on both. This is perhaps due to its timing which is uncertain and unanticipated which gives no scope of

the incumbent governments and opposition parties to act swiftly in polarizing a particular event or an issue. The results portrayed in the paper are strongly valid as we have nullified the problems of stability, serial correlation and endogeneity concerns. We also addressed the issue of how sensitive the results are. To this end, we used dynamic pooled OLS with interactive variables as dependent variables viz., occurrence of riots during the tenure of BJP in government and INC in power. The results do not change replacing the original dependent variables with the new ones. Thus, an incumbent's varying degree of concern for instigating riots and intensify the riots for its short term political gains and fear against losing the elections increases as the national elections draw nearer - does seem to be a plausible hypothesis within India, and is well supported by the results in this paper. This is best exemplified by the estimated instrumental electoral cycle for our both dependent variables wherein both riots and intensity of riots tend to decrease during the earlier years of an incumbent's tenure in office, and increase as the scheduled elections draws near. Further, the statistically insignificant effect of midterm elections on riots and its intensity also provides evidence in favor of the hypotheses offered in this study. These findings of our study are not documented in the existing comparative political economy literature.

### **Implications of the results**

The results in this paper highlight three important points. First, these results show that electoral cycles are not necessarily confined to economic policies like: reforms; fiscal and monetary policies alone. Rather, it can affect the most important social issues like political violence including riots and its intensity, which is detrimental to overall progress and development of the society. Second, these results also suggest that elections can indeed act as a destructive force by creating social unrest and hampering peace and harmony in the society. Finally, the effect of political manipulation to gain and regain the power through the violent means by the incumbent governments and opposition parties shows how politicians are only concerned to maximize their short run political gains at the expense of long run economic prosperity and peace.

## Annexures

### Annexure 1: Descriptive Statistics

Variables	Mean	Median	Maximum	Minimum	Standard Deviation	Observations	Cross sections
Scheduled Election Year	0.18	0.00	1.00	0.00	0.38	744	16
1 year before Scheduled elections	0.18	0.00	1.00	0.00	0.38	744	16
2 years before Scheduled elections	0.17	0.00	1.00	0.00	0.38	744	16
3 years before Scheduled elections	0.17	0.00	1.00	0.00	0.37	744	16
4 years before Scheduled elections	0.17	0.00	1.00	0.00	0.37	744	16
Midterm Election Cycle	2.33	2.00	4.00	0.00	1.18	744	16
Log (Riots)	7.75	8.11	9.98	0.00	1.58	744	16
Growth rate of Riots	7.02	1.80	1500	-80	65.24	744	16
GDP growth rate	12.18	11.60	57.13	-17.60	8.94	744	16
Log (Per capita GDP)	7.60	7.51	10.33	5.38	1.35	744	16
Log (Population)	10.42	10.51	12.13	8.18	0.76	744	16
Fractionalization Index	2.89	2.65	4.74	1.86	0.64	744	16
Literate Population	383.51	362	898	77	159.13	744	16
Poverty rate	42.83	43.65	79.89	11.58	13.57	744	16
Agriculture Yield	12.01	10.01	40.30	4.55	6.52	744	16
BJP Government at States	0.10	0.00	1.00	0.00	0.30	744	16
BJP Government at Center	0.24	0.00	1.00	0.00	0.43	744	16
BJP Government at States * Riots	3.37	3.52	4.33	0.00	0.69	744	16
INC Government at States * Riots	0.29	0.00	4.33	0.00	0.94	744	16

**Annexure 2: Scheduled Election Years & Increase (Decrease) of Riots (1958 – 2004)**

States	No. of Scheduled Elections	No. of times Growth rate of Riots was Positive	% share	No. of times Growth rate of Riots was Negative	% share
Andhra Pradesh	9	7	80%	2	20%
Assam	8	4	50%	4	50%
Bihar	8	2	20%	6	80%
Gujarat	8	7	90%	1	10%
Haryana	8	4	50%	4	50%
Jammu & Kashmir	8	7	90%	1	10%
Karnataka	9	8	90%	1	10%
Kerala	9	6	90%	1	10%
Madhya Pradesh	8	4	50%	4	50%
Maharashtra	9	7	90%	1	10%
Orissa	9	6	80%	3	20%
Punjab	8	5	80%	3	20%
Rajasthan	8	6	80%	2	20%
Tamil Nadu	8	6	80%	2	20%
Uttar Pradesh	8	4	50%	4	50%
West Bengal	8	4	50%	4	50%
INDIA	133	87	66%	43	34%

**Annexure 3: Scheduled election years & Growth of Riots: Aggregate (1958 – 2004)**

Item	States	No. of States
No. of States with more Positives to Negative growth rate	Andhra Pradesh; Gujarat; Jammu & Kashmir; Karnataka; Kerala; Maharashtra; Orissa; Punjab; Rajasthan; Tamil Nadu	10
No. of States with more Negative to Positive growth rate	Bihar	1
No. of States with even Negative and Positive growth rate	Assam; Haryana; Madhya Pradesh; Uttar Pradesh; West Bengal	5



**Annexure 4: Election Cycle & Riots equation function**

Variables	Model 17	Model 18	Model 19	Model 20	Model 21	Model 22
	Log (Riots * BJP Govt )	Log (Riots * BJP Govt )	Log (Riots * BJP Govt )	Log (Riots * INC Govt )	Log (Riots * INC Govt )	Log (Riots * INC Govt )
Constant	0.20 *** (0.11) 0.03 *	0.21 ** (0.10)	0.21 ** (0.10)	-1.15 (0.54) 0.17 **	-1.07 ** (0.55)	-1.15 ** (0.57)
Scheduled Election year	----- (0.01)	-----	-----	----- (0.07)	-----	-----
Mid-term Election year	-----	0.001 (0.00)	-----	-----	-0.03 + (0.02)	-----
1 year before Elections	-----	-----	-0.04 * (0.01)	-----	-----	-0.10 ** (0.05)
2 years before Elections	-----	-----	-0.05 * (0.01)	-----	-----	-0.11 ** (0.05)
3 years before Elections	-----	-----	-0.01 (0.01)	-----	-----	-0.13 ** (0.06)
4 years before Elections	-----	-----	-0.02 + (0.01)	-----	-----	-0.07 (0.08)
GDP Growth rate (t - 1)	0.0008 + (0.00)	0.001 + (0.00)	0.001 + (0.00)	0.0003 (0.00)	0.0004 (0.00)	0.0005 (0.00)
Log (Economic Development (t - 1))	-0.04 *** (0.02)	-0.04 *** (0.02)	-0.03 *** (0.02)	0.26 * (0.10)	0.26 ** (0.10)	0.28 * (0.11)
Log (Population (t - 1))	0.007 (0.01)	0.009 (0.01)	0.007 (0.01)	0.02 (0.03)	0.02 (0.04)	0.02 (0.04)
Fractionalization (t - 1)	0.003 (0.00)	0.003 (0.00)	0.003 (0.00)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)
Literate Population (t - 1)	5.17E-05 (0.00)	5.79E-05 (0.00)	5.37E-05 (0.00)	-0.0004 ** (0.00)	-0.0004 ** (0.00)	-0.0004 ** (0.00)
Poverty rate (t - 1)	0.001 *** (0.00)	0.001 *** (0.00)	0.001 *** (0.00)	0.0008 (0.00)	0.0007 (0.00)	0.0006 (0.00)
Agriculture Yield (t - 1)	-0.001 (0.00)	-0.001 (0.00)	-0.001 (0.00)	-0.02 * (0.00)	-0.02 * (0.00)	-0.02 * (0.00)
BJP Seat Share in States	0.03 ** (0.01)	0.03 ** (0.01)	0.02 *** (0.01)	-----	-----	-----
BJP government at Center	-5.06E-05 (0.00)	-5.63E-05 (0.00)	-3.84E-05 (0.00)	-----	-----	-----
Log (BJP * Riots (t - 1))	0.96 * (0.02)	0.96 * (0.02)	0.96 * (0.02)	-----	-----	-----
INC Seat Share in States	-----	-----	-----	-0.29 * (0.07)	-0.30 * (0.07)	-0.30 * (0.07)
Log (INC * Riots (t - 1))	-----	-----	-----	0.78 * (0.05)	0.78 * (0.06)	0.77 * (0.06)
Time Dummy	0.003 (0.00)	0.003 + (0.00)	0.002 (0.00)	-0.02 ** (0.00)	-0.02 ** (0.00)	-0.02 ** (0.00)
R-squared	0.970165	0.969888	0.970489	0.696115	0.692159	0.693930
Adjusted R-squared	0.969665	0.969383	0.969868	0.691453	0.687436	0.687929

Log Likelihood	517.3468	513.9832	521.3292	-557.9673	-562.6826	-560.5788
F-statistic	1940.20 *	1921.83 *	1563.16 *	149.31 *	146.56 *	115.63 *
<b>Durbin-Watson stat</b>	<b>2.144638</b>	<b>2.156700</b>	<b>2.153337</b>	<b>2.011802</b>	<b>2.015103</b>	<b>2.010208</b>
Number of States	16	16	16	16	16	16
Total No. of Observations	730	730	730	730	730	730

**Note:** \* Significant at 1% confidence level; \*\* Significant at 5% confidence level; \*\*\* Significant at 10% confidence level; + Significant at 5% confidence level. White Heteroskedasticity-Consistent Standard Errors are reported in parenthesis.

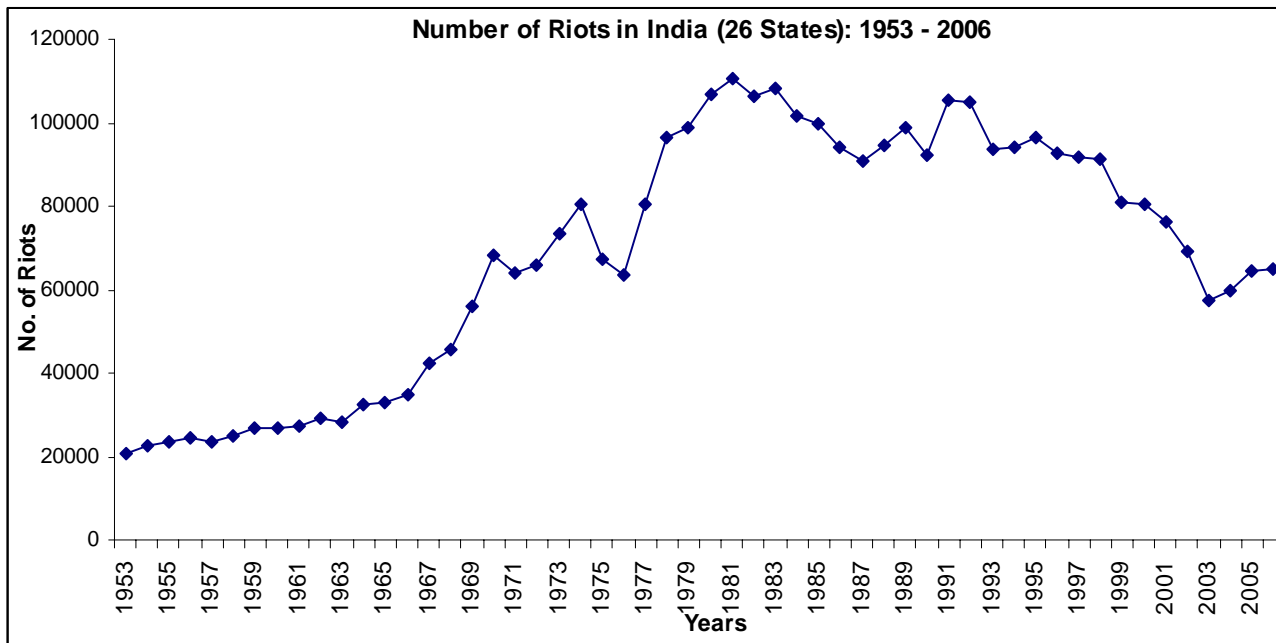
### Annexure 5: States under Study

States	Study Period	States	Study Period	States	Study Period	States	Study Period
Andhra Pradesh	1958 – 2004	Assam	1958 – 2004	Bihar	1958 – 2004	Gujarat	1958 – 2004
Haryana	1965 – 2004	Jammu & Kashmir	1958 – 2004	Karnataka	1958 – 2004	Kerala	1958 – 2004
Madhya Pradesh	1958 – 2004	Maharashtra	1958 – 2004	Orissa	1958 – 2004	Punjab	1958 – 2004
Rajasthan	1958 – 2004	Tamil Nadu	1958 – 2004	Uttar Pradesh	1958 – 2004	West Bengal	1958 – 2004

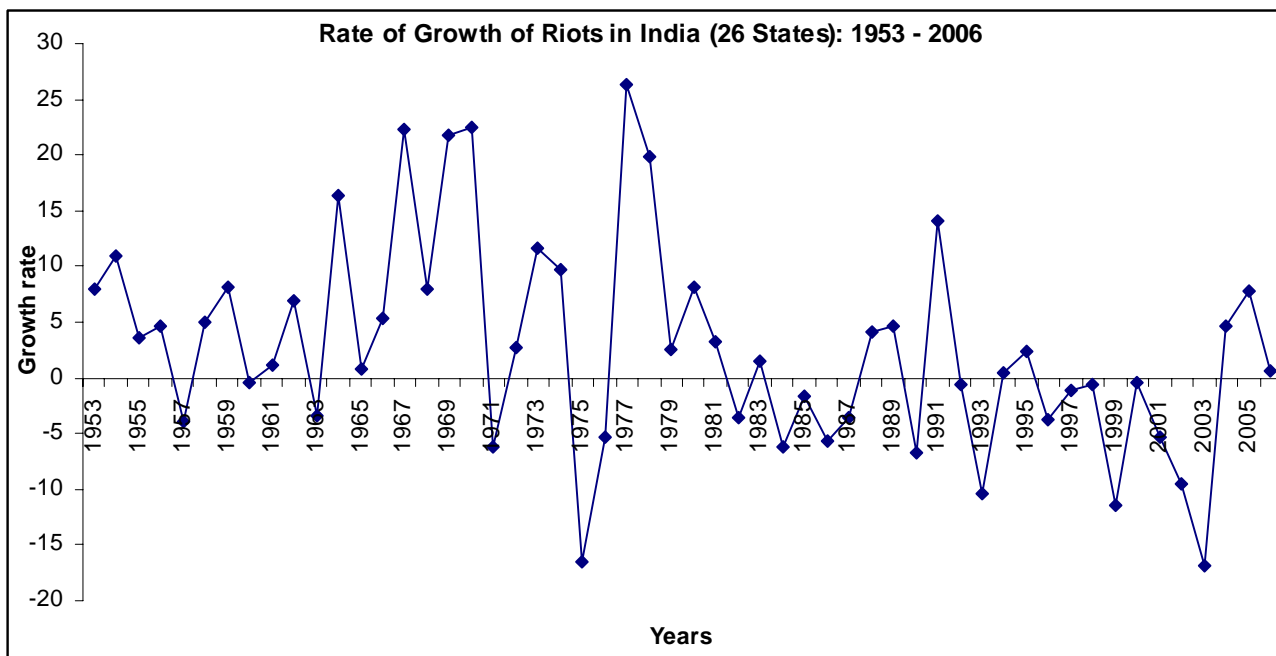
### Annexure 6: Data Sources

Variables	Data Source	Data Link
Scheduled Election Year	Election Commission of India	<a href="http://www.eci.gov.in/">www.eci.gov.in/</a>
Electoral Cycle Variables	Author's own construction	Author's own construction
Midterm Election Cycle	Author's own construction	Author's own construction
Log (Riots)	National Crime Records Bureau, Government of India	<a href="http://www.systemicpeace.org/inscr/inscr.htm">http://www.systemicpeace.org/inscr/inscr.htm</a>
Growth rate of Riots	Author's own construction	Author's own construction
Growth rate of Riots	Author's own construction	Author's own construction
GDP growth rate	EOPP, London School of Economics	<a href="http://sticerd.lse.ac.uk/eopp/_new/data/Indian_Data/default.asp">http://sticerd.lse.ac.uk/eopp/_new/data/Indian_Data/default.asp</a>
Log (Per capita GDP)	EOPP, London School of Economics	<a href="http://sticerd.lse.ac.uk/eopp/_new/data/Indian_Data/default.asp">http://sticerd.lse.ac.uk/eopp/_new/data/Indian_Data/default.asp</a>
Log (Population)	EOPP, London School of Economics	<a href="http://sticerd.lse.ac.uk/eopp/_new/data/Indian_Data/default.asp">http://sticerd.lse.ac.uk/eopp/_new/data/Indian_Data/default.asp</a>
Fractionalization Index	Center for Study for Civil War (CSCW), PRIO	Urdal (2008)
Literate Population	Center for Study for Civil War (CSCW), PRIO	Urdal (2008)
Poverty rate	EOPP, London School of Economics	<a href="http://sticerd.lse.ac.uk/eopp/_new/data/Indian_Data/default.asp">http://sticerd.lse.ac.uk/eopp/_new/data/Indian_Data/default.asp</a>
Agriculture Yield	Center for Study for Civil War (CSCW), PRIO	Urdal (2008)
BJP Government at States	Election Commission of India	<a href="http://www.eci.gov.in/">www.eci.gov.in/</a>
BJP Government at Center	Election Commission of India	<a href="http://www.eci.gov.in/">www.eci.gov.in/</a>

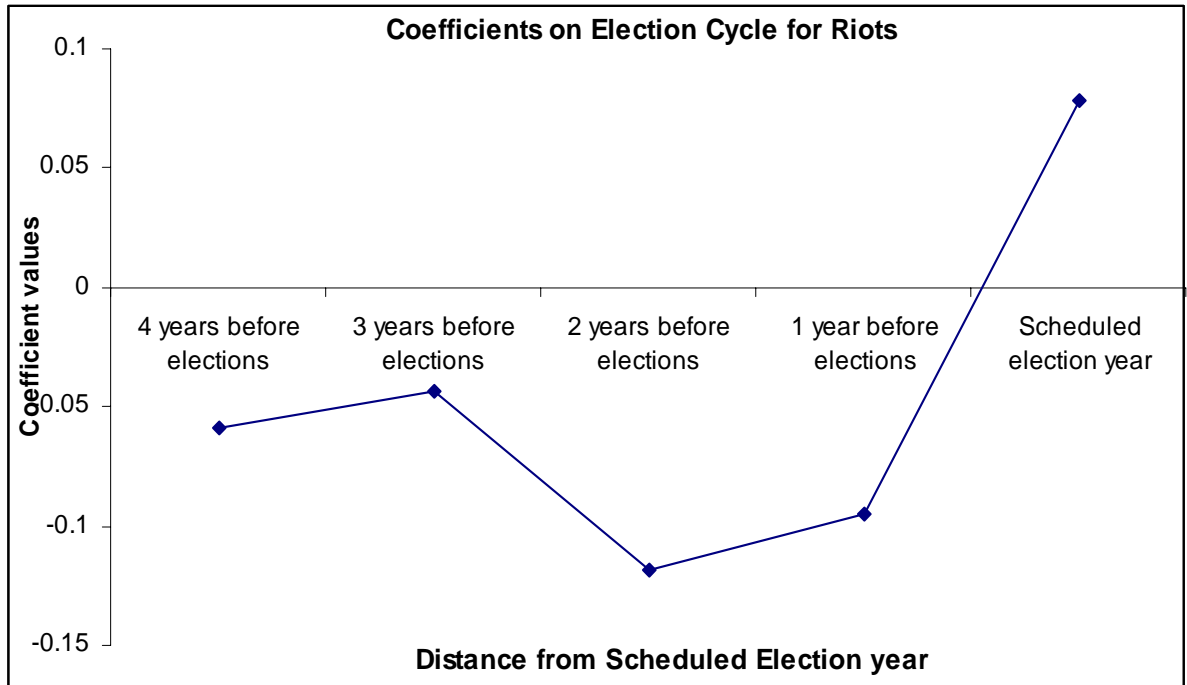
**Graph 1**



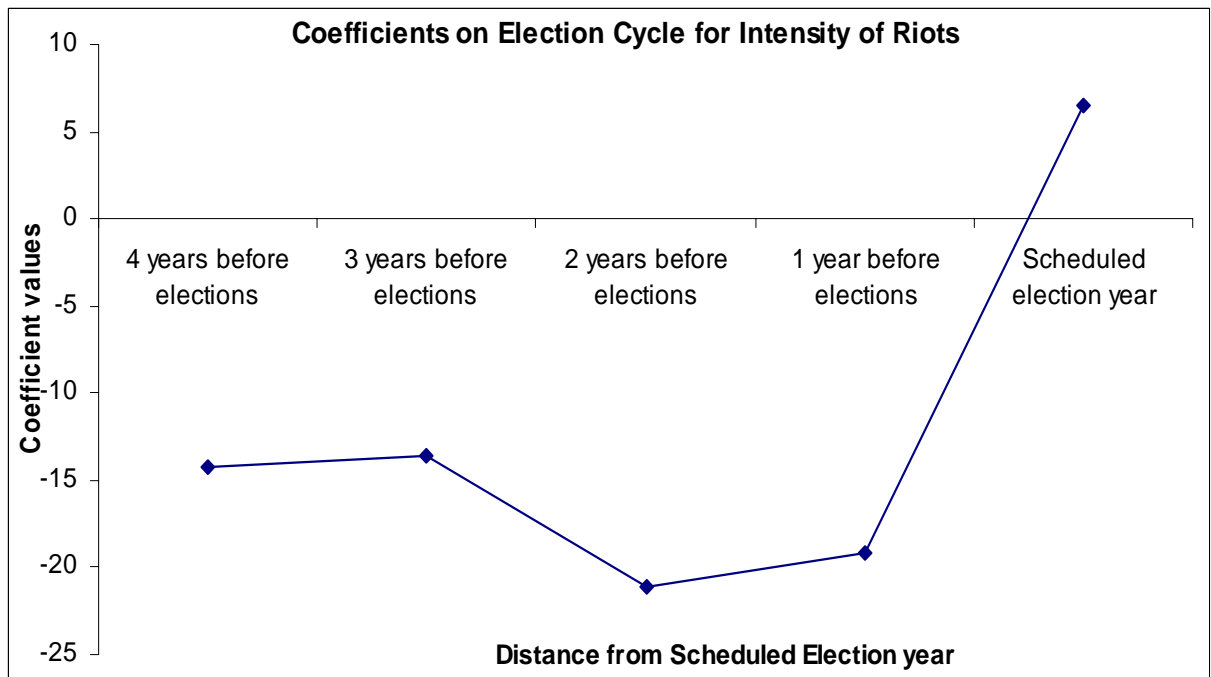
**Graph 2**



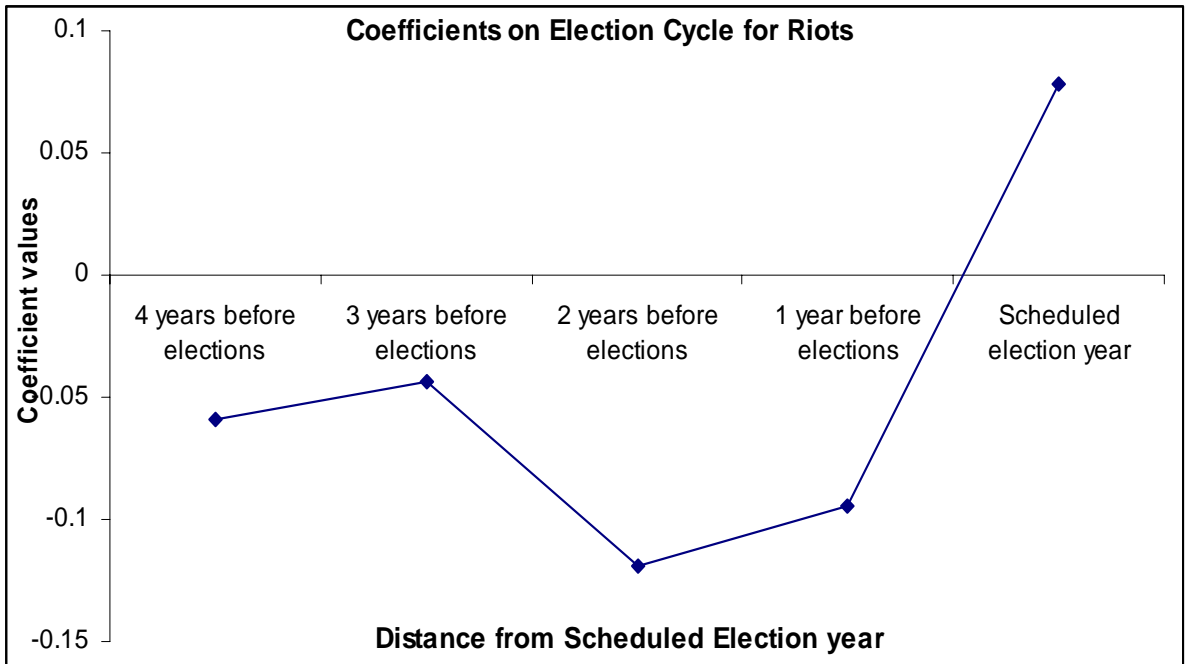
**Graph 3**



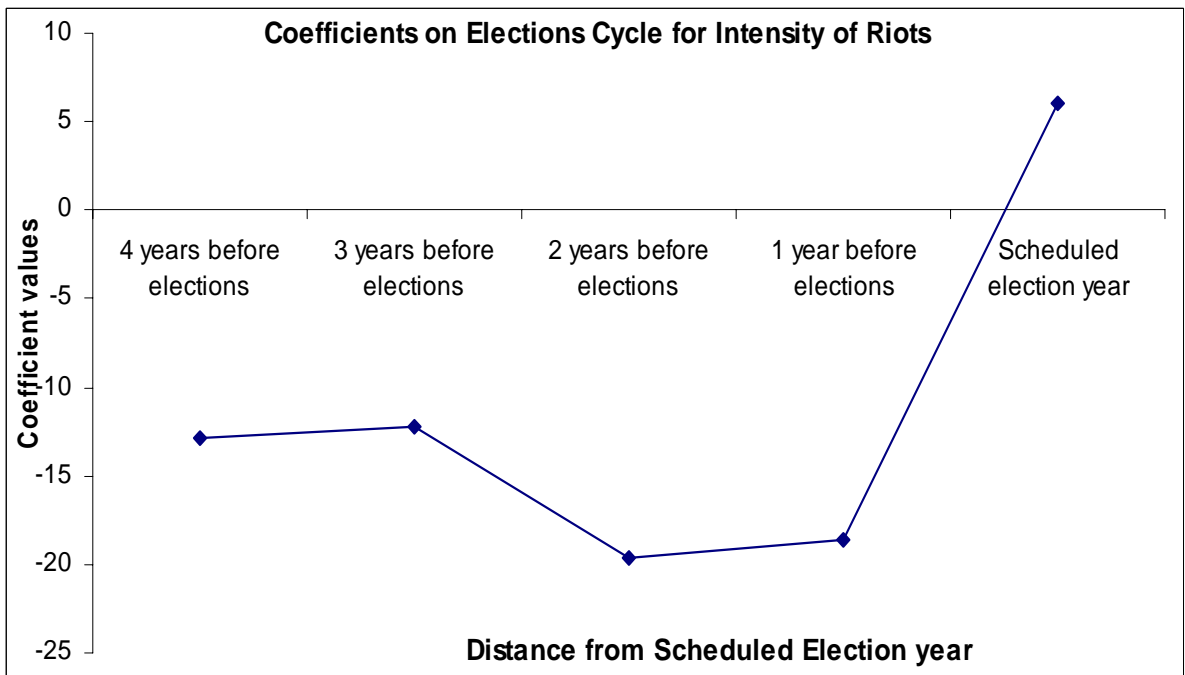
**Graph 4**



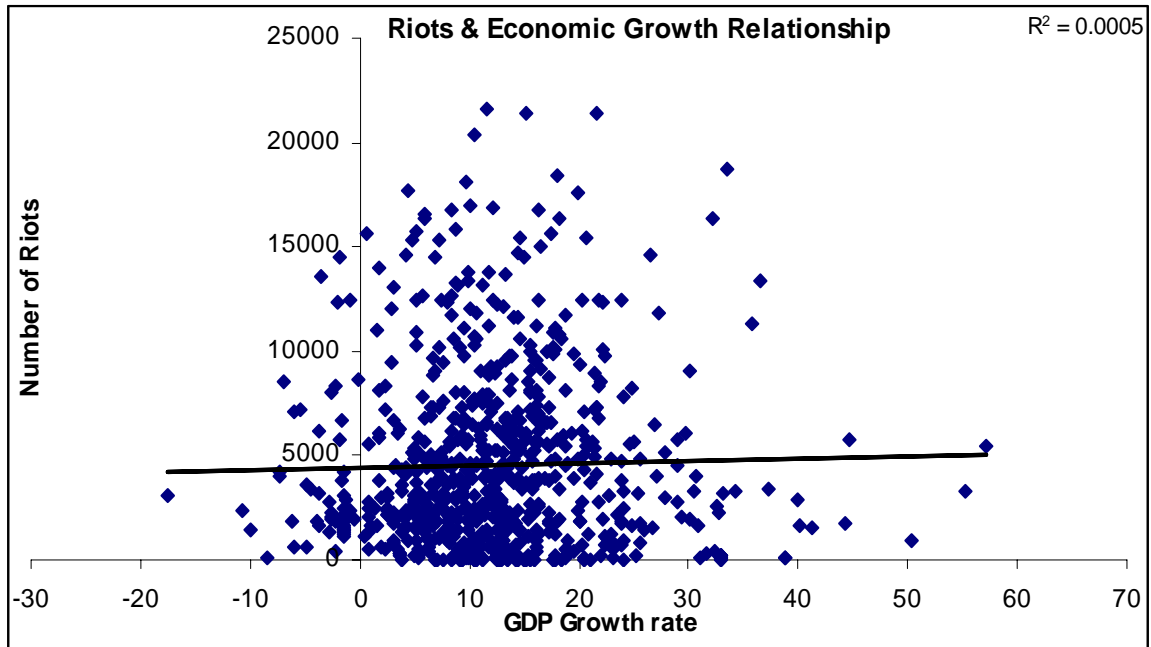
**Graph 5**



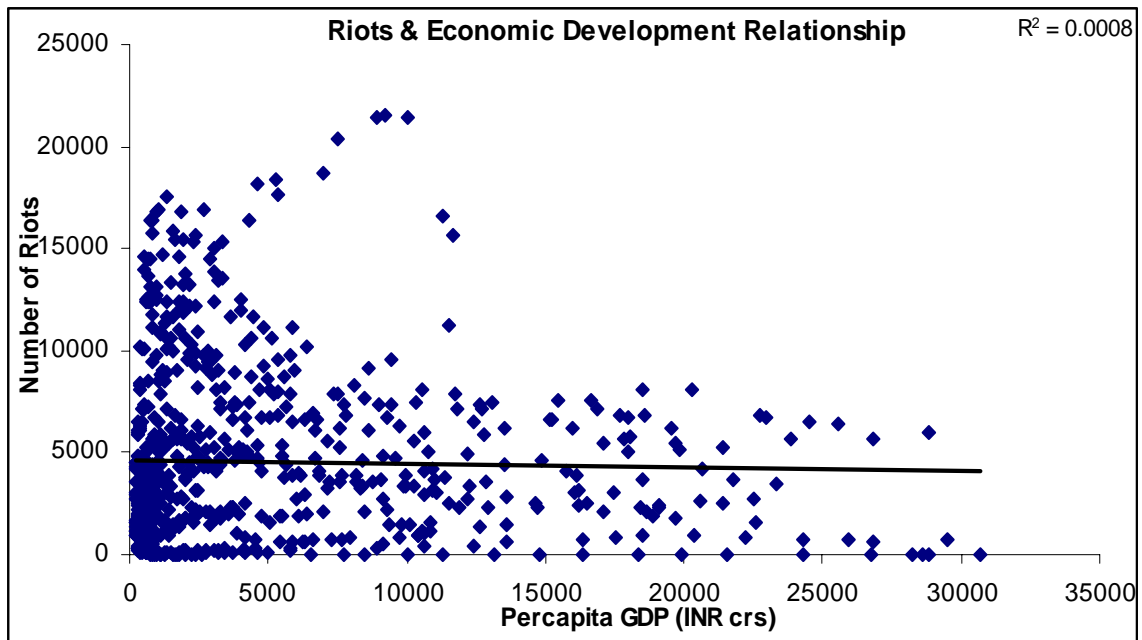
**Graph 6**



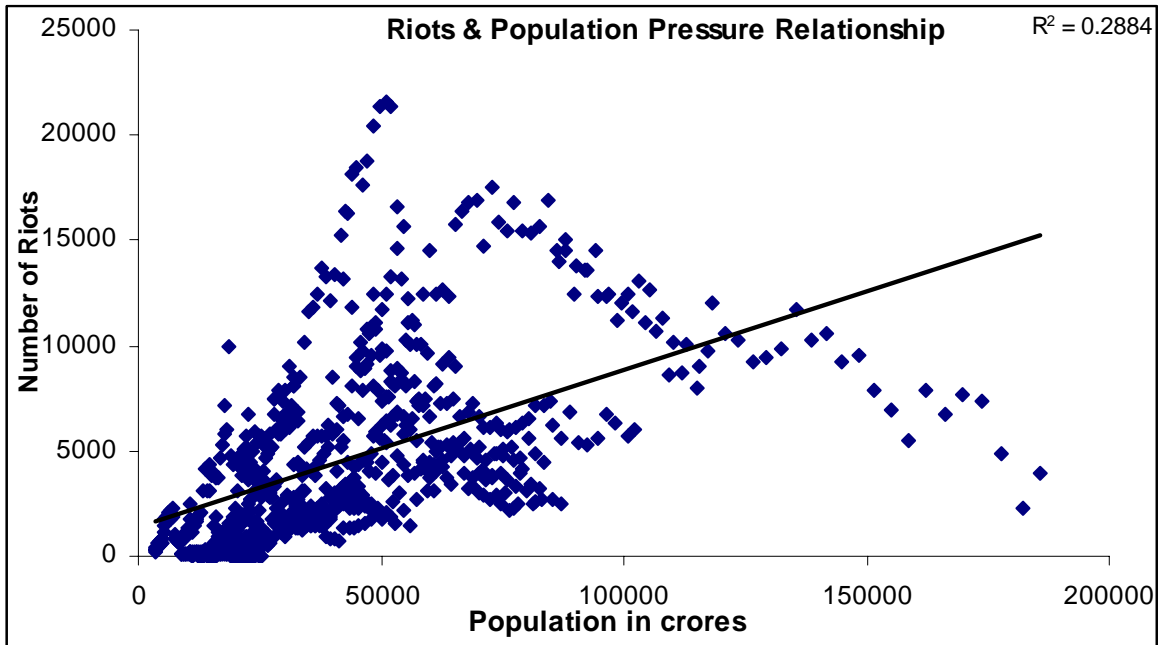
Graph 7



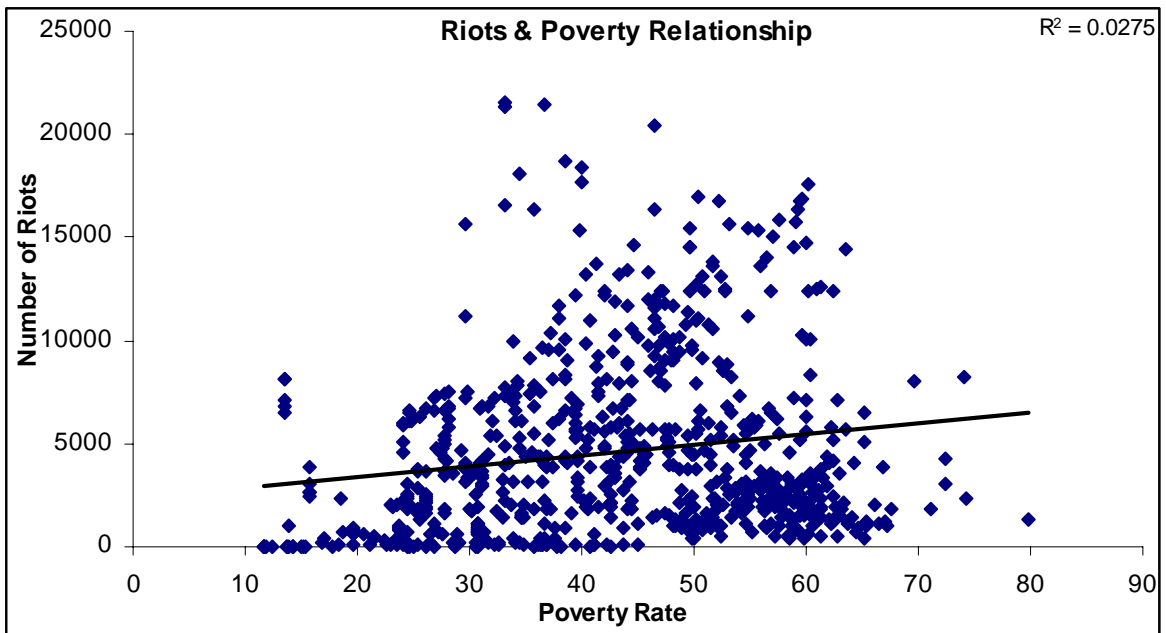
Graph 7



Graph 9



Graph 10



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