All the Growth We Cannot See: Staggered Elections in World's Largest Democracy*

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Abstract

Electoral timing coordination represents a fundamental institutional choice with potentially significant macroeconomic consequences, yet systematic evidence remains limited. This paper exploits variation in India's multi-level electoral system to identify causal effects of synchronized elections on economic growth. We estimate the effects of simultaneous elections on real GDP growth using a novel definition of simultaneous elections and a difference-in-differences approach that accounts for heterogeneous effects across Indian states, staggered "treatment" into simultaneous elections, and switchers in and out of treatment. Our findings suggest comparatively high economic growth at both national and state-levels in the range of 1.5-5.0 percentage points when state and national elections coincide versus when staggered across India's 28 states (and 3 union territories) over 1952-2023. The findings are consistent with relatively higher post-election government expenditure, higher capital compared to revenue spending, and higher overall investment rates. These results suggest that electoral coordination can have consequences extending far beyond administrative and logistical costs of conducting elections. Our findings can inform ongoing debates about India's proposed electoral reforms, and are also relevant for broader international debates on political economy determinants of growth in emerging markets and benefits from political unions, specifically, in the case of Europe.

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1 Introduction

The long-term economic effects of democratic systems and electoral institutions are well established.[1] However, a less explored dimension is whether the timing of elections across government levels can have economic consequences.[2] This paper exploits variation in India's complex multi-level electoral system to identify the causal effects of synchronized elections on economic growth.

In practice, many democracies coordinate elections across government levels—from federal systems like Germany and the United States to emerging markets like Indonesia and Brazil. Prior to 1872, in fact, election timings in the US were not synchronized, with state congressional elections occurring in a staggered manner. Slowly, majority of states aligned their elections with federal elections as a cost- and time-saving measure. More recently, Indonesia switched from non-simultaneous to simultaneous timing of elections based on a landmark reform in 2013, where five types of elections at different levels were to be held together ('five box' elections). Yet despite this global variation in electoral timing, systematic evidence on its economic implications remains limited.

This variation in electoral timing represents an underexplored institutional factor that could potentially affect macroeconomic outcomes through multiple channels: direct effects via restrictions on economic activity during election periods, and indirect effects through policy uncertainty and resource allocation. The most direct channels can be through restrictions on public projects, disruptions in mobility around elections, and use of government officials including teachers and the police for monitoring and conducting elections. The more indirect mechanisms could work, for example, through the effects of election timings on uncertainty about election outcomes and policies, on the economic and investment outlook, and notably, through the opportunity costs of vast monetary and non-monetary resources that tend to be employed around elections in most countries. With non-simultaneous election cycles also likely to be associated with more frequent and greater number of polls, all these channels could become magnified.

India provides an ideal natural experiment to study these questions. From 1952-1967, national and state elections were synchronized, but this coordination ended abruptly in 1968-69 when the central government dissolved multiple state assemblies under Article

[1]For long-term economic effects of democratic systems see (Acemoglu et al. (2008, 2019, 2025); Besley et al. (2010); Giuliano et al. (2013); Papaioannou and Siourounis (2008); Persson and Tabellini (2009); Rigobon and Rodrik (2005); Tabellini and Magistretti (2025)). Similarly, a significant body of literature has established the macroeconomic implications of different electoral systems (Acemoglu and Robinson (2006); Acemoglu et al. (2013); Aghion et al. (2005, 2007); Baqir (2002); Lizzeri and Persico (2001); Pagano and Volpin (2005); Persson and Tabellini (2005); Rogowski (1987); Trebbi et al. (2005)).

[2]The political science literature has explored the consequences of staggered and concurrent elections for voting behavior,for example, see Anzia (2011); Chhibber and Kollman (2009); Hainmueller and Kern (2008); Kogan et al. (2018); Rickard (2012); Sakurai and Menezes-Filho (2008).

356. Since then, elections elections are frequent and widespread in India; with an average of more than six elections per year (including both national and state elections) between 1952-2023 (Figure 1), while policymakers now actively debate returning to synchronized elections. Commonly referred to as "One Nation, One Election" (or ONOE), the idea is to synchronize elections at all levels of governments, to be held simultaneously. If one were to include local elections, this figure would multiply manifold.[3]

This paper estimates the effects of simultaneous elections on real GDP growth. We use a novel definition of simultaneous elections, and exploit variation between cases of simultaneous and non-simultaneous elections both nationally and within states. At the national level, we define simultaneous elections as those electoral cycles, where a large fraction of states had state elections coinciding with national elections, and adopt a difference-in-difference (DID) methodology with both discrete and continuous treatment (Callaway et al. (2024)).[4]

The analysis at the state-level defines a given state-election cycle to be simultaneous, if that state assembly (Vidhan Sabha) election happens to fall in the same calendar year as the national elections of the lower house (Lok Sabha). The advantage of this approach is that we are able to include the many naturally occurring simultaneous elections cycles even today, where state elections coincided with the national ones. To identify causal effects, we follow De Chaisemartin and d'Haultfoeuille (2023) and Wooldridge (2023), and adopt a DID methodology to estimate the effects of simultaneous election on state-level real GDP growth. The method accounts for three key challenges in estimation. First: heterogeneity across states (or heterogeneous "treatment" into simultaneous elections). Indian states are highly diverse in all aspects, with even mid-sized Indian states e.g. Gujarat and Karnataka having populations larger than major European countries like Italy and the United Kingdom. Second: staggered timing of treatment, for example, states of Assam and West Bengal got treatment into simultaneous elections in different years. Third: we also account for states that switched in and out of simultaneous elections. For example, Uttar Pradesh switched from non-simultaneous to simultaneous in 1994, and back to simultaneous in 1999. Finally, we also exploit closely contested elections at the assembly constituency level which are likely to be more unanticipated (Chatterjee and Eyigungor (2020), Girardi and Bowles (2018), Girardi (2020), Redl (2020)), and repeat the estimation for this subsample.

We find evidence for statistically and economically higher average real GDP growth at both national and state levels, post simultaneous election episodes ("treatment"), compared to non-simultaneous episodes ("control"). On average, growth increases around

[3]See for example, "The pros and cons of simultaneous elections", The Hindu, January 29, 2024; "One Nation, One Election: Debating The Pros And Cons", LegalEdge Law School, October 6, 2023.

[4]See, for example, Alesina et al. (1992) and Drazen (2000) for a survey.

simultaneous elections, while it declines around non-simultaneous episodes; with a pre-post difference in real GDP growth of of 1.5 pp. The results from the continuous treatment method suggests that as more and more states experience elections simultaneously with national cycles, growth tends to be higher. A 10 p.p. increase in the share of states having Vidhan Sabha simultaneously with the Lok Sabha, is associated with a rough 2.5 p.p. higher growth rate. The state-level analysis also confirms a relatively higher and statistically significant impact on state-level real GDP growth immediately after simultaneous elections, the effects of which subside after 3-4 years. We estimate an average treatment on the treated effect in the first year after a state election of 5 pp.

We also document stylized facts on several mechanisms consistent with our findings. First: on average, we find relatively higher fiscal deficit and public spending, second: public spending to be skewed toward capital (compared with current), and third: overall investment to be relatively higher post simultaneous election episodes. The mechanisms (see Figure 2) we document could be consistent with both direct channels: non-simultaneous elections imply – more days under the Model Code of Conduct (MCC) with restrictions on public projects and economic activity, higher teacher absenteeism, greater use of public schools, and police and paramilitary forces; and also through indirect channels operating through increased uncertainty, or greater opportunity costs of resources employed in elections and delays in decision making.

Taken together, the different pieces of evidence point in the same direction, and suggests that simultaneity of elections can be macro critical, with far reaching economic implications, beyond administrative costs and logistics of conducting elections.

The paper relates to the broader international political economy literature on political business cycles (see Section 2). We also contribute to the literature in finance on corporate decision making under uncertainty, with elections as key uncertainty-inducing events. Our findings could also have implications for the literature on on political economy determinants of growth in emerging markets, and for international debates on political unions, specifically, in the case of Europe.

Our main contribution is to bring out a new aspect that the existing literature not focused on, which is the effects of coordination in electoral timings. To our knowledge, this is the first study to exploit differences across simultaneous and non-simultaneous elections to quantify the evolution of macroeconomic outcomes in a large federation.

The rest of the paper is organized as follows. Section 2 reviews the related literature. Section 3 presents the background including the experiences outside India, as well as India's current and historical context. Section 4 provides an overview of the data sources, and a first look at the data. Section 5 lays out the empirical strategy. Section 6 presents the main findings. Section 7 provides some evidence on the mechanisms. Section 8

concludes.

2 Related Literature

The paper is related to several strands of the international political economy literature. The "political business cycle" theory goes back to Nordhaus (1975) and MacRae (1977) and highlights the "opportunistic motivation" of policymakers. According to this model, politicians stimulate aggregate demand before elections in order to create fast growth and reduce unemployment; and the inflationary consequences of this policy are eliminated by a post-electoral contraction. While there are a number of clear electoral effects on macroeconomic variables (Drazen (2000)), the empirical literature generated by the Nordhaus' paper, however, has yielded, at best, mixed results (Alesina et al. (1992); Dubois (2016)). On the other hand, a "partisan theory" of macroeconomic policy which goes back to Hibbs (1977), emphasizes policymakers' partisan motivations, and suggests different macroeconomic outcomes across political parties and administrations.[5] This paper contributes to the literature by establishing heterogeneity in macroeconomic outcomes depending on synchronicity of electoral cycles within a country, which can be particularly relevant for large federations. To our knowledge, this is the first paper to establish differences in macroeconomic outcomes across simultaneous and non-simultaneous elections in a large federation.[6]

Second, this paper also relates to a rapidly growing literature in finance on corporate decision making under uncertainty, with elections as key uncertainty-inducing events (see Campello and Kankanhalli (2024) for a review). Julio and Yook (2012), for example, using a sample of 248 national elections in 48 countries held between 1980 and 2005, show that firms in election countries reduce their investment in election years relative to non-election years. Similarly, Jens (2017a) shows similar dynamics of reduced investment around U.S. gubernatorial elections. More recently, Nguyen and Sila (2024) use multiple sources of big data on U.S. firms' job postings and employment flows to study how firms adjust the volume and nature of their hiring decisions in response to election uncertainty. Our paper highlights the role of higher uncertainty too, in our case as a key mechanism for relatively poorer outcomes around non-simultaneous elections compared to simultaneous elections.

Third, the paper could have implications for the literature on political unions (see for example Alesina et al. (2017), Breuss (2008) and Sapir and Sekkat (1999)). Harmonized electoral cycles are likely to be a key ingredient for such unions to materialize. This

[5]See also Alesina et al. (1997). See Coibion et al. (2021) for more recent evidence on political polarization and economic outcomes.

[6]In an earlier literature, Knight and Schiff (2010) exploits the Presidential primaries in the United States in 2004 to examine the differential effects of sequential versus simultaneous polls on election outcomes. They establish econometrically that candidates experience momentum effects when their electoral performance in early states exceeds expectations, and attribute this to social learning by voters.

paper establishes the economic benefits of synchronizing elections at different levels of government; and, therefore, could be relevant for the broader debate on benefits from political unions, for example, in the case of Europe.

Finally, the paper also contributes to the political economy literature in India. The paper is closely related to, and builds on Debroy and Desai (2017), who study simultaneous and non-simultaneous elections, and delve into operational and implementation issues in detail. More recently, Vaishnav et al. (2025), Agney and Thomas (2023), Kaushik and Goyal (2019) and IDFC (2016) examine the "one-nation, one-election" proposal from a political and an implementation perspective. Kaushik and Goyal (2019), for example, use electoral data to argue that a careful re-engineering of the proposal could make it workable and palatable. Importantly, Debroy and Desai (2017) note that "it is difficult to "quantify" the gains from simultaneous elections." Dubey and Sahi (2025) provide a theoretical model of voter behavior under simultaneous elections, and Balasubramaniam et al. (2025) focus on voter behavior in 10 Indian states from 1977, and find that the probability that the same party wins both at the parliamentary and local level increases during synchronous elections. Electoral data from India have also been used in several other studies that address different questions, for example, on the effect of political alignment at the constituency level (Asher and Novosad (2017)), political competition and its effects on human development in rural India (Dash and Mukherjee (2015)). Our paper, instead, looks at the economic implications of simultaneous elections, at the national and state levels. We focus on macroeconomic outcomes, dating back to India's first elections in 1952. This is where the current study offers a first contribution.

The rest of the paper is organized as follows. Section 3 provides some of the institutional details. Section 4 describes the data, including a first look. Section 5 lays out the empirical framework for the analysis at both national and state-levels. Section 6 presents the findings. Section 7 discusses some of the channels through which frequency of elections could affect macroeconomic outcomes. Section 8 concludes.

3 Institutional Background

3.1 Experience of Simultaneous Elections Outside India

The United States presently has a two step election process, involving Presidential elections every four years and Midterms at the two-year mark, but this has not historically been the case. Congress moved to standardize elections in 1872. Prior to that, states held congressional elections in a misaligned, almost staggered manner (Ferlenga and Knight (2025)). As time went on, barring five states (KY, LA, MS, NJ, and VA), all other states in the union of 50 states aligned their elections with federal elections as a cost- and

time-saving measure.

Several parliamentary democracies outside India, though comparatively small in relation to India, do follow harmonized electoral cycles. Examples include South Africa, Sweden, and Belgium. In South Africa, for example, elections occur every five years, and include elections at multiple levels of government, including the national and provincial assemblies, and as well as municipal councils. In Sweden, on the other hand, county and municipal councils hold elections concurrently with general elections every four years, while municipal assemblies are elected every five years. In Belgium, federal elections take place every five years, and coincide with European elections. Even in a large federation like the United States, the timings are synchronized for election of the President, the Congress, as well as for elections at local levels.[7] While the latter is a Presidential form of democracy, the example is still relevant from the perspective of potential economic effects from harmonizing election cycles, which is the focus of this study. Indonesia is another interesting example from emerging markets. It switched from non-simultaneous to simultaneous elections based on a landmark reform in 2013, where elections at five different levels were to be held together on the same day. ('five box' elections).[8]

3.2 Current Indian Context: One Nation One Election

There has been strong debate in India recently on the merits and demerits of synchronising elections. On the one hand, arguments in favour of synchronous electoral cycles hinge on costs including administrative, and logistic costs, that could be avoided or reduced through simultaneous elections. In comparison, non-simultaneous election cycles are considered synonymous with more frequent and hence greater number of polls, and often expressed in general parlance as the country being in "perennial election mode".

The challengers of the idea of harmonizing election cycles, on the other hand, have focused on the official costs of conducting elections, and argue that these are miniscule.[9] Even ignoring the opportunity costs of resources employed in elections,[10] there is also

[7] In the United States, elections for the President are held every four years, while that for the Senate and the House are held every two years – the voting for all three elections occur on the first Tuesday after the first Monday in November. Even a large number of local elections (e.g., the Mayorial elections) are synchronized to occur simultaneously.

[8] Most recently, on 26 June 2025, Indonesia's Constitutional Court issued another decision – the "Separate National and Local Elections" case. According to the new decision, in 2029, there must be a national election to fill the national legislature, one national Regional Representative Council, and the presidency. Then, in 2031, there must be local elections, held across Indonesia, to vote for provincial, city and county legislators and regional heads. The national and local elections must be held between two and two-and-a-half years apart, with time running from the date of inauguration of national legislators or the presidential pair elected in 2029.

[9] See for example, "The argument that cost of conducting elections are extremely high seems baseless", "One nation, one election 'undemocratic' idea; high-powered panel should be dissolved", The Tribune, January 19, 2024.

[10] See, for example, Kumar (2023, October 13), who notes that "for a serious MLA candidate, an election campaign will cost around Rs 5 -6 crore, and for an MP, no less than Rs 30 crore. Assuming

disagreement on the orders of magnitude for the most explicit costs.[11]

Beyond this debate, which has focused primarily on the costs of administering elections, a recent report of the High level Committee on Simultaneous Elections (High Level Committee (2024)) discusses a myriad of ways in which the synchronicity of electoral cycles could have implications for the macroeconomy. These channels could be direct or some not so direct. The most direct channel is through the MCC, which puts restrictions on activities, including on public projects. Debroy and Desai (2017) have shown that in the year 2014, governance and developmental activities due to imposition of MCC remained largely suspended for about 7 months, i.e., for about 58 percent of one fiscal year cycle (April-March): 3 months across the country and 4 months across four state elections (a quarter and a third of a fiscal year cycle respectively). The number of days under the MCC, therefore, can have direct effects on public investment, fiscal deficit, and on expenditure priorities of the government.[12]

In addition to the most direct channels, High Level Committee (2024) also discusses an indirect mechanism which is through the effects of constant elections on uncertainty. The report argues that perennial elections increase uncertainty for all economic agents, this can directly affect choices and decisions and bear on macroeconomic outcomes like economic growth or indirectly through intermediate channels such as investment.

There can be other indirect mechanisms discussed in the report too. Political parties, including ministers and leaders, being in 'permanent campaign' mode both in terms of rallies and people to people contact, can act as a bottleneck to policy making by crowding out their time and focus from policy making and execution, and can delay or stall reform processes. The number of days under the MCC can also directly lead to delays in decision making. Leaders being occupied with campaigns and elections can reduce their attention on broader governance issues too. Further, there can be significant monetary

at least two serious candidates per constituency and adding to this the cost of holding the elections, the total figure for the country would approach Rs 1 lakh crore. For an economy with a GDP of about Rs 300 lakh crore, it amounts to 0.33% of the GDP." In addition, Kumar (2023, October 13) notes 1-2% of GDP as spending on goodies and concessions to attract voters, and another 2-3% of GDP, offered in tax cuts to well off individuals. Others have provided similar estimates (see, for example, "'One Nation, One Election' returns to headlines: A look at history, challenges, benefits and the latest buzz"). Some, on the other hand, even argue that simultaneous elections might be more expensive given the need to purchase and deploy far larger numbers of electronic voting machines.

[11] Another non-economic argument put forth by the "cons" group is that having a fixed tenure for the Lok Sabha and State assemblies could be inconsistent with Article 356 which allows for governments at the centre and the state to be dissolved before the end of the tenure (see, for example, Katju (2023, October 04)). The application of Article 356 though appears to have declined over time (the average incidence of the application of Article 356 was 2.0 before 2000, and less than half at 0.9 post-2000).

[12] There is plenty of anecdotal evidence on how electoral processes can stall investment projects ("General Elections: Infra projects stalled", "Indian election cash call puts strain on construction, real estate"). Kapur and Vaishnav (2013) show that the occurrence of a state election is associated with a statistically significant decline in cement consumption; though they do not find bigger declines during unscheduled elections.

and non-monetary resources employed by political parties in electoral campaigns. Political parties, in fact, are unrestricted by expenditure ceilings and can resort to extravagant campaigning; with stronger pressures for fulfilling poll promises in the new age of information and social media.[13] In addition, there can be a host of other issues. Internal migrants which comprise more than one-third of India's population, may need to travel to their home states to cast their votes – the more frequent the elections, larger will be their travel expenses and losses incurred from the days out of work.[14] Overall, the myriad direct and indirect mechanisms can be far more substantial than official expenditures by the government in conducting elections. From an economic perspective, the additional resources employed in more frequent electoral cycles can be associated with significant opportunity costs, all with implications for the macroeconomy.

Apart from implications for the macroeconomy, there can also be consequences for society. Frequent elections could lead to recurrent polarizing campaigns to win elections, and social media can intensify some of the effects. There could be broader socio-political dimensions too (see, for example, Wani and Dar (2024)). This paper considers some of the quantifiable macroeconomic implications of synchronizing election cycles.

3.3 Political Structure of Parliament and Assemblies

The Constitution of India passed in 1950 lays down the framework for India's democratic system and provides for a Parliamentary form of government. The Supreme Court of India has described the Indian Constitution as quasi-federal because of the strong central machinery.[15]

At the Centre is the lower house of India's bicameral Parliament, the *Lok Sabha*, constitutionally the House of the People, and the upper house, the *Rajya Sabha*. Each state has its own Legislative Assembly, or the *Vidhan Sabha*. Only six states have a bicameral legislature, with two houses: the Assembly and the Council (the *Vidhan Parishad*). Elections to the Houses are governed by the Representation of the People Act, 1951. The 543 single-member parliamentary constituencies (PC henceforth) elect representatives directly to the Lok Sabha. Representatives are also elected directly to the 4,123 state legislative assembly constituencies (AC henceforth) across 28 states and 3 union territories that have legislative assemblies. The state of Uttar Pradesh has the highest number of ACs with

[13] Unlike the limit of election expenditure imposed on a contesting candidate by the Union of India through the ECI, there is no limit on the expenditure that a party can incur during its election campaigns (see, FAQs on Election Expenditure of Political Parties). See also Report No. 255, Law Commission of India.

[14] De (2019) estimates that the number of internal migrants in India was 450 million based on the 2011 census, an increase from 30% of the population in 2001 to 37% in 2011.

[15] S.R. Bommai and others v. Union of India [(1994) 3 SCC 1], on the Federal Character of the Constitution, the Supreme Court judgement read "our Founding Fathers appear to have leaned in favor of a strong Centre ... obvious from even a cursory examination of the provisions of the Constitution."

403 seats, while the Union Territory of Puducherry has the lowest, with 30 seats.

3.4 Plurality Rule and First-Past-The-Post (FPTP) system

The representatives directly elected from each PC and AC are chosen through a plurality voting system. Plurality systems are those where a candidate needs only to win more votes than any other candidate, and not an absolute majority. Since Indian voters have only one vote to cast for a single candidate from each constituency and the candidate with the most votes wins that constituency's election, the system is called first-past-the-post voting.

This system of voting is also followed by the United Kingdom and many erstwhile British colonies including Canada, New Zealand (till 1996), African nations such as Botswana, Eritrea, Eswatini, the Gambia, Ghana, Kenya, Nigeria, Uganda and Zambia as well as in most Caribbean countries.

3.5 Delimitation of Electoral Constituencies

The Delimitation Commission of India is responsible for marking the number of PCs and ACs, which are defined in proportion to the population. The total number of PC seats are fixed at 543, in proportion to the 1971 Census population.[16] At the AC level too, the number of seats are on the 1971 Census, although AC boundaries were reworked in the 2008 delimitation.[17] Our analysis employs election data at the AC level; notably the proportion of close contests at the assembly constituency level, for each state assembly election is not affected by boundary changes.

3.6 Election Timelines

The provisions for scheduling election dates are based on Section 30 of the Representation of the People Act, 1951. Elections begin with a notification from the ECI in the Gazette of India, following which candidates are given seven days to file their nominations. The nominations are scrutinized on the day after this period, and a couple more days are allowed for any withdrawals. The polling date is set no less than fourteen days after the last withdrawal. Counting must be completed, and results declared withing seven days of the completion of polling. The minimum duration from issue of the notification to the declaration of results is thirty-two days, during which the Model Code of Conduct

[16] During the Emergency, through the Constitution (Forty-second amendment) Act, 1976, any delimitation of parliamentary (PC) and assembly constituencies (AC) were supposed to be frozen until after the Census of 2001. This was done to help state governments boost family planning norms, and the date was later extended to 2026.

[17] The last Delimitation Commission of India (July 12th, 2002 - May 31st, 2008), chaired by retired Supreme Court judge, Justice Kuldip Singh, reworked boundaries of existing AC seats but did not create additional seats. This is because the Constitution (Eighty-fourth Amendment) Act, 2001 extended the current freeze on undertaking fresh delimitation up to 2026, the year in which demographers expected the population to peak.

(MCC) is in effect. If assembly elections are held asynchronously with national elections (as increasingly the case, see Table 1), the total number of days under MCC can increase. The number of days between the release of the schedule and the ECI notification can vary, in some cases reaching up to two and half months as in the 2016 Kerala State assembly polls. The 2024 Lok Sabha elections, on the other hand, had a gap of only three days.

3.7 History of Simultaneous Elections

India's electoral system dates back to the pre-Independence days of the British Empire when M.K. Gandhi's quest for universal adult suffrage was met with resistance by the Indian Franchise Committee of 1932.[18] Established "to frame a scheme for the franchise and the constituencies of the new legislatures, central and provincial, suitable for the system of responsible government", the committee also had its task cut out to delineate the polling period.

The limits to extending the polling period were obvious to the committee as was the usual practice to declare the polling day a public holiday, barring the police, medical and postal services, such that officials may be made available for polling duties. The practice at the time was to hold elections to the provincial councils and legislative assembly on the same day, as the report reasoned that "the general experience in all countries is that it is desirable, if possible, to complete all polling in a single day".

3.8 The Simultaneous Lok Sabha Episodes

The first elections in independent India took place in the backdrop of the Representation of the People Act, 1951 which provided the stipulated procedure for conducting elections to both the House of the People and the State Legislative Assemblies in Sections 14 and 15, respectively. With the Constitution coming into force, both were established at the same point in time with the first elections held simultaneously in 1951.

The implementation of synchronized elections during the 1950s and 1960s posed several challenges. After the 1952 elections, the House of the People (Lok Sabha) met in May 1952 and the legislative assemblies (Vidhan Sabhas) of various states were constituted on different dates during the period from March to May of 1952. The legislative assemblies of Assam and Orissa were the first to have their terms expire on March 3rd, 1957.[19] It was feared that letting the Lok Sabha and state legislative assemblies complete their terms in full would mean breaking the synchronicity of elections.[20]

[18] Report of the Indian Franchise Committee, Volume I (Calcutta: Government of India, Central Publication Branch, 1932).

[19] The term of each House of Legislature would expire five years after its first meeting, according to articles 83(2) and 172(1) of the Constitution.

[20] Report on the Second General elections in India, 1957 (Volume I, General, Election Commission of India).

The legislatures were also due to elect the President and Vice-President whose terms would expire on May 13th, 1957. This process would take at least a month and the outgoing members thought it appropriate to leave the task to the newly elected legislatures. With the climatic conditions of February and March being universally suitable throughout the country, all reasons pointed to the general elections being completed simultaneously before the end of March 1957 and the existing state assemblies were to be dissolved prematurely, wherever necessary.[21]

In November 1956, the Election Commission of India (ECI) in consultation with political parties at the New Delhi conference of the All-India Political Parties agreed to prematurely dissolve the state legislative assemblies of Bihar, Bombay, Madras, Mysore, Punjab, Uttar Pradesh, and West Bengal.

There remained strong consensus regarding the clear benefits to both candidates and voters of having elections that were fewer and further between. This sentiment against non-simultaneous elections was echoed in the Report on the third General Election in India, 1962, stating that "it is obviously desirable that this duplication of efforts and expense should, if possible be avoided."[22]

The general elections of 1967 were the last to experience a synchronized election cycle following which the dissolution of several state assemblies led to the system becoming asynchronous. Given that the tenure of an elected House or Assembly was for a maximum of five years, not a fixed term, many state assemblies facing coalition break-ups and imminent government collapse were dissolved prematurely. For example, Odisha had four assembly elections in the span of a decade and fourteen states had up to three elections during the 1970s. Bihar, Haryana, Punjab, Rajasthan, Uttar Pradesh and West Bengal all came under President's Rule, involving suspension of the state government and imposition of direct control of the union government.[20]

The 1970s and 1980s saw a gradual transformation of the electoral landscape as more assembly elections fell out of cycle with the general elections (see Table 1) due to President's rule being imposed 63 times during this period, the highest in any such span since Independence.[23] This period was also characterized by the premature dissolution of the Fourth (1967-1970) and the Sixth (1977-1979) Lok Sabhas.

[21]The Constitution provides the powers of premature dissolution to the following individuals: Article 85 (2)(b) to the President for the Lok Sabha, Article 174 (2)(b) to the Governor of state for the state legislative assembly, and Article 356 to the President for the legislative assembly of a state under President's rule.

[22]Report on the third General Election in India, 1962, pg 44. Refer to Annexure 1(iii).

[23]In response to a query under the Right to Information Act (RTI), the Ministry of Home Affairs reported that President's Rule was imposed 115 times till 2016. [RTI application's No MHOME/R/2016/50960 and MHOME/R/2016/80728 dated 10.04.2016 and 13.04.2016.]

3.9 Recent Calls for Simultaneous Elections

As early as September 1982, a recommendation to return to simultaneous elections was made by the ECI with reasons ranging from considerable savings to disruption of civilian personnel and weighing down "entire administrative set up".[24] This was followed by several calls from the Law Commission of India over the following decades as well as a detailed feasibility analysis made by the Department-related Parliamentary Standing Committee on Personnel, Public Grievances, Law and Justice in 2015.[25]

The reports mentioned the key reasons for supporting simultaneous elections, including "the massive expenditure that is currently incurred for the conduct of separate elections, the policy paralysis that results from the imposition of the Model Code of Conduct (MCC) during election time, impact on delivery of essential services, burden on crucial manpower that is deployed during election time", all of which we seek to address in this paper through their direct impact on macroeconomic variables.

4 Data

4.1 Data Sources

We conduct the empirical analysis using both parliamentary election cycles (1952-2023) and state assembly election cycles (1982-2023). This section describes the construction of the dataset, which combines information from several sources.

Elections: The timeline of each national and state election held between 1951 and 2022 is assembled from the Election Commission of India (ECI) website.

Simultaneous elections: As mentioned above, simultaneous elections for the Lok Sabha and the Vidhan Sabha were held for four cycles: 1951-52, 1957,1962, and 1967. Macroeconomic data, however, are not available through publicly available sources before the 1960s limiting the scope of the analysis. To circumvent this data issue, we included those election cycles in our analysis where a fraction of states above a certain threshold had their assembly elections in the year of national elections and included these in the categorization of "simultaneous" electoral cycles. We use 40 percent as a cutoff that allows us to get a reasonable number of simultaneous episodes, though our results are robust to alternative cutoffs (see Section 6.1). Based on the 40 percent cutoff, five election cycles are defined to be simultaneous which include the following years: 1962, 1967, 1977, 1980, and 1984-85 (Figure 3).

[24] Election Commission of India, First Annual Report (April, 1984)

[25] In the 170th Report in 1999 and Law Commission Report (Draft), 2018, it was acknowledged that the norm should be that elections are held simultaneously.

Simultaneous elections at the state-level: Here we define simultaneous election cycles for specific states. For a given state, if the assembly election happens to fall in the same year as the national elections of the lower house, that state election is defined to be a simultaneous election for the state. To illustrate the empirical approach, we use the state of Andhra Pradesh as an example. Figure 4 reports the four assembly elections in the state between 1983 and 1994. Only two of the four states elections, however, coincided with national elections, and were held in 1985 and 1989. Note that 1985 is also a year when many other Vidhan Sabha elections took place as given in the multiple (orange) shaded areas. For our purposes though, the fact that in 1985, Andhra Pradesh's Vidhan Sabha or state election coincided with the Lok Sabha or national election, is the criteria employed for classifying 1985 as a simultaneous cycle for Andhra Pradesh.

Close elections: In order to define closely contested election cycles, we obtain candidate-level data on the outcomes of assembly elections held between 1982 and 2023 from the Trivedi Centre for Political Data (TCPD) at Ashoka University (Bhogale et al., 2019), which assembles publicly available data from the ECI. The data includes the number of votes obtained by each candidate and constituency. We use this data to categorize assembly constituencies which closely contested elections for each election cycle.[26]

Macroeconomic Variables: The data on several macroeconomic and fiscal variables used in the analysis are taken from the standard economic dataset of Handbook of Statistics on the Indian Economy from India's central bank, the Reserve Bank of India (RBI). The data on real GDP growth spans 1960-2023, and is taken from 'Table No. 222: Select Macro-Economic Aggregates - Growth and Investment Rates (At Constant Prices)'. Gross Fiscal Deficit (defined as excess of total expenditures over total revenues) as a percentage of GDP for the central government is taken from 'Table 232: Select Fiscal Indicators of the Central Government', and is available from 1971 to 2023. Gross Fixed Capital Formation (GFCF) (defined as net addition to the physical assets in an economy), is taken from 'Table 1: Macro-Economic Aggregates (Base Year: 2011-12 At Current Prices)', and is available for the period 1960-2023. We use GFCF as a ratio of GDP, where the latter is the "Gross Domestic Product at Market Prices", and is taken from "Table 4: Components of Gross Domestic Product".

In order to conduct our analysis at the state level, we use data on Gross State Domestic Product (GSDP) and Fiscal Deficit from a private aggregator Indiastat.com. The data goes back to 1982. Data on states' revenue and capital expenditures are collected from different editions of the Handbook of Statistics on Indian States from the RBI, from

[26] Das (2023), Eggers and Hainmueller (2009), Hahn et al. (2001), Lee (2008), Sarkar (2019), Snowberg et al. (2007), and Vogl (2014) also use data on close elections at the assembly constituency level and aggregate them at the state level.

2016-2023, and our available from 1991. To calculate revenue expenditure, figures from the tables on State-Wise Interest Payments and State-Wise Pension were added up while for capital expenditure, figures from the tables on State-Wise Capital Expenditure and State-Wise Capital Outlay were added up.

4.2 First Look at the Data

We start with a simple event study, and compare outcomes pre- and post-, around simultaneous and non-simultaneous election cycles. Simultaneous election years are assumed to be "treatment" years, while the other years are assumed to be the "control" group in the analysis.

We employ two horizons to compare the pre- and post- periods: the first one takes the simple difference between one-year pre and one year post the election cycles (to be referred to as DiD1); while the second approach computes differences for the average values between 2-years pre and post the election years (call it DiD2). Notably, the outcomes around different episodes are aggregated over long periods of simultaneous and non-simultaneous cycles. The estimates, therefore, can be interpreted as capturing more persistent effects, while averaging out the more volatile components (see e.g., Altavilla et al. (2017)). More specifically, we define DiD1 and DiD2 for the purposes of this analysis as below:

⇒ **DiD1** - We take the difference in outcomes of the year before the election from the year after the election for each election cycle. Then, taking the grouped averages of these differences for treatment (simultaneous) and control (non-simultaneous) groups, we find the differences between these differences. This gives us the 1-year difference-in-differences (DiD1) between simultaneous and non-simultaneous elections.

⇒ **DiD2**- Here we take the average of the values 1 year and 2 years after the election and subtract it from the average of the values 1 year and 2 years before the election. Taking the average of these values separately for the treatment and control group, we find the difference between them. Hence, we get the 2-year difference-in-differences (DiD2) between simultaneous and non-simultaneous elections.

Notably, the framework differs from a standard DiD setting (with one exogenous time event, and two units – treated and control). In our framework, we compare the same unit (India in the national-level analysis) when it is treated (say, 1967) and when it is in control (say, 1971). So, the comparison is between the same unit under different event windows, as the unit is treated at t and in control at t+4. Therefore, we cannot conduct a typical parallel trend analysis. Importantly, taking differences between post- and pre- filters out any linear time trends that would affect our outcome variables.

Figure 3 reports the treated and control groups, that splits the Indian Lok Sabha election sample since 1960. The analysis includes fiscal years from 1960 till 2023. In total, 15 general election cycles are included in the sample, with 4 of them being treated and 11 elections in the control group. The key macroeconomic outcomes we analyse include GDP growth at an annual frequency.

4.3 Evolution of Growth

We start by comparing changes in real GDP growth before and after episodes of simultaneous and non-simultaneous elections. Figure 5 reports the findings for real GDP growth. The left panel in Figure 5 shows the evolution of growth around simultaneous elections, while the right panel reports the evolution around non-simultaneous elections. 0 is the year of election. -1, -2 = 1 and 2 years before. +1, +2= 1 and 2 years after. The height of the bar in the left panel corresponding to a value of -1 on the x-axis, for example, is calculated by taking the growth 1-year before an episode and taking simple average across all simultaneous election episodes.

The red line in both the panels represents the two-year averages before and after the episodes. We see a rise in the magnitude, indicated by the red line of 0.63 p.p. in the left panel, and a fall of 0.92 p.p. in the right panel. Taking the difference, we obtain 1.55 p.p. The corresponding figures for one-year differences are +1.47 p.p. and -0.01 p.p. respectively, with a difference of 1.49 p.p. over the 1-year horizon.

What do these estimates mean? The estimates suggest that on average, real GDP growth is higher following episodes of simultaneous elections, while we find a decrease post the non-simultaneous episodes. The magnitudes suggest approximately 1.5 p.p. higher post-pre difference in growth as compared to non-simultaneous elections. To put the magnitudes in perspective, a 1.5 percent of GDP is equal to INR 4.5 lakh crores in FY 2024, half of the public spending on health, and one third of that on education. Publicly reported estimates of conducting national and state elections, beyond the official costs of conducting elections, range from INR 3-7 lakh crores, which are close in orders of magnitude to our growth estimates (Kumar (2023, October 13), and Rao (2023, September 13)).

5 Empirical strategy

This section describes the empirical methodology; sub-section 5.1 presents the strategy for analysing macro-economic outcomes at the national level, while sub-section 5.2 focuses on state-level outcomes.

5.1 National-level Analysis

5.1.1 Difference-in-Differences with Continuous Treatment

We employ a difference-in-difference with continuous treatment in Callaway et al. (2024), and adapt it to our setting. More specifically, in step 1, we estimate the following equation:

$$\Delta y_e = \alpha_0 + \sum_{j=1}^{J} \beta_j \{D_e = d_j\} + \varepsilon_e \tag{1}$$

The dependent variable is the two-year pre-post differences in real national GDP for each Lok Sabha election cycle. The treatment doses are the different share of all Vidhan Sabha elections held together with each Lok Sabha episode. Given the lack of an untreated unit as every Lok Sabha election has been held simultaneously with at least one Vidhan Sabha election, we take the lowest count of Vidhan Sabha election, which is three in the 1971 and 1991 Lok Sabha elections as our omitted or untreated category in the regression. In Step 2, we plot a non-parametric fit for the average treatment of the treated effects against the treatment dose.

5.2 State-level analysis

Next, we move to the analysis at the state level. A "treatment" group is defined as a state-election episode that experienced treatment into simultaneous elections; while a "control" group is a state-election episode that did not coincide with national elections.

Our methodology uses various methods to approach the causal question of the impact of simultaneous elections on Gross State Domestic Product (GSDP) growth. First, we provide a thorough discussion of the issues with using the standard Two Way Fixed Effects (TWFE) model, in our setup.

Next, we follow the most recent literature to address the pitfalls of the TWFE, to avoid "forbidden comparisons", a term coined by Borusyak et al. (2024). Our setup deals with three key issues, viz. heterogeneous treatment effects, staggered treatment timing, and switchers in the treatment sample. To deal with each of these, we follow the methods discussed in De Chaisemartin and d'Haultfoeuille (2023) and Wooldridge (2023).

5.2.1 Heterogeneous Effects, Staggered Timing, Switching In and Out

It is a well known pitfall that the Two Way Fixed Effects (TWFE) estimator is unable to capture heterogenous effects. In a standard difference-in-difference setup, there is a single treatment unit, and a single control unit. In contrast, treatment and control groups in our context include states that are completely diverse. Even mid-sized Indian states like Gujarat and Karnataka have populations larger than major European countries like Italy

and the United Kingdom.

Apart from this, the second challenge that our setup poses is the staggered timing of the treatment. Each state does not move into simultaneous elections at the same time. Let us take for example Assam and West Bengal (see Figure 6). For Assam, the first instance of simultaneous elections was in 1984 and that persisted in the ensuing period, whereas for West Bengal, simultaneous elections first began in 1990. We cannot just compare outcomes between the two states in the period post-1990 when both have undergone simultaneous elections (treatment) already. To correctly attribute the differences to simultaneous elections, we must avoid what are called "forbidden comparisons".[27]

Switchers-in and switchers-out pose the third challenge in estimation. That is the issue of switching in and out of simultaneous elections. Looking at the case of Uttar Pradesh (see Figure 7), which switched in to simultaneous elections in 1995 but in 1999, again, it had non-simultaneous elections which continued. Hence, Uttar Pradesh is one such example which both switches in and switches out of simultaneous elections in consecutive assembly elections.

To address the well-documented identification challenges associated with two-way fixed effects (TWFE) estimators in difference-in-differences settings, including, staggered treatment timing, heterogeneous effects and switching in and switching out, we employ a comprehensive suite of robust estimation methods that have emerged from the recent econometric literature.[28] Traditional methods are suited to a setup where the treatment occurs and remains in force in all ensuing periods.

With the seminal work of Goodman-Bacon (2021) which decomposes TWFE estimators and highlighted the potential bias arising from heterogeneous treatment effects and negative weighting as a reference point, we implement several alternative approaches to ensure the reliability of our causal estimates. We utilize the Callaway and Sant'Anna (2021) methodology, which provides doubly robust estimators that are valid under weaker assumptions and can accommodate multiple time periods and variation in treatment timing. Additionally, we employ the event study framework proposed by Sun and Abraham (2021), which addresses the pre-treatment bias that can plague traditional event studies in heterogeneous treatment effect settings. To further validate our results, we implement the interaction-weighted estimator developed by Wooldridge (2021, 2023), which provides a simple yet robust alternative to TWFE that maintains the familiar regression framework while avoiding the pitfalls of negative weighting. Finally, we employ the stacked regression approach suggested by Cengiz et al. (2019) and further developed by Butts

[27]For a detailed demonstration, see the section 6.2.3 on Robustness, which shows how these impact comparisons can impact our results.

[28]See (Borusyak et al. (2024); Callaway et al. (2024); Cengiz et al. (2019); De Chaisemartin and d'Haultfoeuille (2023); De Chaisemartin and d'Haultfoeuille (2024); Dube et al. (2025); Goodman-Bacon (2021); Sun and Abraham (2021); Wooldridge (2021, 2023))

and Gardner (2021), which creates clean control groups for each treatment cohort. This approach allows us to compare across methods and assess the robustness of our findings across different identification strategies and provides confidence in our attmept at a causal interpretation of the impact of synchronous elections on state growth.

Wooldridge (2023) is a regression-based method using a fully saturated model with group indicators interacted with time periods. Although being closer to Cengiz et al. (2019) and Sun and Abraham (2021) in method, Wooldridge (2023) provides cohort- and time-specific average treatment effects on the treated ($ATT_{g,t}$ for every cohort g in time t). Whereas, De Chaisemartin and d'Haultfoeuille (2024) uses a group-time estimator approach, along the lines of Callaway and Sant'Anna (2021) which first identifies cohort- and time-specific average treatment effects on the treated. This is done by comparing outcome evolution of a cohort from last pre-treatment period against outcome evolution of a control group during the same periods of time. What is specific to De Chaisemartin and d'Haultfoeuille (2024) are the weights given to each estimated treatment effect across groups. The difference in how De Chaisemartin and d'Haultfoeuille (2023) and Wooldridge (2023) deal with "forbidden comparisons" is that the former puts zero weight to the forbidden comparisons that constitute the 2×2 DID estimator, whereas the latter includes a number of interactions to deal with them.[29] Both achieve the same goal of eliminating forbidden comparisons and they both maintain parity as shall be seen with the results in our sample.

5.2.2 Empirical Model

The empirical approach at the state-level compares the difference in outcomes across simultaneous and non-simultaneous episodes by pooling all the episodes, which allows the inclusion of both state and year fixed effects.

We follow De Chaisemartin and d'Haultfoeuille (2023) and Wooldridge (2023) and estimate dynamic treatment effects in the following steps. The estimation following De Chaisemartin and d'Haultfoeuille (2023) is accomplished using the stata command *did_multiplegt_dyn* published by the authors. The estimators are numerically equivalent to Callaway and Sant'Anna (2021) if there are no covariates in the estimation and the not-yet-treated are used as the comparison groups.

Instead of using the Two Way Fixed Effects (TWFE) estimator as follows,

$$\Delta y_{s,t} = \sum \beta_e D_{s,t} + \gamma Z_{j,t} + \alpha_s + \pi_t + \varepsilon_{s,e} \tag{2}$$

[29] For an excellent survey of recently developments in the Difference-in-Differences literateure see Wang et al. (2024).

We estimate a model that addresses the pitfalls of the TWFE. The estimating equation is specified as follows:

$$\Delta y_{st} = \sum(\gamma_{gt} \cdot G_s \cdot T) + \alpha_s + \pi_t + \varepsilon_{s,t} \tag{3}$$

where $G_i \cdot T$ corresponds to all possible interactions of the cohort unit i belongs to (G_i) and the period we aim to estimate that effect at (T), using as reference group all units that have not been treated yet.

t denotes the year in our dataset, s denotes the state or union territory of India, $\Delta y_{s,e}$ denotes the change in outcome variable y for state or UT s, between n year before and after episode e, n takes a period of 1 or 2 years, $D_{s,e} = 1$ for simultaneous election in state or UT s, while α_s and π_t denote the state and time fixed effects respectively. α_s controls for any time-invariant heterogeneity across states, π_t controls for any global or India-specific shocks, e.g., changes in oil prices, or global growth. The coefficient of interest is β, which captures the average difference in the evolution of outcomes between simultaneous and non-simultaneous elections, for the same state.

Quite simply the difference is the replacement of the dummy variable D with a group/cohort variable G and a time period variable T to indicate the number of periods since the treatment. What this does this instead of simply marking a treatment and control group, we now have several groups that are differentiated by that treatment timing and the duration of treatment. This takes care of the issues of all forbidden comparisons which arise with staggered treatment and deals with units that switch in and switch out.

The intuition underlying the methods that try to address the three challenges is to group the states into cohorts depending on the duration and timing of treatment, so that the comparisons are more appropriate, or between similar groups. What the TWFE does instead is to give equal weights to all comparisons.

The regressions are weighted by the economic size of the state in the initial period (to avoid any endogeneity concerns). The weighted regressions also address the issues of data quality, especially for the smaller states. Standard errors are clustered at the state level to address any possible correlation in residuals.

5.2.3 Isolating the Effects of Staggered Treatment Timing

In this subsection, we adopt a different approach by examining a subsample of states over time that excludes switchers in and out of simultaneous election treatment (e.g., cases like Uttar Pradesh in Figure 7, which switched to simultaneous elections in 1995 but returned to non-simultaneous elections in 1999). This approach allows us to isolate the effects of the staggered treatment timing discussed in Section 5.2.1.

Indian electoral history enables us to conduct this exercise. India experienced significant political instability from 1996-1999, marked by uncertainty and upheaval with three Lok Sabha elections in this short span (1996, 1998, and 1999) and a succession of coalition governments. During these years, each Indian state experienced assembly elections simultaneously with at least one of the three Lok Sabha elections. This sequence of unusual Lok Sabha elections was the last time many state assemblies experienced simultaneous elections. Since then, all but seven states transitioned to non-simultaneous elections in staggered fashion. The period after 1999 therefore essentially excludes states switching in and out of simultaneous election treatment. Importantly, different states switched into non-simultaneous from simultaneous election episodes at different points in time, allowing us to focus on the effects of staggered treatment timing.

For this exercise, we define the treatment differently from the baseline specification since the majority of states in this subsample switched to non-simultaneous elections. Specifically, we define a dummy $D = 1$ if the state had an assembly election not coinciding with the Lok Sabha election in the same calendar year. In this framework, we hypothesize the estimated average treatment effect on the treated (ATT) to be negative. If we find negative effects of non-simultaneous elections on state-level, this would provide an additional test confirming our results. This would also demonstrate the effects of staggered treatment timing on the estimates.

Bacon Decomposition

Next, we conduct a Bacon decomposition following Goodman-Bacon (2021), where the canonical TWFE estimate can be decomposed into a weighted sum of smaller 2×2 comparisons. These comparisons can be grouped into four categories:

- Early treated (treatment) states vs. Untreated states (control)
- Late treated states (treatment) vs. Untreated states (control)
- Early treated (treatment) states vs Late treated (control) states before the late date of treatment
- Late treated (treatment) states vs Early treated (control) states after the LATE date of treatment

The fourth component of the TWFE (d) is what Borusyak et al. (2024) refer to as "forbidden comparison". For example, in Figure 6, West Bengal (late-treated) cannot be compared to Assam (early-treated) post-1990 as Assam was already treated before in 1985. This comparison would confound the estimates (as the control group is not clean as it already received a treatment dose in a prior period). Dropping, or giving low weight to such "forbidden comparisons" would allow us to uncover the True Weighted Average treatment on the treated (ATT). The Goodman-Bacon decomposition, however, requires

a "strongly balanced" panel and a setup where no unit (here, state) switches in and out of treatment, both of which are true for the subsample we consider here.

6 Main findings

6.1 National-level Analysis

The results from estimating Equation (1) are reported in Table 2. According to Callaway et al. (2024), the coefficients of Equation (1) can be interpreted as the average effect on the two-year pre-post difference in the national growth rate for each group of Lok Sabha elections that had a particular number of state elections held simultaneously. The estimated coefficients on the treatment doses are all positive and statistically significant at conventional levels. This is termed as the $ATT(d|d)$, which is the average treatment on the treated belonging to dosage group d. In our case, Lok Sabha elections are grouped into bins based on the proportion of states d having simultaneous elections alongside it.

Figure 8 shows that the effects increase (at a decreasing rate) as the proportion of states with assembly elections coinciding with the national elections increase. A line connecting any two discrete points on the curve would give us the Average Causal Response (ACR) on the two-year growth rate for the increase in number of states having simultaneous elections with the Lok Sabha.

Callaway et al. (2024) also provide methods to estimate this Average Causal Response (ACR) with the help of the coefficients estimated using Equation (1). Following their methods, we find the Average Causal Response (ACR) to be 2.5 percentage points higher real GDP growth for a 10 percentage points rise in the proportion of states having simultaneous elections, and this result turns out to be statistically significant.

6.2 State-level Analysis

We start by reporting results from pooling all episodes and utilizing both within and across state variation. The analysis includes 31 states and over 200 election cycles. For a given state, if the assembly election happens to fall in the same year as the national elections of the lower house, that state election is defined to be a simultaneous election for the state. The dependent variables are taken to be the difference in the real Gross State Domestic Product (GSDP) growth rate between the average of (+1,+2) and (-2,-1) years after and before the election episode (t=0). We include both state and year fixed effects. The regressions are weighted by the states' GSDP in 1981. Standard errors are clustered at the state-level.

The results reported in Table 3 suggest a larger post-pre difference in GSDP growth for simultaneous elections, compared to non-simultaneous election episodes, controlling for heterogeneity across states, as well as for any global and country-wide shocks. We

estimate an average treatment effect (ATT) of -0.087 p.p. from the TWFE method.

6.2.1 Dynamic Effects of Simultaneous Elections

Our main estimates for the intertemporal effects of simultaneous elections are provided in Figure 9. In the very first year after an election, we find an increase in the 2-year pre-post difference in the GSDP growth rate of states of 4.7 percentage points with the Wooldridge (2021) method and 4.9 percentage points using the De Chaisemartin and d'Haultfoeuille (2023). The effect subsides within 3-4 years after a simultaneous election,before completely dissipating after 5 years from the election.

Figure 9 also confirms the assumption of parallel trends i.e. no statistically distinguishable difference between the treated and control groups prior to the treatment.

Table 3 provides the comparison between the TWFE estimates and those following De Chaisemartin and d'Haultfoeuille (2023) and Wooldridge (2023) approaches. We find the TWFE estimates to be strongly biased downwards. Overall, once we account for the three estimation challenges of heterogeneous effects, staggered timing, and switchers in and out, the findings are consistent across the two approaches, and suggest comparatively high economic growth at state-levels 5.0 percentage points, following episodes of simultaneous elections, compared to non-simultaneous ones.

6.2.2 Subsample with No Switchers

We now look at the results from the post-1999 subsample which only involves one time change or a monotonic treatment, where we define a non-simultaneous election as the treatment. We then analyse how growth differed among the states that experienced non-simultaneous election timings, relative to simultaneously held elections.[30]

The results from Two Way Fixed Effects (TWFE) estimator in this sub-sample suggests a statistically indistinguishable average treatment effect. Figure 10 presents the Bacon decomposition to decompose the TWFE estimate. The figure shows how TWFE estimates involve both "clean comparisons" marked in blue and green as well as "forbidden comparisons" marked in RED in the plot. Notably, the forbidden comparisons (marked in red) bias the estimates upwards.

More specifically, the different cohorts of states in Figure 10 according to the year of treatment (move to non-simultaneous elections) are shown below:

- **2001:** Assam, Kerala, Puducherry, Tamil Nadu, West Bengal
- **2002:** Goa, Gujarat, Uttar Pradesh
- **2003:** Delhi, Himachal Pradesh, Madhya Pradesh, Meghalaya, Nagaland, Rajasthan, Tripura

[30] Jharkhand, Haryana and Odisha are left out of this sample as they switched the other way to simultaneous elections during this period.

- **2008:** Karnataka
- **Always Treated:** Bihar, Manipur, Punjab
- **Never Treated:** Andhra Pradesh, Arunachal Pradesh, Maharashtra, Sikkim

The red marks in Figure 10 show forbidden comparisons where, for example, a later treated cohort, say, states treated in 2003, are treated as the treatment cohort and an earlier treated cohort, say 2001, are treated as the control cohort. We find that these forbidden comparisons are what drive the null result, biasing our TWFE estimates in the wrong direction.

Essentially the methods we adopt correct for these "forbidden comparisons". Figure 11 plots the unbiased estimates and confirms our hypothesis. We find a negative effect of treatment into non-simultaneous elections, i.e., growth is lower around non-simultaneous relative to simultaneous elections.

6.3 Robustness

This sub-section presents key robustness checks for our main findings. First, we restrict to a subsample of close elections which are likely to be unanticipated, and second we apply a slew of alternative difference-in-difference estimators.

Exploiting Close Elections

We exploit closely contested elections by focusing on a smaller subsample of unanticipated elections.[31] We follow the literature in defining close elections at the assembly constituency level as those assembly elections that were decided by a win margin of less than 5% of the voters.[32] We compute the share of assembly constituencies in each state assembly election that experienced close elections. Then, we classify a state-election year as a close election if the share of constituencies with a win margin of less than 5% is greater than a pre-determined cutoff. The higher the cutoff is in the share of constituencies, the smaller will be the subsample of close elections to identify the causal effects of simultaneous elections, and less reliable would be the estimates.

We re-estimate Equation (3) to estimate the causal effects of simultaneous elections on state-level GDP growth across different samples of close elections depending on the cutoff. Table 4 reports results from estimating Equation (3) for the first two years after an election in the sub-sample of close elections. The results are qualitatively similar to our main findings, with positive and statistically significant ATT effects on state-level

[31] The finance literature uses close elections to measure the impact of elections on uncertainty. See Goodell et al. (2020), Jens (2017b) and Redl (2020) among others.

[32] Banerjee and Iyer (2010); see also Afridi et al. (2023); Arulampalam et al. (2009); Crost and Kambhampati (2010); Dash and Mukherjee (2015); Mitra and Mitra (2017).

growth. The magnitude of the estimated effects are slightly lower when compared to our baseline estimates, likely reflecting higher uncertainty around close elections. Our results are broadly robust to various cutoffs. Not surprisingly, increasing the cutoff beyond 30% reduces the sample of close elections significantly, with a lower magnitude and precision of the estimated effects.

All in all, the main finding of relatively higher economic growth around synchronous elections remains robust in a close-election setting.

Other DID Estimators

Finally, we test robustness in our full sample (1982-2023) to several estimators other than De Chaisemartin and d'Haultfoeuille (2023) and Wooldridge (2023), which also partly address the estimation challenges. Figure 12 plots the point estimates and confidence intervals from each method on a single figure. We find consistent estimates across different identification strategies. Importantly the different estimation strategies confirm the assumption of parallel trends (no statistically distinguishable difference between the treated and control groups prior to the treatment) in the five years leading up to an election, i.e., the length of one complete election cycle in the Indian context.

All in all, the summary of findings presented in Figure 12 strengthens our confidence in the validity of our causal inferences and establish that our results are not conditional on any particular methodological choice.

7 Potential Mechanisms

The findings in Section 6 suggest that periods of simultaneous elections in India were associated with higher economic growth, compared to periods of non-simultaneous elections. What could possibly drive these findings? In the introduction, we discussed the potential channels through which synchronicity of elections could affect ultimate outcomes. In this section, we make an attempt to quantify some of the mechanisms through which the occurrence of simultaneous elections could differentially affect the economy compared to non-simultaneous ones.

7.1 Election Frequency

The key assumption underlying the mechanisms laid out in this section is that non-simultaneous election cycles can be assumed to be associated with more frequent, and a larger number of elections compared to synchronized election cycles. Indeed, as shown in Figure 1, historically elections have been all-pervasive in India. On average, India experienced six elections per year over 1952-2023. In other words, a national or a state election occurs every two months. If we take into account time taken for election related

protocol (Debroy and Desai (2017), Vaishnav et al. (2025)), on average, electoral activity would encompasses approximately 60% of a calendar year. If one were to include local elections, this number would multiply manifold. To summarize, Figure 1 illustrates the phenomenon of "perennial elections".

What is specifically relevant for this paperis whether the frequency of elections varied between simultaneous and non-simultaneous episodes? In order to answer this question, we divide the period from 1952-2023 into two sub-periods: 1952-1985, which covers the time span of simultaneous elections; and 1986-2023, or the period of non-simultaneous elections. While three of more state assembly elections occurred only in 44% of years in the simultaneous election period; these occurred in 84% of the years in the non-simultaneous subsample. In contrast, while no assembly elections occurred in one-third of the years in the simultaneous election subsample, there is not a single year in the non-simultaneous period when state elections did not happen. In other words, frequent elections have become way more prevalent in the era of non-simultaneous elections.

7.2 Fiscal Deficit

As argued above, more frequent elections can directly disrupt economic activity. For example, when an election is announced at the national or at the state-level, a "Model Code of Conduct" (MCC), or a set of rules is imposed, which includes among others, restrictions on the government to lay any new ground for projects or public initiatives. More specifically, the MCC is a set of guidelines issued by the Election Commission of India to regulate political parties and candidates before elections. For elections at all levels, the MCC kicks in from a month before the start of the election dates, until the day the results are announced. This puts many regulations on usual activities, besides the protocol to be followed by political parties. The number of days lost due to the code of conduct kicking in can potentially affect decision making at all levels, including those related to public spending. Furthermore, asynchronized electoral cycles, with larger number of elections happening across different levels of government in any given year, can significantly increase the total number of days under the model code of conduct, directly reducing public expenditures, including public investment.

We start exploring this mechanism by looking at the central government fiscal deficit as a fraction of GDP. We document fiscal deficit to be higher after simultaneous elections compared to before, and this difference outpaces that in the case of non-simultaneous elections. On average, the 2-year difference-in-differences (DiD2) is 1.28 percentage points of GDP higher fiscal deficit following simultaneous elections, compared to non-simultaneous episodes.

At the outset, the result that simultaneous elections may be associated with higher

fiscal deficit, and possibly higher public expenditure, may appear counterintuitive, as conventional wisdom would suggest that more frequent elections for non-simultaneous episodes should be associated with higher spending and deficits, while we find otherwise.[33] Indeed, when we compare the levels as indicated by the height of the bars, particularly, in the run up to the elections (-2 and -1), these are larger for non-simultaneous episodes. What we find, however, suggests that governments tend to spend relatively more after the elections, compared to before, around simultaneous election episodes, or they tend to spend relatively less before. One potential explanation for this result could be that the higher the number of elections, greater the degree of freebies and pre-election promises, which would raise government spending before the episode for non-simultaneous elections. The observed rise in government expenditure only after the episode for simultaneous elections would be consistent with a story of streamlining and higher efficiency in the electoral process. We also find a similar result when using difference-in-difference with the share of state assembly elections coinciding with Lok Sabha elections as the continuous treatment (Figure 13). The findings show that as the number of states with simultaneous elections increases, the Gross Fiscal Deficit increases by a statistically significant margin.

Higher public spending post elections is also consistent with the evidence for relatively higher growth rates post simultaneous election episodes relative to non-simultaneous ones.

7.3 Government Expenditure Priorities

How does higher government spending post simultaneous elections relate to expenditure priorities of the government? Are priorities skewed toward greater capital expenditure with better multipliers, or toward revenue expenditure (reflected partly in giveaways, freebies around elections) around synchronized electoral cycles? This sub-section explores patterns of the ratio of capital-to-revenue spending in each type of election.

We look at the difference-in-difference with continuous treatment again in Figure 14. We document a statistically significant higher Capital-to-Current Ratio (C-C ratio) as the fraction of states with assembly elections coinciding with the national elections increase. In other words, not only do the findings suggest relatively higher public spending post simultaneous election episodes but spending that is also skewed toward capital compared to revenue, again consistent with the evidence for relatively higher growth post simultaneous elections.

7.4 Overall Investment Decisions

More frequent elections can directly disrupt activity, but also indirectly affect the economy through greater uncertainty. Both these channels are likely to have implications for investment in the economy. As argued above, asynchronized electoral cycles, with larger

[33] See, for example, Brender and Drazen (2008, 2013).

number of elections happening across different levels of government in any given year, can significantly increase the total number of days under the model code of conduct, directly reducing public expenditures and in particular, investment. Even more importantly, the resulting uncertainties could also have spillovers for private investment, and for the broader economy too.

To explore the evolution of investments around elections, we look at the total Gross Fixed Capital Formation (GFCF) as a fraction of GDP around simultaneous and non-simultaneous election episodes. We find that simultaneous elections are associated with higher post-pre difference in investment compared to non-simultaneous elections. On average, the pre-post difference in the ratio of GFCF to GDP is estimated at about half a percentage point higher for simultaneous election episodes compared to non-simultaneous ones, consistent with lesser interruptions in economic activity and lower uncertainty. However, when using the continuous treatment identification strategy, we do not find robust effects on investments at the national level.

8 Conclusions

This paper analyzed the effects of simultaneous election episodes in India on a key macroeconomic outcome: real GDP growth. We conducted our analysis at both the national and state levels by employing novel definitions of simultaneous elections and applying recent methods in the difference-in-differences literature. For simultaneous election episodes, we find robust evidence for higher average real GDP growth at both levels of government post-elections compared to non-simultaneous election episodes. We estimate an average treatment effect on the treated in the range of 1.5-5 percentage points.

We investigated potential mechanisms underlying these results and documented relatively higher public spending post simultaneous election episodes—spending that is skewed toward capital rather than revenue—and higher overall investment. These mechanisms are consistent with the evidence for relatively higher growth post simultaneous elections and can be explained through direct channels such as fewer days subject to election-related restrictions, as well as indirect channels operating through lower uncertainty, with spillovers from public to private investment and to the broader economy.

Our study comes with two important caveats. First, this paper abstracts from implementation and political considerations or broader societal issues when comparing simultaneous versus non-simultaneous elections, instead focusing on the economic implications. Second, frequent elections can have numerous non-quantifiable effects given data constraints, including delays in reform momentum, effects on economic and investment outlook, opportunity costs of monetary and non-monetary resources employed by political parties in campaigns, and the prevalence of corruption in election funding. While

our findings are consistent with the direct channels we can quantify, they may also reflect mechanisms that are not easily quantifiable and capture opportunity costs of resources employed in frequent elections.

For India's transition to an advanced economy ("Viksit Bharat @2047"), political economy and electoral cycles will be crucial, as for any country. Our analysis suggests that election timing and electoral coordination across government levels can have consequences extending far beyond the administrative and logistical costs of conducting elections. The evidence presented illustrates the importance of incorporating electoral timing and synchronicity effects on the macroeconomy into debates on political and electoral system reforms. These results may also contribute to broader international discussions on political economy determinants of growth in emerging markets and benefits from political unions, particularly in Europe.

Bibliography

Acemoglu, D., N. Ajzenman, C. G. Aksoy, M. Fiszbein, and C. s. A. A. Q. Molina (2025): "(Successful) democracies breed their own support," *Review of Economic Studies*, 92, 621–655.

Acemoglu, D., G. Egorov, and K. Sonin (2013): "A political theory of populism," *The Quarterly Journal of Economics*, 128, 771–805.

Acemoglu, D., S. Johnson, J. A. Robinson, and P. Yared (2008): "Income and democracy," *American economic review*, 98, 808–842.

Acemoglu, D., S. Naidu, P. Restrepo, and J. A. Robinson (2019): "Democracy does cause growth," *Journal of political economy*, 127, 47–100.

Acemoglu, D. and J. A. Robinson (2006): "Economic backwardness in political perspective," *American Political Science Review*, 100, 115–131.

Afridi, F., S. Bhattacharya, A. Dhillon, and E. Solan (2023): "Electoral Competition, Electoral Uncertainty and Corruption: Theory and Evidence from India," IZA Discussion Paper 10396.

Aghion, P., A. F. Alesina, and F. Trebbi (2005): "Choosing electoral rules: theory and evidence from US cities," .

——— (2007): "Democracy, technology, and growth," .

Agney, G. and V. Thomas (2023): "Assessing the Feasibility of 'One Nation, One Election' in India," *Economic and Political Weekly*, November 11 & 18, 2023, Vol LVIII, Nos. 45 & 46.

Alesina, A., G. D. Cohen, and N. Roubini (1992): "Macroeconomic policy and elections in OECD democracies," *Economics & Politics*, 4, 1–30.

Alesina, A., N. Roubini, and G. D. Cohen (1997): *Political Cycles and the Macroeconomy*, The MIT Press.

Alesina, A., G. Tabellini, and F. Trebbi (2017): "Is Europe an Optimal Political Area?" *Brookings Papers on Economic Activity*, 169–213.

Altavilla, C., D. Giannone, and M. Modugno (2017): "Low frequency effects of macroeconomic news on government bond yields," *Journal of Monetary Economics*, 92, 31–46.

Anzia, S. F. (2011): "Election timing and the electoral influence of interest groups," *The Journal of Politics*, 73, 412–427.

Arulampalam, W., S. Dasgupta, A. Dhillon, and B. Dutta (2009): "Electoral goals and center-state transfers: A theoretical model and empirical evidence from India," *Journal of Development Economics*, 88, 103–119.

Asher, S. and P. Novosad (2017): "Politics and local economic growth: Evidence from India," *American Economic Journal: Applied Economics*, 9, 229–273.

Balasubramaniam, V., A. Y. Bhatiya, and S. Das (2025): "Synchronized elections strengthen party salience: Evidence from a decentralized democracy," *Journal of Comparative Economics*.

Banerjee, A. V. and L. Iyer (2010): "Colonial land tenure, electoral competition and public goods in India," in *Natural Experiments of History*, ed. by J. Diamond and J. Robinson, Harvard University Press, Cambridge, Ma.

Baqir, R. (2002): "Districting and government overspending," *Journal of Political Economy*, 110, 1318–1354.

Besley, T., T. Persson, and D. M. Sturm (2010): "Political competition, policy and growth: theory and evidence from the US," *The Review of Economic Studies*, 77, 1329–1352.

Bhogale, S., S. Hangal, F. R. Jensenius, M. Kumar, B. U. Nissa, and G. Verniers (2019): *TCPD-IED: TCPD Indian Elections Data v1*, Trivedi Centre for Political Data, Ashoka University.

Borusyak, K., X. Jaravel, and J. Spiess (2024): "Revisiting Event-Study Designs: Robust and Efficient Estimation," *The Review of Economic Studies*, 91, 3253–3285.

Brender, A. and A. Drazen (2008): "How Do Budget Deficits and Economic Growth Affect Reelection Prospects? Evidence from a Large Panel of Countries," *The American Economic Review*, 98, 2203–2220.

——— (2013): "Elections, leaders, and the composition of government spending," *Journal of Public Economics*, 97, 18–31.

Breuss, F. (2008): "A common election day for the euro zone?" *Kyklos*, 61, 19–32.

Butts, K. and J. Gardner (2021): "{did2s}: Two-stage difference-in-differences," *arXiv preprint arXiv:2109.05913*.

Callaway, B., A. Goodman-Bacon, and P. H. C. Sant'Anna (2024): "Difference-in-differences with a Continuous Treatment," Working Paper 32117, National Bureau of Economic Research.

Callaway, B. and P. H. Sant'Anna (2021): "Difference-in-differences with multiple time periods," *Journal of econometrics*, 225, 200–230.

Campello, M. and G. Kankanhalli (2024): "Corporate decision-making under uncertainty: Review and Future Research Directions," in *Handbook of Corporate Finance*, ed. by D. J. Denis, Edward Elgar Publishing, chap. 15, 548–590.

Cengiz, D., A. Dube, A. Lindner, and B. Zipperer (2019): "The effect of minimum wages on low-wage jobs," *The Quarterly Journal of Economics*, 134, 1405–1454.

Chatterjee, S. and B. Eyigungor (2020): "Policy inertia, election uncertainty, and incumbency disadvantage of political parties," *The Review of Economic Studies*, 87, 2600–2638.

Chhibber, P. and K. Kollman (2009): "The formation of national party systems: Federalism and party competition in Canada, Great Britain, India, and the United States," in *The Formation of National Party Systems*, Princeton University Press.

Coibion, O., Y. Gorodnichenko, and M. Weber (2021): "Political Polarization and Expected Economic Outcomes," Chicago Booth Research Paper No. 20-45, Fama-Miller Working Paper.

Crost, B. and U. S. Kambhampati (2010): "Political market characteristics and the provision of educational infrastructure in North India," *World Development*, 38, 195–204.

Das, S. (2023): "Democratic backsliding in the world's largest democracy," *Available at SSRN 4512936*.

Dash, B. B. and S. Mukherjee (2015): "Political competition and human development: Evidence from the Indian states," *The Journal of Development Studies*, 51, 1–14.

De, S. (2019): "Internal migration in India grows, but inter-state movements remain low," *World Bank Blogs*.

De Chaisemartin, C. and X. d'Haultfoeuille (2024): "Difference-in-differences estimators of intertemporal treatment effects," *Review of Economics and Statistics*, 1–45.

De Chaisemartin, C. and X. d'Haultfoeuille (2023): "Two-way fixed effects and differences-in-differences with heterogeneous treatment effects: A survey," *The econometrics journal*, 26, C1–C30.

Debroy, B. and K. Desai (2017): "Analysis of Simultaneous Elections : The "What", "Why" and "How"," Working Papers id:11756, eSocialSciences.

Drazen, A. (2000): "The political business cycle after 25 years," *NBER macroeconomics annual*, 15, 75–117.

Dube, A., D. Girardi, O. Jorda, and A. M. Taylor (2025): "A Local Projections Approach to Difference-in-Differences," *Journal of Applied Econometrics*.

Dubey, P. and S. Sahi (2025): "Simultaneous elections in a polarized society make single-party sweeps more likely," *arXiv preprint arXiv:2503.01663*.

Dubois, E. (2016): "Political business cycles 40 years after Nordhaus," *Public choice*, 166, 235–259.

Eggers, A. C. and J. Hainmueller (2009): "MPs for sale? Returns to office in postwar British politics," *American Political Science Review*, 103, 513–533.

Ferlenga, F. and B. Knight (2025): "Vote early and vote often? Detecting electoral fraud from the timing of 19th century elections," *Journal of Public Economics*, 243, 105317.

Girardi, D. (2020): "Partisan shocks and financial markets: Evidence from close national elections," *American Economic Journal: Applied Economics*, 12, 224–252.

Girardi, D. and S. Bowles (2018): "Institution shocks and economic outcomes: Allende's election, Pinochet's coup and the Santiago stock market," *Journal of Development Economics*, 134, 16–27.

Giuliano, P., P. Mishra, and A. Spilimbergo (2013): "Democracy and reforms: evidence from a new dataset," *American Economic Journal: Macroeconomics*, 5, 179–204.

Goodell, J. W., R. J. McGee, and F. McGroarty (2020): "Election uncertainty, economic policy uncertainty and financial market uncertainty: a prediction market analysis," *Journal of Banking & Finance*, 110, 105684.

Goodman-Bacon, A. (2021): "Difference-in-differences with variation in treatment timing," *Journal of econometrics*, 225, 254–277.

Hahn, J., P. Todd, and W. Van der Klaauw (2001): "Identification and estimation of treatment effects with a regression-discontinuity design," *Econometrica*, 69, 201–209.

Hainmueller, J. and H. L. Kern (2008): "Incumbency as a source of spillover effects in mixed electoral systems: Evidence from a regression-discontinuity design," *Electoral Studies*, 27, 213–227.

Hibbs, D. A. (1977): "Political Parties and Macroeconomic Policy," *American Political Science Review*, 71, 1467–1487.

High Level Committee (2024): "Report of the High Level Committee on Simultaneous Elections, Volume I," Tech. rep., Government of India, Ministry of Law and Justice.

IDFC (2016): "State assembly elections: nudging the voter in one direction," *The Hindu*, op-Ed article.

Jens, C. E. (2017a): "Political uncertainty and investment: Causal evidence from US gubernatorial elections," *Journal of Financial Economics*, 124, 563–579.

——— (2017b): "Political uncertainty and investment: Causal evidence from US gubernatorial elections," *Journal of financial economics*, 124, 563–579.

Julio, B. and Y. Yook (2012): "Political uncertainty and corporate investment cycles," *The Journal of Finance*, 67, 45–83.

Kapur, D. and M. Vaishnav (2013): "Quid Pro Quo: Builders, Politicians, and Election Finance in India," Working Papers 276, Center for Global Development.

Katju, M. (2023, October 04): "One Nation, One Election: What will its Implementation Mean?" *The India Forum.*

Kaushik, A. K. and Y. Goyal (2019): "The desirability of one nation one election in India: Simultaneous elections," *The Journal of Social, Political, and Economic Studies*, 44, 110–120.

Knight, B. and N. Schiff (2010): "Momentum and social learning in presidential primaries," *Journal of Political Economy*, 118, 1110–1150.

Kogan, V., S. Lavertu, and Z. Peskowitz (2018): "Election timing, electorate composition, and policy outcomes: Evidence from school districts," *American Journal of Political Science*, 62, 637–651.

Kumar, A. (2023, October 13): "'One Nation, One Election' Will Further Weaken Indian Democracy," *The Wire.*

Lee, D. S. (2008): "Randomized experiments from non-random selection in US House elections," *Journal of Econometrics*, 142, 675–697.

Lizzeri, A. and N. Persico (2001): "The provision of public goods under alternative electoral incentives," *American Economic Review*, 91, 225–239.

MacRae, C. D. (1977): "A political model of the business cycle," *Journal of political economy*, 85, 239–263.

Mitra, A. and S. Mitra (2017): "Electoral uncertainty, income inequality and the middle class," *The Economic Journal*, 127, 1119–1152.

Nguyen, D. D. and V. Sila (2024): "Corporate Hiring under Uncertainty," *Registered Proposal for Review of Corporate Finance Studies*.

Nordhaus, W. D. (1975): "The Political Business Cycle," *The Review of Economic Studies*, 42, 169–190.

Pagano, M. and P. F. Volpin (2005): "The political economy of corporate governance," *American Economic Review*, 95, 1005–1030.

Papaioannou, E. and G. Siourounis (2008): "Democratisation and growth," *The Economic Journal*, 118, 1520–1551.

Persson, T. and G. Tabellini (2005): *The economic effects of constitutions*, MIT Press.

——— (2009): "Democratic capital: The nexus of political and economic change," *American Economic Journal: Macroeconomics*, 1, 88–126.

Rao, D. N. B. (2023, September 13): "If Elections at all levels in India are held in 2024, it will cost Ten Lakh Crores!" *Primepost*.

Redl, C. (2020): "Uncertainty matters: Evidence from close elections," *Journal of International Economics*, 124, 103296.

Rickard, S. J. (2012): "Electoral systems, voters' interests and geographic dispersion," *British Journal of Political Science*, 42, 855–877.

Rigobon, R. and D. Rodrik (2005): "Rule of law, democracy, openness, and income: Estimating the interrelationships1," *Economics of transition*, 13, 533–564.

Rogowski, R. (1987): "Trade and the variety of democratic institutions," *International Organization*, 41, 203–223.

Sakurai, S. N. and N. A. Menezes-Filho (2008): "Fiscal policy and reelection in Brazilian municipalities," *Public Choice*, 137, 301–314.

Sapir, A. and K. Sekkat (1999): "Optimum electoral areas: Should Europe adopt a single election day?" *European Economic Review*, 43, 1595–1619.

Sarkar, S. (2019): "Votes and policies: Evidence from close elections in India," Unpublished thesis. Mimeo, MIT.

Snowberg, E., J. Wolfers, and E. Zitzewitz (2007): "Partisan impacts on the economy: evidence from prediction markets and close elections," *The Quarterly Journal of Economics*, 122, 807–829.

Sun, L. and S. Abraham (2021): "Estimating dynamic treatment effects in event studies with heterogeneous treatment effects," *Journal of econometrics*, 225, 175–199.

Tabellini, M. and G. Magistretti (2025): "Economic integration and the transmission of democracy," *Review of Economic Studies*, 92, 2765–2792.

Trebbi, F., P. Aghion, and A. Alesina (2005): *Choosing electoral rules: theory and evidence from US cities*, National Bureau of Economic Research.

Vaishnav, M., C. Mallory, and A. Richter (2025): "Does "One Nation, One Election" Make Sense for India?" .

Vogl, T. S. (2014): "Race and the Politics of Close Elections," *Journal of Public Economics*, 109, 101–113.

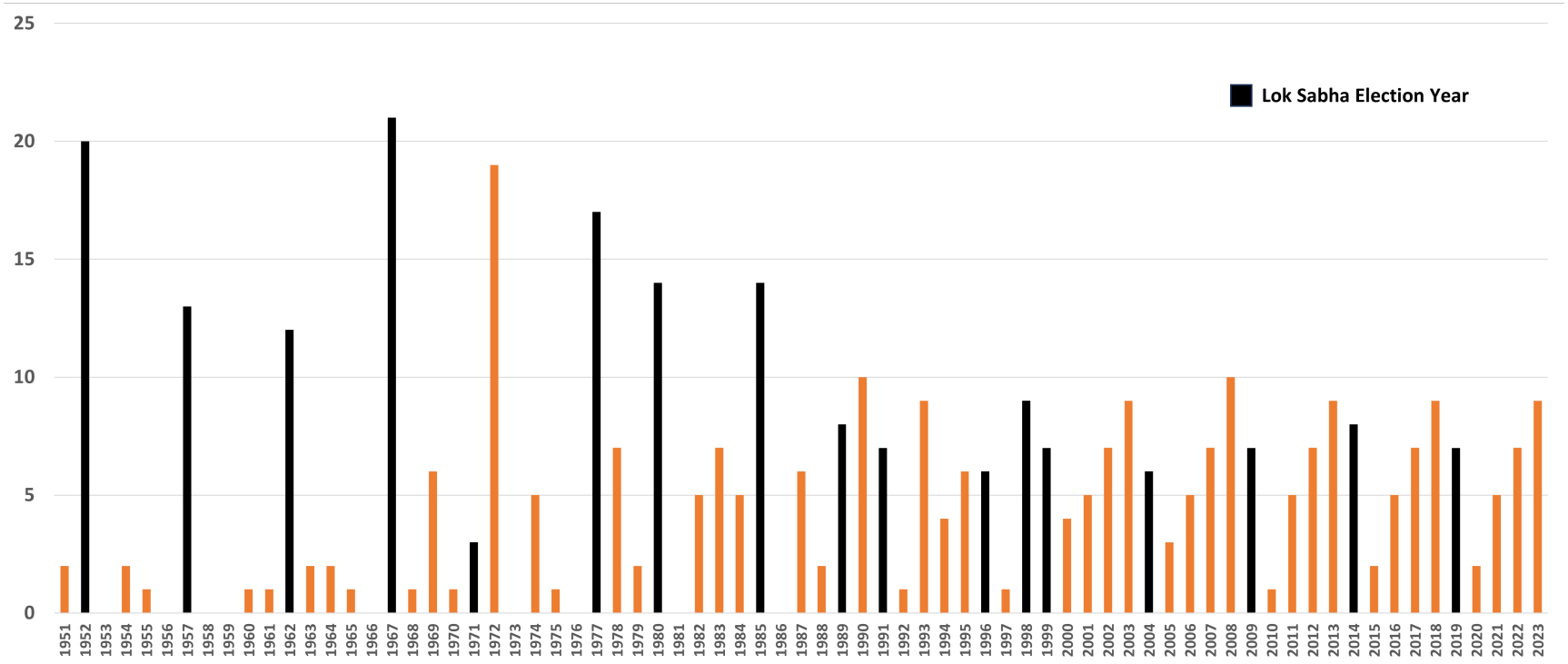
Wang, G., R. Hamad, and J. S. White (2024): "Advances in difference-in-differences methods for policy evaluation research," *Epidemiology*, 35, 628–637.

Wani, A. A. and R. A. Dar (2024): "Simultaneous Elections in Plural Societies," *Economic and Political Weekly*, January 6, 2024, Vol LIX, No. 1.

Wooldridge, J. M. (2021): "Two-way fixed effects, the two-way mundlak regression, and difference-in-differences estimators," *Available at SSRN 3906345*.

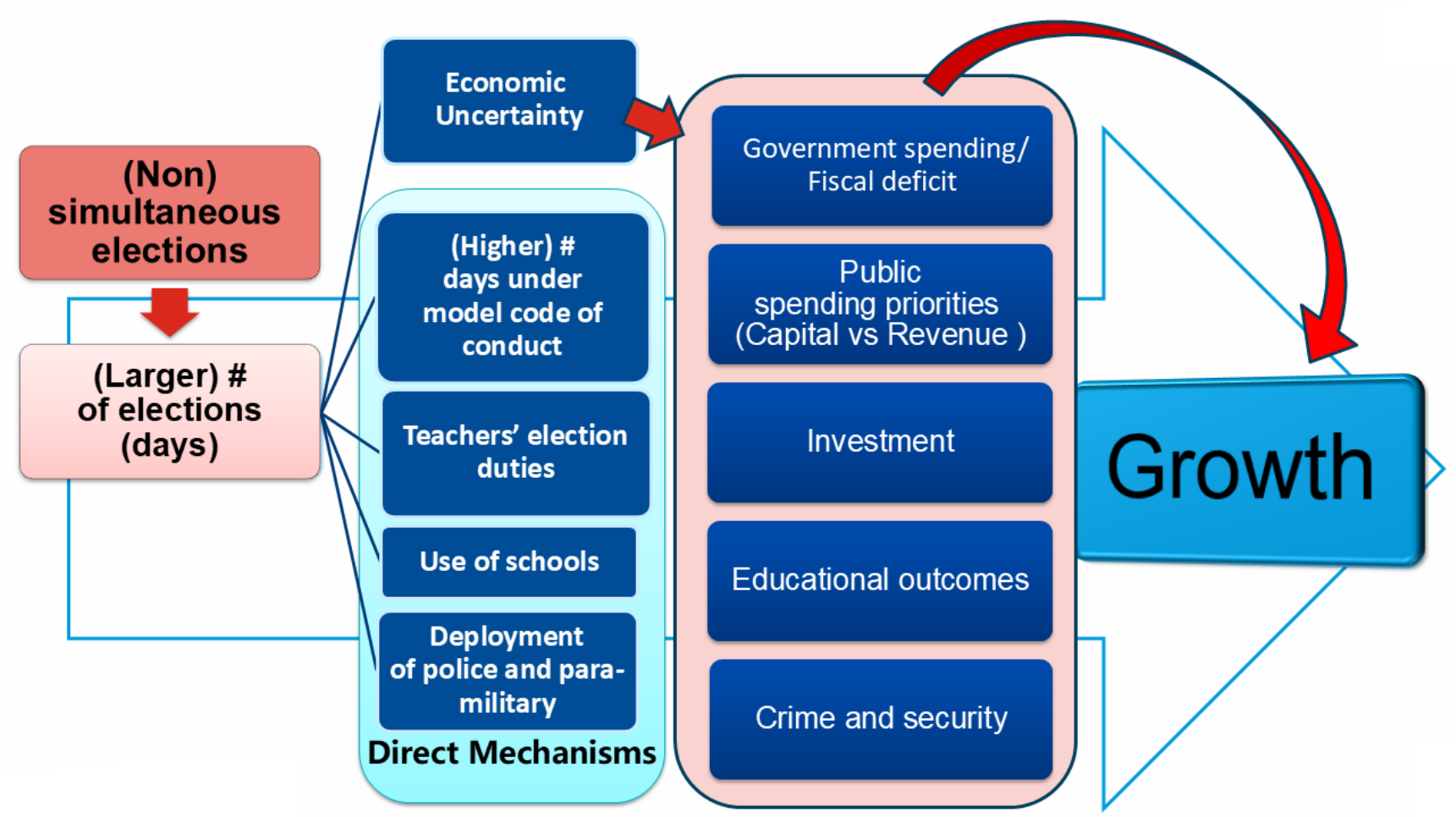
——— (2023): "Simple approaches to nonlinear difference-in-differences with panel data," *The Econometrics Journal*, 26, C31–C66.

Figure 1: Number of state assembly elections



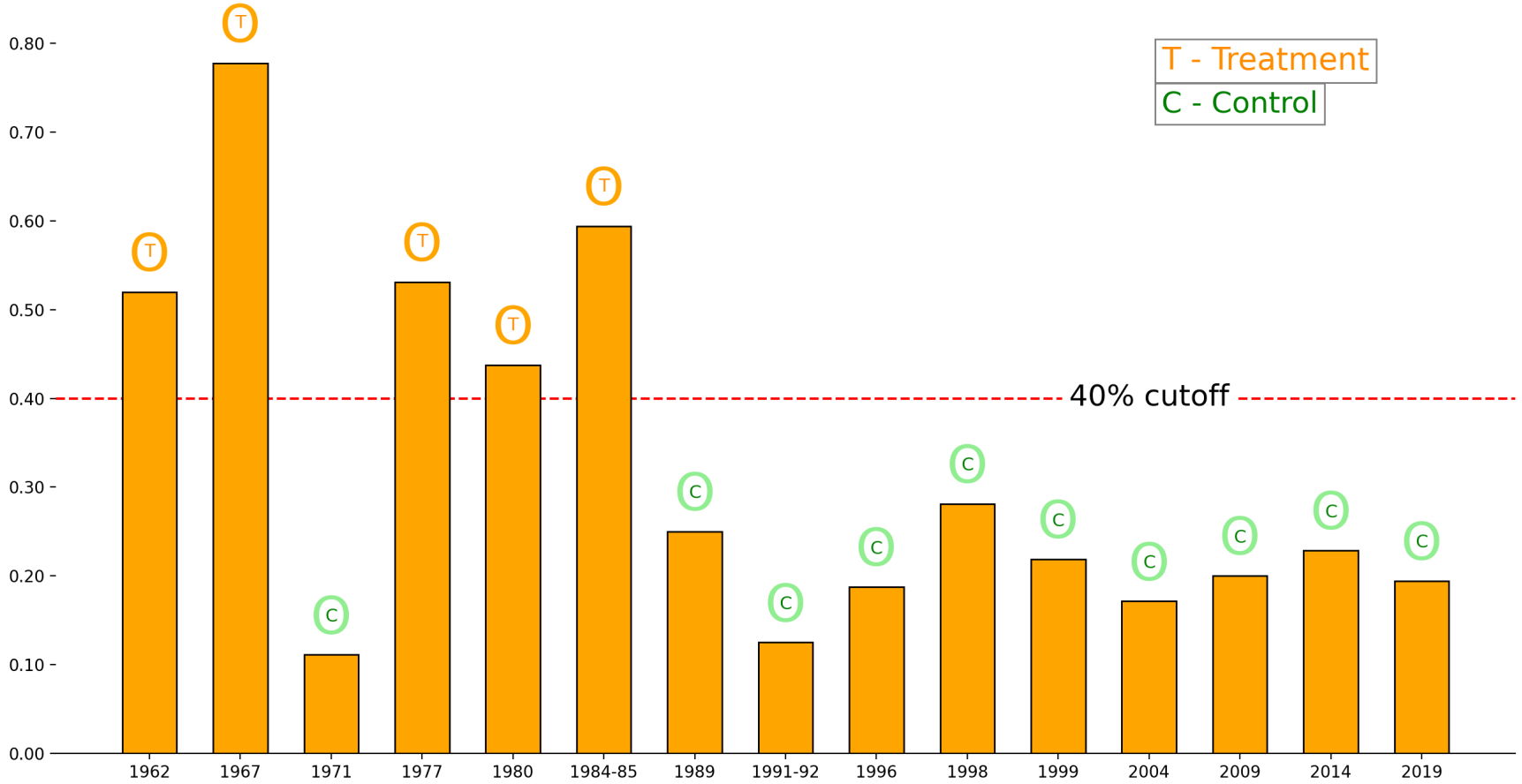
Notes: The chart shows the number of Vidhan Sabha Elections held in one calendar year. Andaman & Nicobar Island is excluded due to lack of data. Source: Election Commission of India

Figure 2: Economic mechanisms: (Non) Simultaneous elections



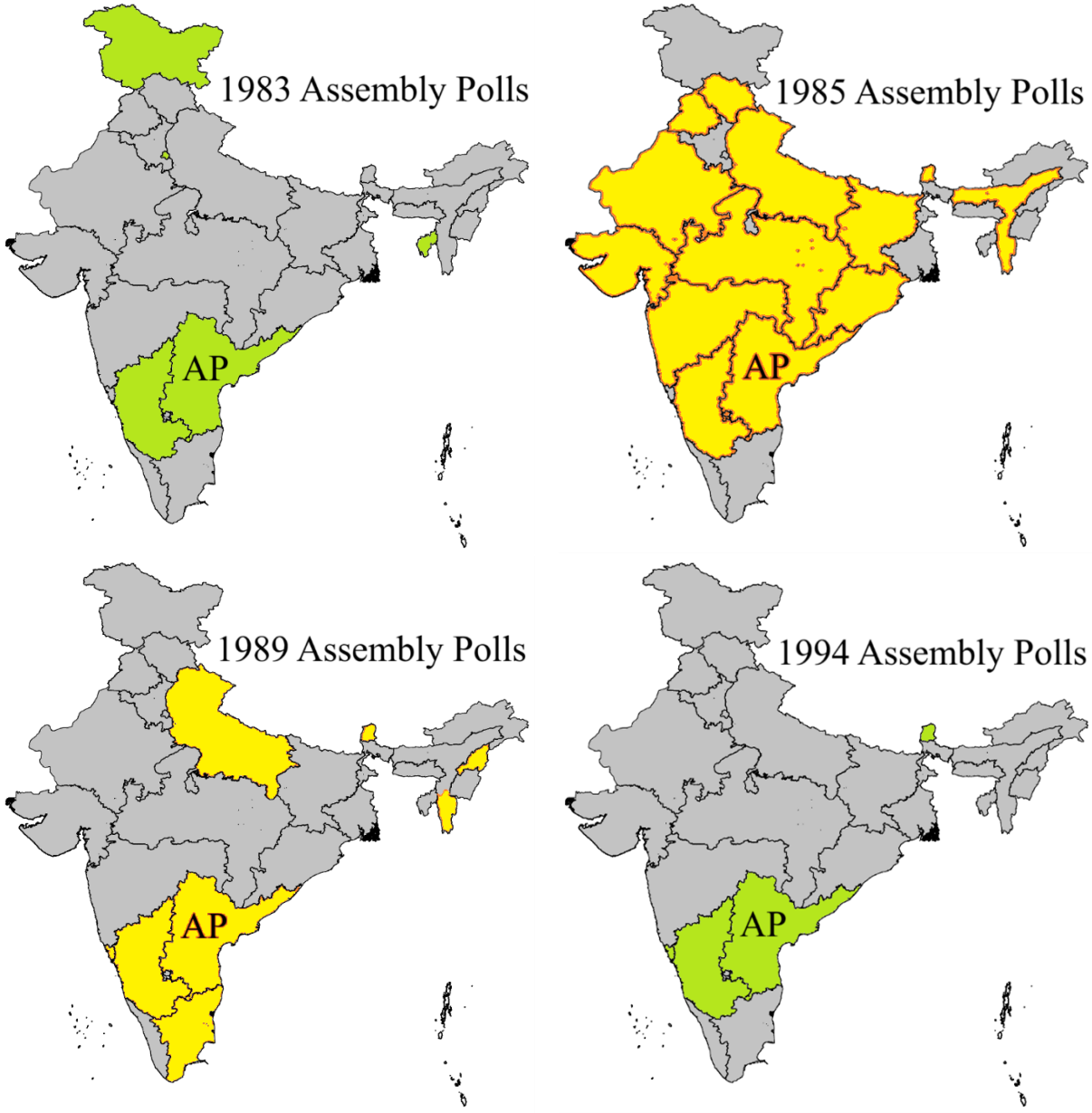
Notes. This figure shows both direct and indirect pathways through which the conduct of elections impact national and state growth. We emphasize how greater number of days lost to elections may affect growth through direct mechanisms and increasing economic uncertainty, which in turn affect intermediate mechanisms such as fiscal deficits, fiscal spending priorities and investment outcomes. These potential mechanisms may explain how moving to a system of simultaneous elections may impact growth.

Figure 3: Simultaneous elections as treatment



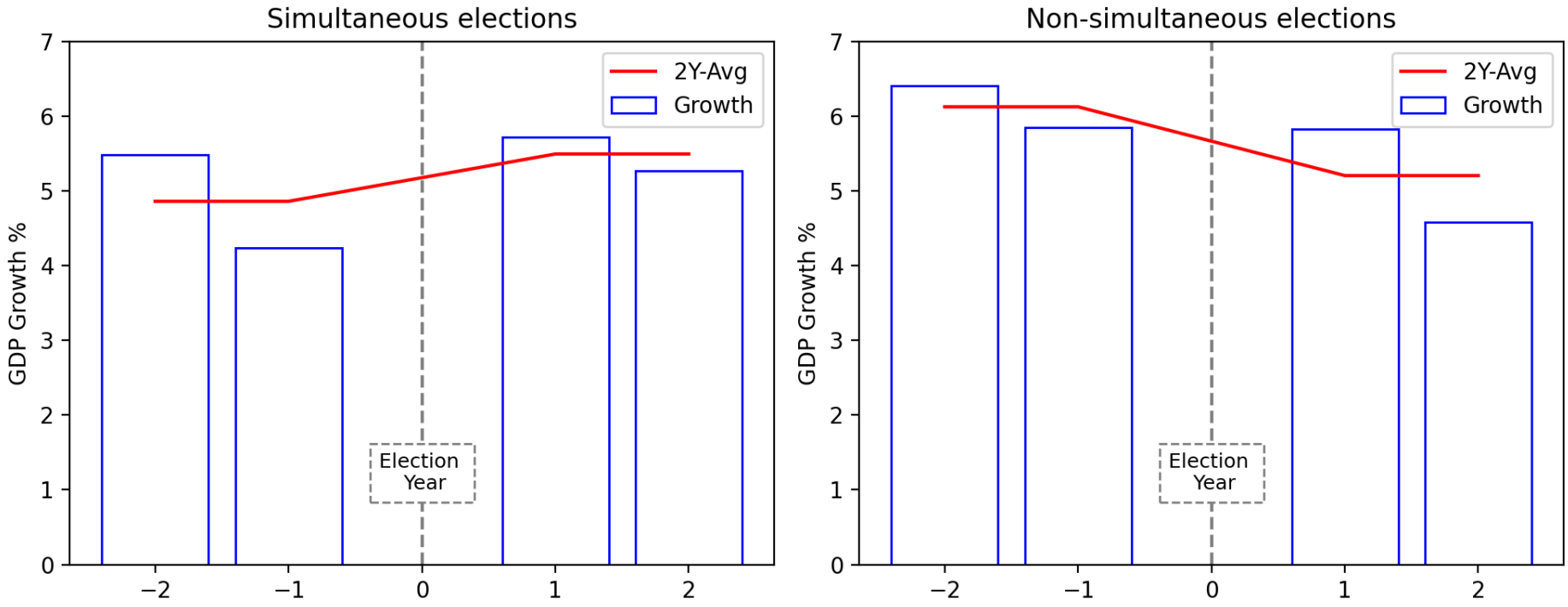
Notes. This figure shows the treatment group and control group: treatment, if the proportion of states having an Assembly election (in the year of the general election) to the total states present is greater than 40 percent and control, if less than 40 percent. In the sample period of 1961 to 2023, five years are in the treatment group which we will call national simultaneous elections: 1962, 1967, 1971, 1977 and 1984. The 1984 Lok Sabha election cycle was split between 1984 and 1985, hence we label it as 1984-85. We have 5 election cycles in the treatment group and 10 election cycles in the control group. Source. Election Commission of India.

Figure 4: Andhra Pradesh - 1983, 1985, 1989, 1994 assembly polls



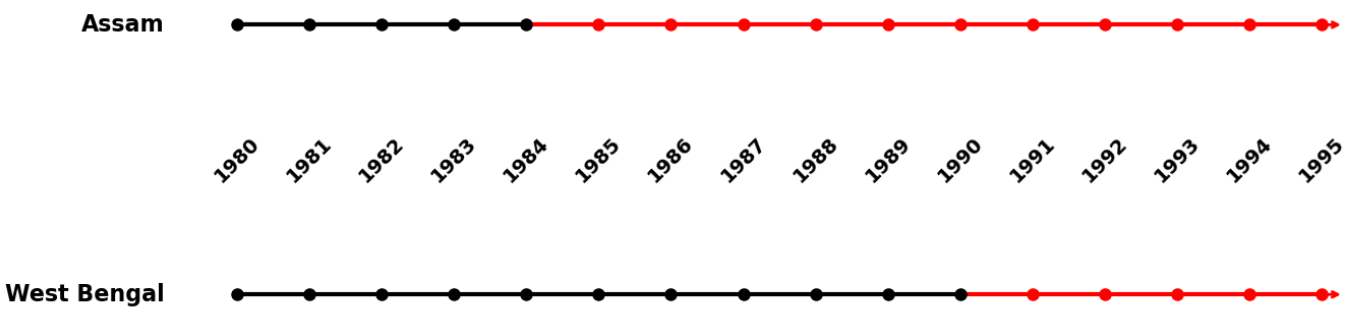
Notes. In this figure, Andhra Pradesh is used as an example to illustrate what "simultaneous" election means for a given state. Its four assembly elections spanning from 1983 to 1994 are shown along with all the other (shaded) states that had assembly elections in the same year. Only two of the four elections shown here (in orange) happened along with the General elections, 1985 and 1989, respectively.

Figure 5: National growth rate: Simultaneous and non-simultaneous elections



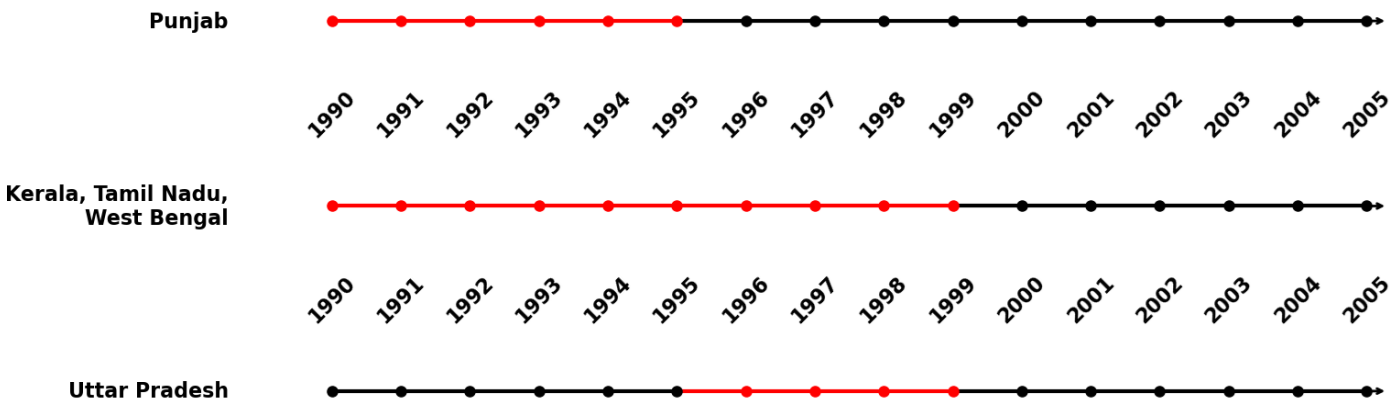
Notes. This chart depicts the evolution of real GDP growth rate at the national level for simultaneous and non-simultaneous election cycles. The sample period is 1961 to 2023. Source: RBI DBIE Table 222: Select Macro-Economic Aggregates - Growth and Investment Rates (At Constant Prices).

Figure 6: States that experienced Staggered Treatment Timing



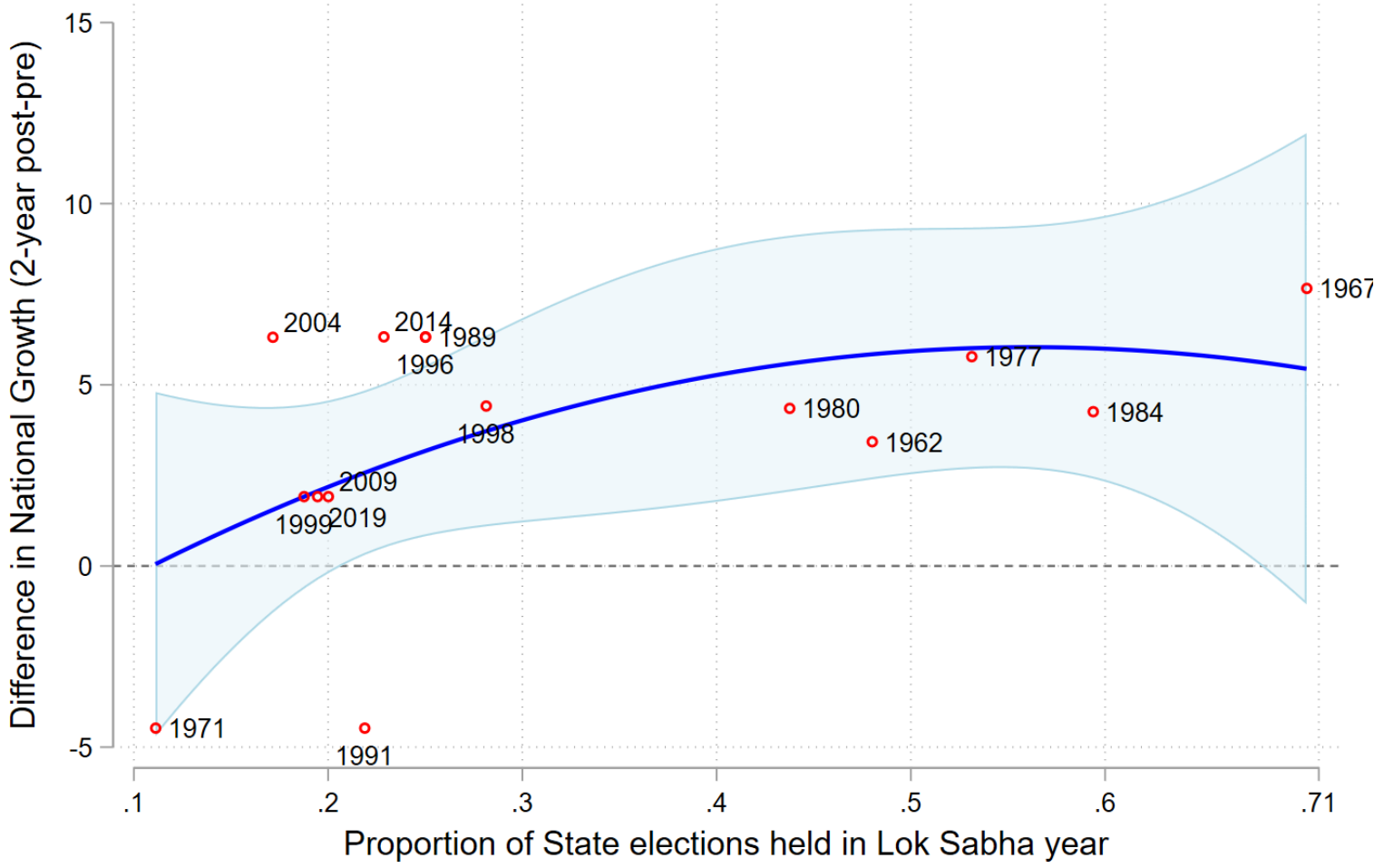
Notes. This figure plots two states that experienced simultaneous elections but at different timings. This leads us to have a staggered treatment setup which the Two Way Fixed Effects (TWFE) estimator is not suited for estimation.

Figure 7: States that switched in and out of Simultaneous Elections



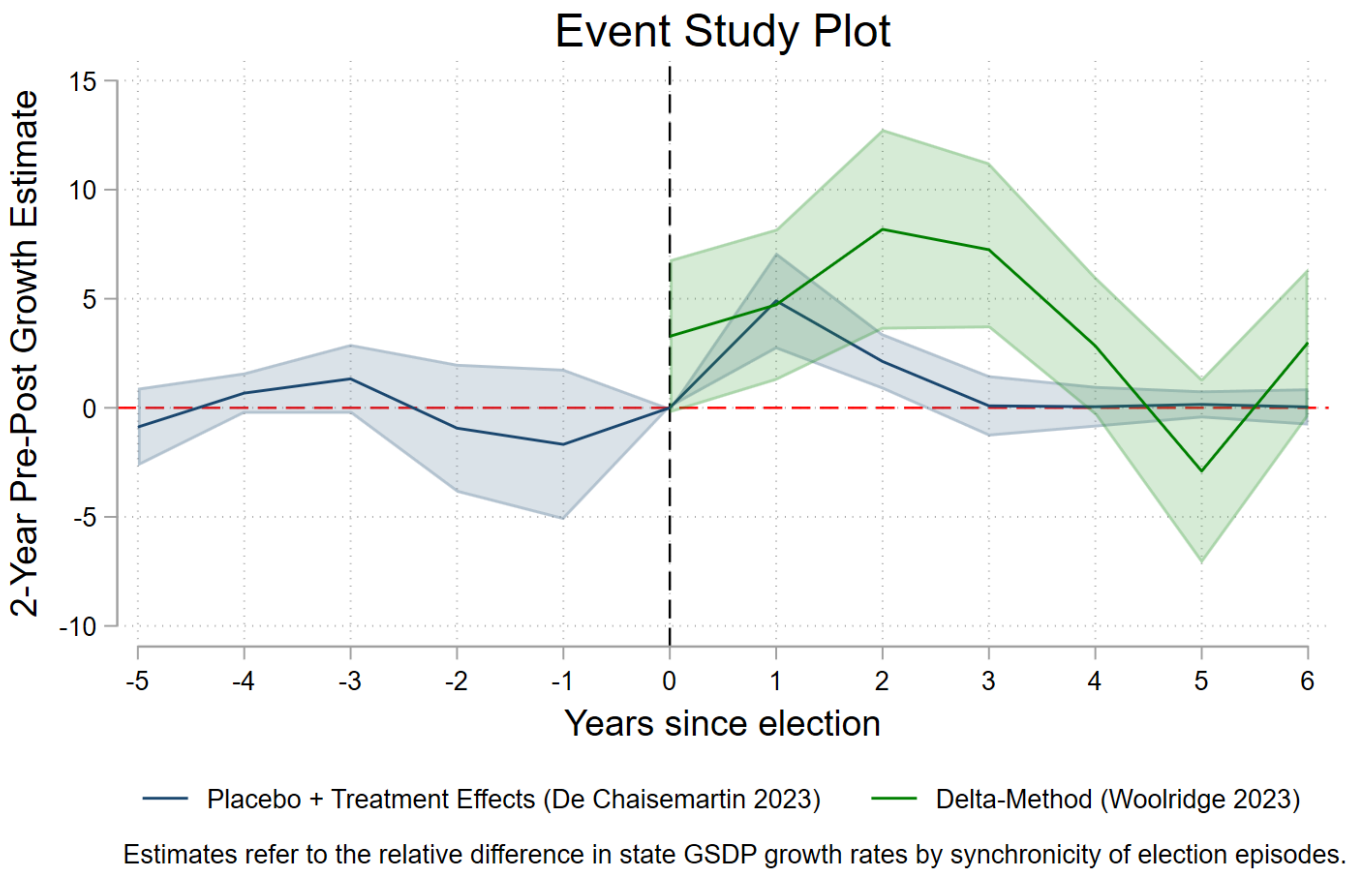
Notes. This figure shows the experience of states that experienced a move toward simultaneous elections but moved out of the treatment at a later point in time. Switchers-in and switchers-out confound the effects that we want to estimate which makes Two Way Fixed Effects (TWFE) infeasible for estimation.

Figure 8: National growth rate with synchronous elections as a continuous treatment



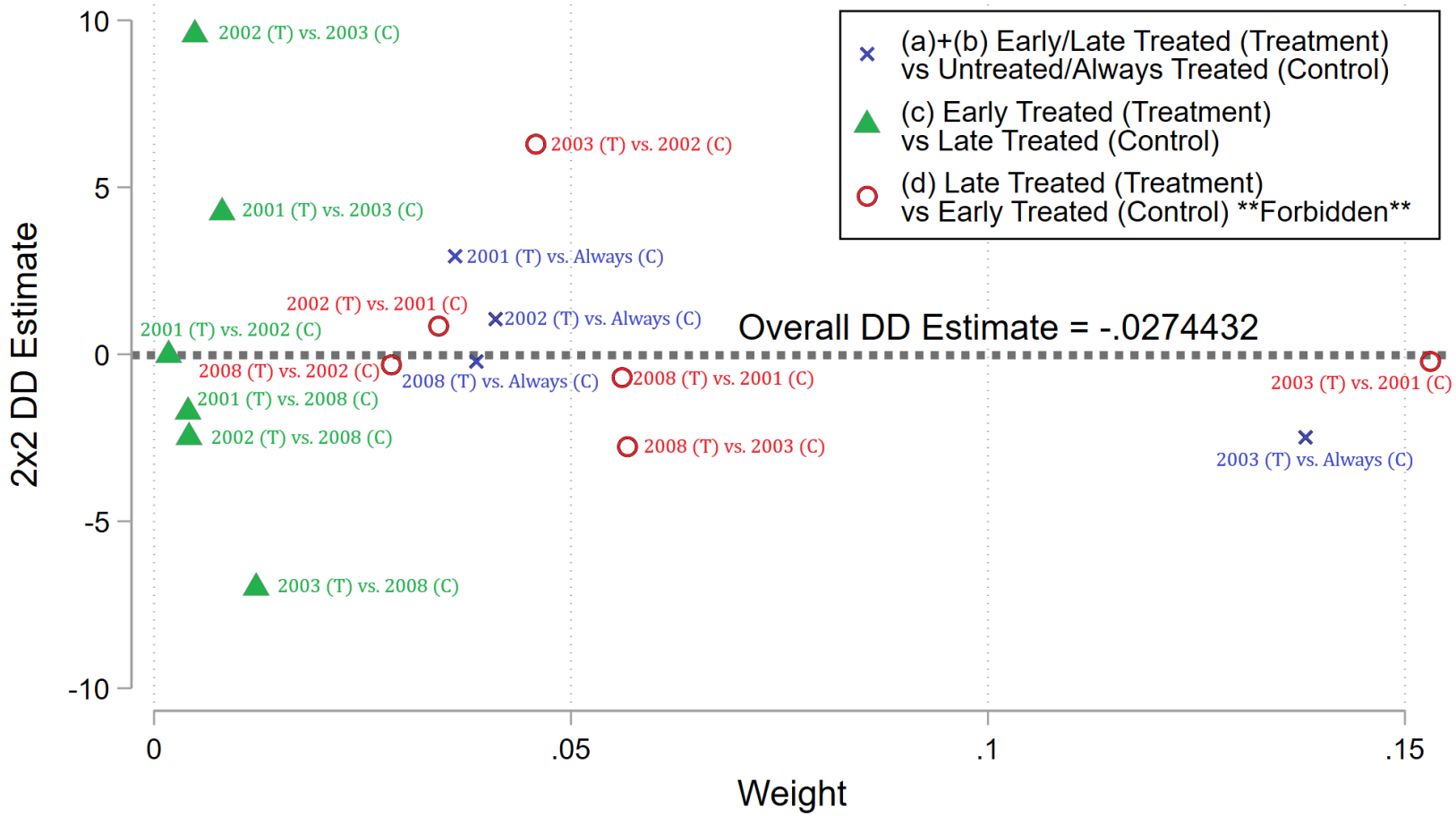
Notes. This figure plots the average treatment effect of experiencing a given number of state assembly elections simultaneously for each group of Lok Sabha elections grouped by the count of simultaneous elections on the national GDP growth rate. The sample period is 1961 to 2023. Source: RBI DBIE Table 222: Select Macro-Economic Aggregates - Growth and Investment Rates (At Constant Prices).

Figure 9: Event Study plot for States' 2-year Growth rate differences with switchers



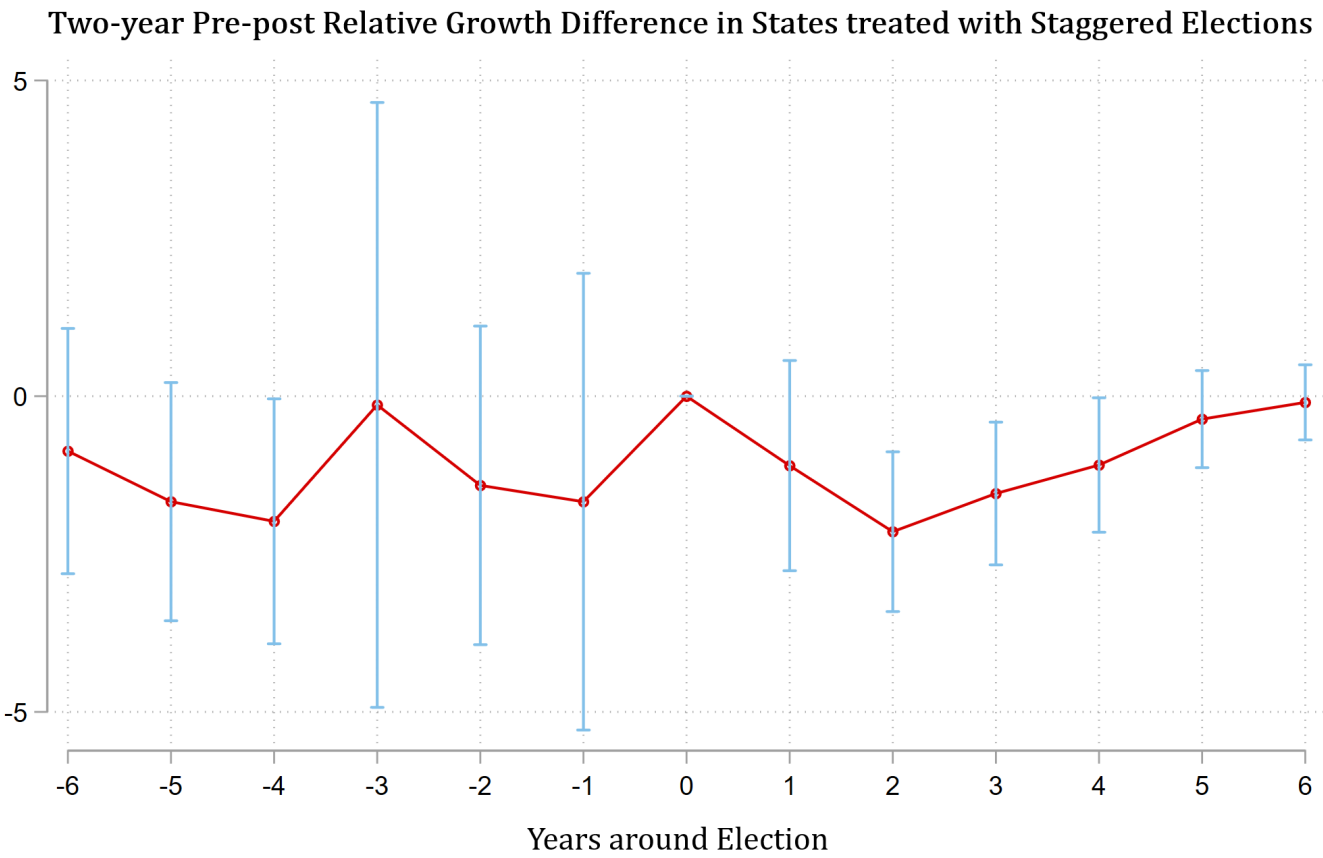
Notes. This figure plots the average treatment effect of experiencing a simultaneous election at the state assembly elections level following De Chaisemartin and d'Haultfoeuille (2023) and Wooldridge (2023). We find significant effects on real GSDP growth for states experiencing simultaneous elections in the years immediately after the elections relative to those states that had non-simultaneous elections. Both event study plots show positive and significant effects immediately after the election, with higher growth of 4.7 to 4.9 p.p. in the year after elections, the effects of which subside after 3-4 years.

Figure 10: Bacon Decomposition of TWFE - Impact of Non-Simultaneous Elections



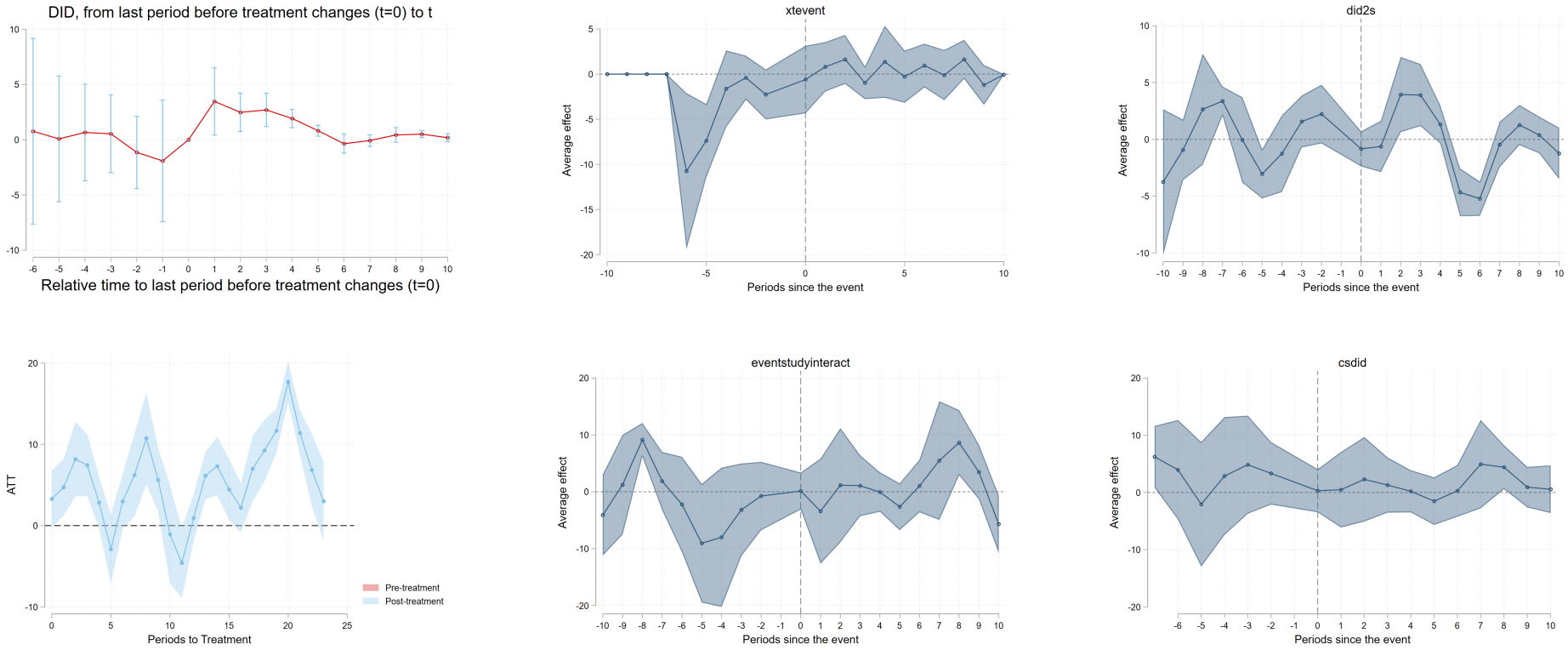
Notes. This figure plots disaggregated effects estimated referred to as the Bacon decomposition for the Post-1999 Truncated State-Year panel. This provides the constituent weights and estimates behind the Two Way Fixed Effect (TWFE). It helps us see whether there are any negative weights biasing the TWFE results.

Figure 11: Impact of Non-Simultaneous Elections on GSDP Growth after 1999



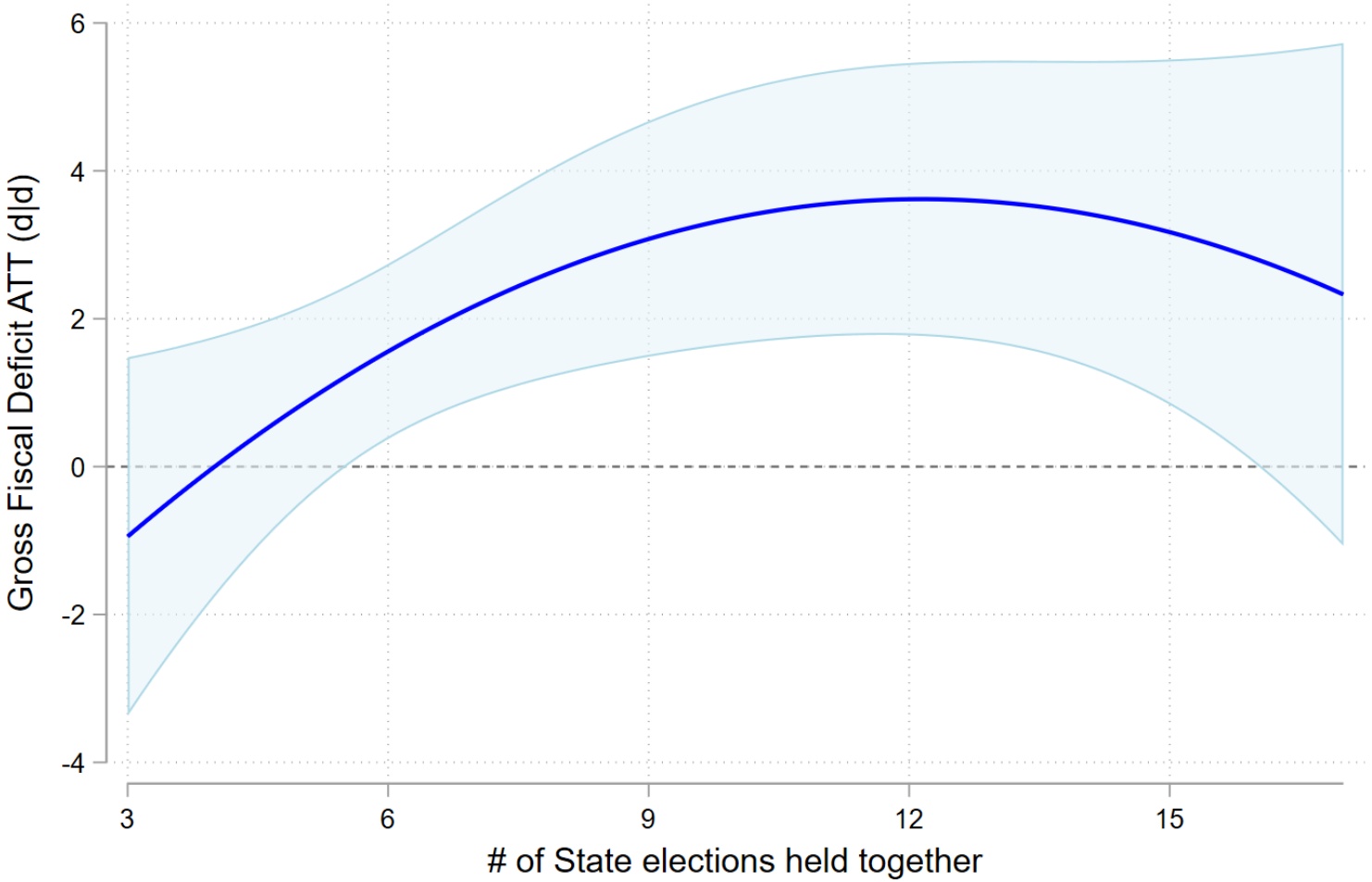
Notes.This figure plots the average treatment effect of moving to non-simultaneous elections on Indian states after 1999. Our method of estimation follows De Chaisemartin and d'Haultfoeuille (2023) and we find significant negative effects on real GSDP growth for states shifting to staggered elections in the years immediately after the elections relative to those states that had non-simultaneous elections. The negative and significant effects occur after the election, owing to greater disruptions due to a misaligned election cycle; the effects again which subside after 4-5 years.

Figure 12: Event Study Plots for State-level GDP Growth differences



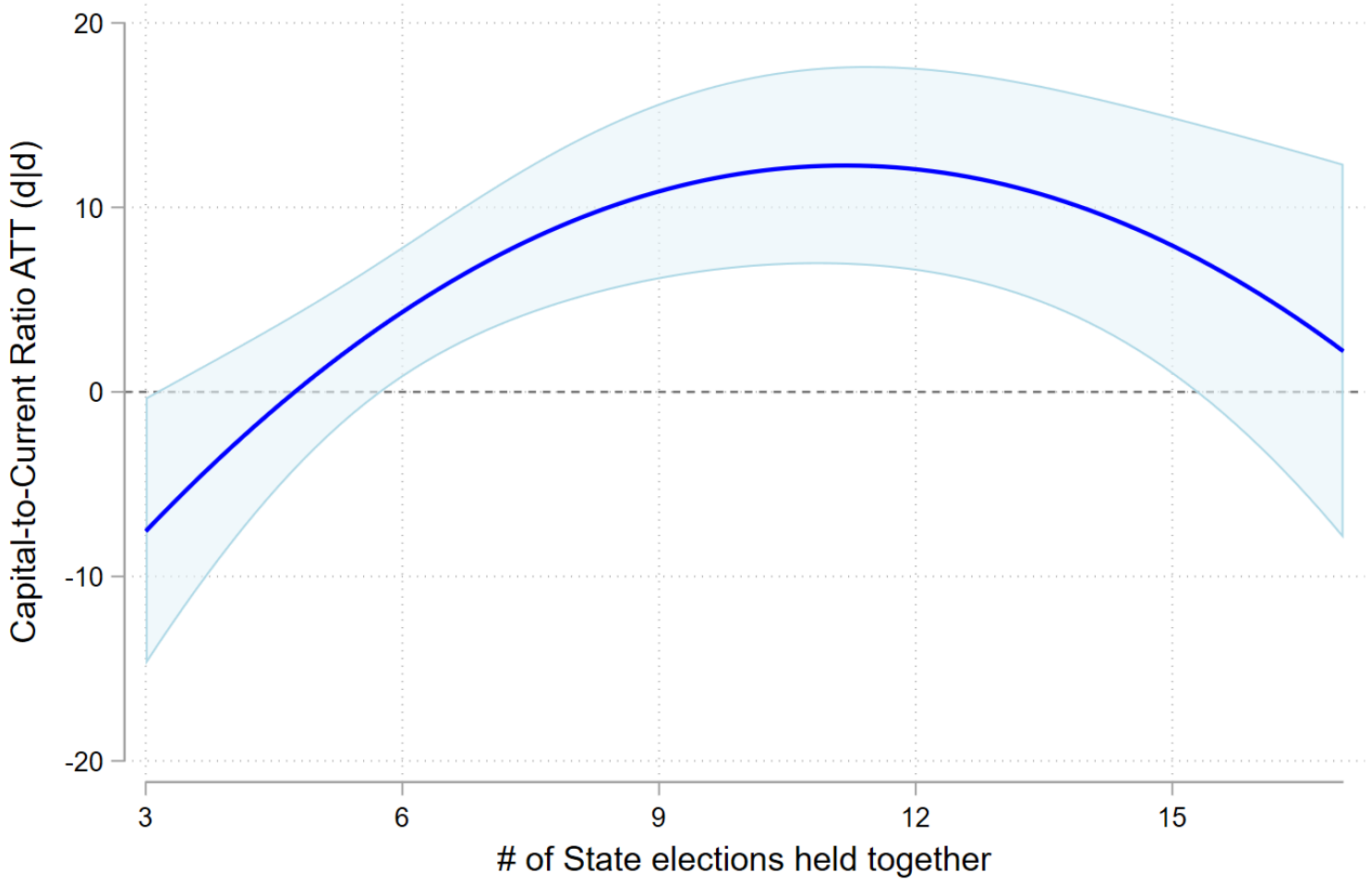
Notes. In clockwise manner, the estimation models used are following Chaisemartin and D'Haultfœuille 2024 , Freyaldenhoven, Hansen, Shapiro (2019), Gardner 2021, Callaway and Sant'Anna 2021, Sun and Abraham (2020), Wooldridge 2021 and Wooldridge 2023.

Figure 13: Fiscal deficit with synchronous elections as a continuous treatment



Notes. This figure plots the average treatment effect of experiencing a given number of state assembly elections simultaneously for each group of Lok Sabha elections grouped by the count of simultaneous elections on the Centre's Gross Fiscal Deficit. The sample period is 1971 to 2023. (Source: RBI DBIE Table 232: Select Fiscal Indicators of the Central Government (as percentage of GDP)).

Figure 14: Capital-to-current expenditure ratio with synchronous elections as a continuous treatment



Notes. This figure plots the average treatment effect of experiencing a given number of state assembly elections simultaneously for each group of Lok Sabha elections grouped by the count of simultaneous elections on the capital-to-current ratio. The sample period is 1991 to 2023. Source- Handbook of Statistics on Indian Economy: Table 95: Major Heads of Expenditure of the Central Government.

Table 1: Rising asynchronicity in Indian elections

Panel A: Decade-wise frequency of simultaneous elections

Decade	Simultaneous elections	Non-simultaneous elections	Total
1951-1960	35	4	39
1961-1970	33	14	47
1971-1980	34	34	68
1981-1990	27	30	57
1991-2000	30	24	54
2001-2010	13	47	60
2011-2020	15	46	61
2021-2024	8	21	29
Total	195	220	415

Panel B: LS election episodes with number of VS elections held simultaneously

LS election Year	Simultaneous elections	NS elections before next LS	Notes
1951-52	22	3	First elections held in 68 phases
1957	13	2	
1962	12	5	
1967	21	8	
1971	3	25	Fourth Lok Sabha prematurely dissolved
1977	17	9	Sixth Lok Sabha elected in the Emergency
1980	14	12	Coalition (Janata Party alliance) collapsed
1984-85	19	8	Voting delayed to 1985 due to insurgency
1989	8	10	
1991-92	8	19	Former PM Rajiv Gandhi assassinated
1996	6	1	
1998	9		Coalition (United Front) govt. collapsed
1999	7	25	Coalition (NDA) government collapsed
2004	6	25	
2009	7	22	
2014	8	23	
2019	7	23	
2024	8		
Total	195	220	

Notes. NS: Non-simultaneous, LS: Lok Sabha (Parliament or House of the People), VS: Vidhan Sabha (State legislative assembly). This table lists the number of simultaneous elections and non-simultaneous elections held in each decade (Panel A) and the number of simultaneous election episodes in each Lok Sabha election conducted (Panel B), since the Indian Constitution came into force in 1950. We define a simultaneous election episode to occur when a Vidhan Sabha election that is held in the same calendar year as the Lok Sabha elections. Non-simultaneous elections are defined analogously, such an episode is said to occur when a Vidhan Sabha election is held in a calendar year that does not feature a Lok Sabha election. We count the number of Vidhan Sabha elections held between the completion of one Lok Sabha election and the beginning of another, as the non-simultaneous elections before the next Lok Sabha elections. The total number of elections in both panels are equal, given that they will sum to the same number totals of simultaneous and non-simultaneous Vidhan Sabha elections. The table has been constructed based on election data from the ECI.

Table 2: Difference-in-difference with continuous treatment

VARIABLES	(1) Average effect 2yr Growth rate
Number of States = 3	-4.468***
	(0.0606)
Number of States = 5	4.265***
	(0.0606)
Number of States = 6	6.320**
	(2.153)
Number of States = 7	1.921
	(4.214)
Number of States = 8	6.330***
	(0.606)
Number of States = 9	4.422***
	(0.0606)
Number of States = 13	3.435***
	(0.0606)
Number of States = 15	4.356***
	(0.0606)
Number of States = 18	5.784***
	(0.0606)
Number of States = 21	7.667***
	(0.0606)
Lok Sabha Election Cycles	15
R-squared	0.583

Notes. This table reports results from estimating Equation (1) in the text. This table looks at the number of Vidhan Sabha elections held simultaneously with Lok Sabha elections as a multi-valued discrete treatment on India. We group Lok Sabha elections by the count of Vidhan Sabha elections held together. The coefficients produced in column (1) are the respective average treatment effects on the treated unit for each group of Lok Sabha elections, grouped by the count of simultaneous elections at the state level. The regression covers fifteen election cycles dating back to 1962. The dependent variable is the two-year pre-post difference in the real national GDP growth rate. The data on real GDP for India used here spans from 1960 to 2023. Standard errors are clustered at the state-level and reported in parentheses. ***, **, and * denote statistical significance at the 1, 5, and 10 percent levels.

Table 3: Summary of State GSDP Growth results (2-Year Pre-Post DiD)

	TWFE	De Chaisemartin (2023)	Woolridge (2023)
	(1)	(2)	(3)
Simultaneous Election=1	−0.087	4.904***	4.724***
	(0.271)	(1.132)	(1.776)

Notes. The sample period for the state×year panel spans from 1982 to 2023. Dummy variable on the left column is an indicator variable for simultaneous election treatment. This table reports estimates of the difference in the post-pre differences of dependent variables between simultaneous and non-simultaneous elections. The post-pre differences are calculated at a 2 year interval, before and after an election, and the TWFE results are printed in column (1). The TWFE are biased due to heterogenous effects, staggered treatment timing and switching in and out of treatment. We use DID methods that are robust to these issues. Column (2) reports robust estimates using de Chaisemartin and D'Haultfœuille (2023) while column (3) reports robust estimates using Woolridge (2023). All reported values in columns (1), (2) and (3) for nominal GSDP growth are given in percentage points of GSDP.

Table 4: Regression Results by Share of ACs in State with 5% Margin

Share of ACs in State 5% Margin	Number of Assembly Elections	Proportion of Sample	2-Year Pre-Post Growth Difference: 1st Year After Elections	2nd Year After Elections
10	127	57%	4.51***	1.63**
			(1.07)	(0.68)
20	106	48%	4.49***	1.63**
			(1.05)	(0.68)
30	84	38%	3.09***	2.01***
			(0.75)	(0.77)
40	55	25%	2.033	0.90
			(1.43)	(0.93)
50	33	15%	1.17	0.29
			(0.92)	(0.62)

Notes: Standard errors are clustered at the state-level and report in parentheses. ***, **, and * denote statistical significance at the 1, 5, and 10 percent levels.

Table A1: Descriptive Statistics for National and State Panels

Panel A: National Elections				
	Real GDP	Central FD	Capital to Current	GFCF
Mean	4.988	5.143	37.478	23.849
SE(Mean)	0.368	0.209	3.174	0.778
Median	5.515	5.080	29.814	24.484
SD	3.119	1.519	22.886	6.216
Observations	72	53	52	64
Panel B: State Elections - Full Sample				
	Real Growth Rate	1-Year Growth Diff.	2-Year Growth Diff.	1981 Real PC GSDP
Mean	6.516	0.059	-0.161	3,881
SE(Mean)	0.175	0.237	0.165	123
Median	6.500	0.011	-0.050	3115
SD	5.854	7.774	5.295	4,122
Observations	1,118	1,077	1,029	1,118
Panel C: State Simultaneous Elections				
	Real Growth Rate	1-Year Growth Diff.	2-Year Growth Diff.	1981 Real PC GSDP
Mean	6.669	0.150	-0.094	4,387
SE(Mean)	0.325	0.443	0.314	230
Median	6.627	-0.400	-0.150	3,708
SD	6.581	8.853	6.174	4,662
Observations	411	399	387	411
Panel D: State Non-Simultaneous Elections				
	Real Growth Rate	1-Year Growth Diff.	2-Year Growth Diff.	1981 Real PC GSDP
Mean	6.426	0.005	-0.201	3,587
SE(Mean)	0.203	0.271	0.185	141
Median	6.414	0.168	0.020	2,963
SD	5.388	7.069	4.691	3745
Observations	707	678	642	707

Notes: This table presents descriptive statistics for data sources used in this paper. Panel A presents summary statistics for all national elections between 1952-2023. Real GDP, fiscal deficit of the central government and gross fixed capital formation are given as percentage points of GDP. Capital-to-current spending ratio is given in percentage terms of revenue spending. The state×year sample includes 28 states and 3 union territories over 1982–2023 for a total of 1,118 observations. Panel B provides the state×year panel data (full sample: 1982-2023), including the treatment (simultaneous election) group in Panel B and the control group in Panel C. For three variables, annual real GSDP growth rate, the 1-year pre-post differences in state GSDP growth rates, the 2-year pre-post differences in state GSDP growth rates, and the initial GDP per capita in 1981 given in constant 1981 rupees. SE(Mean) denotes the standard error of the mean. Statistics for state growth are all in percentage points of GSDP.