Term Lengths and Legislative Performance*

Evidence from Natural Experiments in India

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1 Introduction

Term lengths – the length of period that representatives serve before contesting for re-election – can be an important factor that shapes incentives and legislative performance in legislatures around the world. There is a large variation in the length of terms that elected members enjoy – both across[1] and within countries[2]. Once the term of office is completed, members face re-elections in which they may or may not be elected back to their position. Thus, the scarcity of time created by the fixed tenures of office can affect an incumbent's priorities by influencing the efforts and activities that they prioritize during the run-up to elections.

There are theoretical reasons to believe that term lengths can change representatives' priorities (Schultz 2008; Gersbach, Jackson, and Tejada 2020). The limited time frame can compel politicians to focus on achieving their political goals within the constraints of their tenure, leading to a strategic allocation of resources and efforts. Shorter tenures could have benefits like increased accountability and responsiveness, that might justify the increased administrative burden and fiscal cost of frequent elections.

However, empirical tests of these theories face two limitations. First the literature on term lengths has entirely focused on legislatures to which members are directly elected (Titiunik 2016; Dal Bo and Rossi 2011; Fukumoto and Matsuo 2015; Gaines, Nokken, and Groebe 2012; Pomirchy 2023). The effect of shorter terms on members in an indirectly elected legislature might be different, perhaps due to differences in the characteristics of the legislators and the incentives faced by them. Second, most research designs to answer this question do not

[1] for a non-exhaustive summary see Supplementary Index of Titiunik (2016)

[2] For instance, in the United States, members of the House of Representatives enjoy a two-year term, whereas members of the Senate enjoy six-year terms

directly allow us to make causal interpretations without leveraging some form of natural experiments (Titiunik 2016; Dal Bo and Rossi 2011). This is because we typically observe how legislators behave once they have been assigned a particular term length and these are fixed for different legislatures. Given these constraints, researchers might turn to cross-national analyses, however, these suffer from unmeasured confounding.

In this paper, we address both limitations by making theoretical and empirical contributions. First, we introduce a novel theory of how term lengths may affect politicians in an indirectly elected house. Next, we leverage two natural experiments in the Indian context to test our theoretical propositions. While term lengths can affect a host of behaviors, like campaigning activities (Titiunik 2016; Gaines, Nokken, and Groebe 2012), policy support (Gersbach, Jackson, and Tejada 2020; Yamasaki 2020), and responsiveness (Titiunik 2016; Pomirchy 2023), we focus on one avenue of behavior that is public and consequential for policy-making – that is, on legislative performance.

While it is possible to measure legislative performance through the quality of laws enacted (Green 2013) in this paper, we focus on the quality of individual legislators' deliberative performance in public legislatures. Building on theories of selection and sanctioning models of political representation (Mansbridge 2009) and indirect legislatures (Bhatia 2022), we theorize that politicians assigned a shorter term in an indirectly elected house will not exhibit worse legislative performance.

Specifically, we argue that between the selection and sanctioning model of representation, the selection model dominates political representation in legislatures whose members are indirectly elected. In such contexts, legislators are positively selected (exhibit higher intrinsic qualities),

and perverse incentives of shorter terms will not undermine their legislative performance. These members are not only of a higher stature but also accountable to intermediary electors (as opposed to the general public) – dynamics that overcome any negative incentives created by shorter terms. Thus, in an indirectly elected house, members facing a shorter term will exhibit similar levels of legislative performance as compared to those serving longer terms. That said, when indirectly elected legislators are not positively selected – such as after by-elections – the perverse incentives created by shorter terms will in fact undermine legislative performance.

We test our theoretical propositions by leveraging two natural experiments in the indirectly elected Upper House of the Indian Parliament (the *Rajya Sabha*). In the first set-up, we look at a historical natural experiment in which a lottery was used to randomly assign the members of the newly composed *Rajya Sabha* to two-, four-, and six-year terms. This was done to stagger the entry and exit of members in a house where one-third of its members retire every six years. To the best of our knowledge, this is the first time this causal setting has been utilized, and given its clean design, can be leveraged to study the effects of term lengths.

Additionally, we set up a second study wherein members were quasi-randomly assigned varying lengths of terms triggered by the death of a sitting member of parliament (MP). While this setup does not lend itself to the same interpretations as a clean lottery, its major advantage is its potential to study the effects of term lengths on politicians on those without the strong intrinsic characteristics and prior experience seen in an indirectly elected house. Such a design is similar in spirit to earlier work that leverages deaths of MPs to study effects

of committee membership (Fong 2020), electoral cycles (Baskaran, Min, and Uppal 2015) and teacher absenteeism (Davies 2024).

We test the hypothesis that shorter terms hampers legislative performance by collecting data on a number of performance measures for each MP in the *Rajya Sabha* over a 40-year period. The data on legislative performance forms the outcomes for the two experiments. In line with our expectations, we do not find evidence that shorter terms hamper legislative performance in the indirectly elected house. Further, in the second experiment, we show that once politicians no longer have the superior quality that is typical of members in an indirectly elected legislature, shorter terms worsen legislative performance.

We make important contributions to the existing literature. First, we build on recent studies that study the determinants of legislative performance (Fong 2020; Kellermann 2009; Grumbach and Sahn 2020; Fagan and McGee 2020; Napolio and Grose 2021; Zelizer 2019; Ferraz and Finan 2009), and provide evidence on the conditions under which term lengths can affect the legislative performance of elected officials. Second, this paper contributes to a rich set of studies that concern dynamics comparing legislatures whose members are directly or indirectly elected. Direct elections have been shown to increase electoral accountability, legislative performance (Micozzi 2013), responsiveness towards the electorate (Gailmard and Jenkins 2009) and a moderation of ideology (Bernhard and Sala 2006). Our paper contributes to these studies by highlighting how institutional incentives interact with the mode of selection of members in an indirectly elected house to shape legislative behavior. Finally, we contribute to the literature on experiments and research designs within political institutions that attempt to study the behavior of political elites (Grose 2021). We do this

by proposing two identification strategies that can be leveraged to study the effect of term lengths across various comparative contexts.

2 Theoretical Framework

2.1 Term Lengths and Legislative Performance

Early work modeling the effects of term lengths propose that shorter terms can make politicians distort their policy preferences (Schultz 2008) and a small number of papers have tested the general negative effects of shorter terms that involve shirking on account of campaigning activities (Titiunik 2016; Gaines, Nokken, and Groebe 2012), changes in policy support (Gersbach, Jackson, and Tejada 2020) and responsiveness (Titiunik 2016; Pomirchy 2023). Dal Bo and Rossi (2011) and Titiunik (2016), most related to our contribution, find that shorter terms reduce legislative performance of members in directly-elected legislatures.

Our paper concerns the effect of shorter terms on members of *indirectly elected legislatures*, such as members of the German Bundesrat (whose members are delegated by the respective state governments) or the French Senate (whose members are elected indirectly by 150,000 officials). We argue that in indirectly elected legislatures, representatives are typically chosen through a process that emphasizes experience, competence, and internal party support. This process is more aligned with the selection model of representation, and favors intrinsically motivated and high-ability politicians. shorter term lengths do not diminish their legislative performance. An intermediary body of elected members typically chooses representatives in an indirectly elected legislature, and consequently, such legislators have longer and more

influential political careers. These factors can ensure that such members are insulated from public pressures, which can help them prioritize long-term policy goals.

2.2 Selection and Sanctioning in an Indirectly Elected Legislature

Two models of political representation have been pointed out in the political science literature (Mansbridge 2009). The first is a model based on *sanctions*, wherein the principals (voters) need to monitor their agent (the elected representative) to reward or punish them. Such monitoring becomes important since the interests of the representative and voter are at odds with each other. The second is a model based on *selection*, wherein the principles and agents are aligned in their objective, even in the absence of incentives and sanctions. This is because the agent is internally motivated to pursue certain goals.

While both models can be at play in practice, early investigations into this topic showed the operation of both can be issue-based – for instance, the selection model may be more applicable when applied to member's stances on social welfare issues while the sanctioning model would dominate how representatives behave with respect to civil rights issues (Miller and Stokes 1963). We see the selection model in operation when researchers test whether representatives' behaviors align with their constituents or are independent of them. For example, representatives make voting decisions independent of their constituent's opinions (Matsusaka 2010), and when positions adopted by parties are not influenced by low-income citizens (Rigby and Wright 2013). On the other hand, we see the sanctioning model at play in the influential theories introduced by Mayhew (2004), which discusses that re-election is the primary motivation for representatives. We further see this in work that discusses the role

of elections in punishing representatives (Przeworski 1999) and how the lack of re-elections incentives decreases productivity (Fouirnaies and Hall 2022).

Clarifying the dominant model of political representation at play in an indirectly elected legislature is the key to understanding how incentives may affect the behaviors of elected legislators. Our main argument is that the selection model dominates political representation in an indirectly elected legislature, due to the agents' intrinsic motivations and the alignment of objectives of the principals and agents in an indirectly elected legislature, elaborated in the following section. Further, such elections are conducted in high-information environments, wherein sitting members and senior members of political parties significantly influence nominations and the eventual outcome of the elections.

2.3 Selection Model in an Indirectly Elected Legislature

We start by noting that indirectly elected legislatures elect representatives through intermediary electors as opposed to being directly elected by citizen voters. Candidates need to navigate complex political dynamics and build alliances with influential party members and sitting members, who are the key decision-makers as they form the pool of electors. Thus, the principals (electors) are the electoral college that would elect the representatives (agents) who would act on their behalf.

Historically, indirect elections have been justified using two rationales: first, indirectly elected members are characterized by superior quality that enhances the competence of the legislature and second, they may be desirable in young democracies with lower levels of development wherein voters are illiterate and may not be able to elect the "right kinds of men" (Bhatia

2022). Indirectly elected members go through "successive filters" (Bhatia 2022), wherein first citizens elect members to sub-national legislatures, and these further elect members to the national parliament. This process results in the election of candidates with greater experience and strong intrinsic motivations – their stature makes them resilient to any possible negative incentives created by shorter terms.

Given these dynamics, the selection model of political representation is more appropriate to characterize behavior in a house where members are indirectly elected. The selection model of representation involves an alignment of objectives between the principal and agent (Mansbridge 2009), which is assured by design. While intermediary electors (like state legislature members) may be tasked with electing the agent, the agent's accountability is primarily directed towards the influential elites within the party ranks, which makes their purpose "line up naturally". Further, Mansbridge (2009) explains that the selection model of representation is characterized by agents with high intrinsic motivation and greater competence who act in the public interest to achieve long-term goals. The goal of political representation under a selection model is to select representatives of a "good type" based on beliefs and principles (Fearon 1999). Legislatures with indirectly elected members attract a certain "type" of candidate - one who has had a long political career, previous experience legislating in sub-national legislatures, and who can signal their greater competence as well as alignment with long-term party objectives, in order to meet the expectations of the intermediary electors.

Selection-based systems also involve monitoring and accountability. Monitoring an agents' action in an indirectly elected house involves standards of performance imposed by inter-

mediary electors which are different from those imposed by the general public. While the general public may incorporate information and assess performance based on how they are personally affected, intermediary electors (typically other politicians) are more attuned to the nuance of policymaking and assess the representatives' ability to remain accountable to the party leadership and policies. Thus, they are more likely to weigh in factors like policy and legislative success in assessing a representative's performance. Agents are aware of this dynamic and thus do not shirk from their legislative responsibilities in order to maintain their reputation within their political networks.

For these reasons, we expect that negative incentives produced by shorter terms do not affect the actions of elected members in an indirectly elected house. Members elected to an indirectly elected house will continue to prioritize legislative performance to remain accountable to their intermediary electors to further their professional reputations and political careers, and will continue to realize these gains even if they hold their position for a shorter period.

2.4 Observable Implications

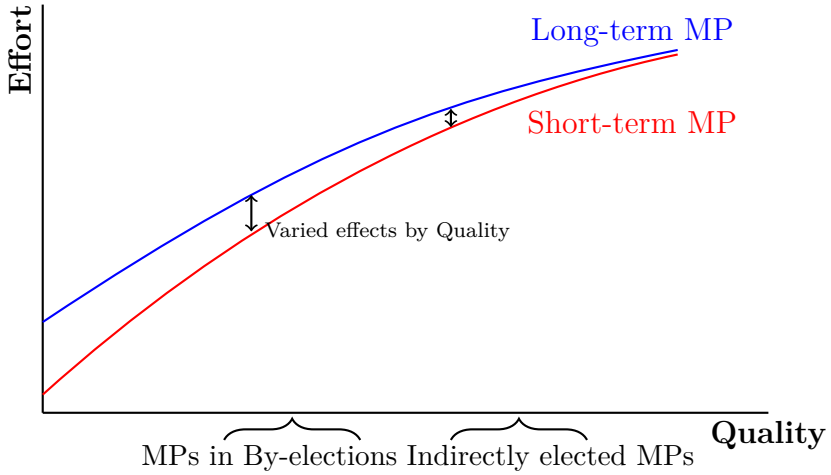
Given the electoral dynamics faced by members in an indirectly elected house, our main expectation is that members facing a shorter term will exhibit similar levels of legislative performance as compared to members serving a longer term. We set up our empirical case in the following section and demonstrate results from a unique natural experiment to test the observable implications of this theory. The confirmation of our hypothesis may imply that we have indeed found evidence that the effects of positive selection in an indirectly elected house dominates the negative incentives created by shorter term lengths.

We confirm our findings by leveraging a context within the same house wherein the positive selection effects are less likely. We show this empirically leveraging a second natural experiment, where we take advantage of a set-up in which we study the effect of shorter terms on legislators who are indirectly elected during by-elections within a term. During by-elections, the selection model is no longer dominant. While members of an indirectly elected house are typically of a higher quality, the context and timing of by-elections can make members elected during such periods quite different from those elected during a regular cycle. By-elections are typically conducted to fill vacancies on account of a sitting member's death, resignation, or disqualification. These are held on an "urgent" basis and involve a smaller pool of potential candidates. These constraints reduce competition, resulting in an inferior pool of elected members (as compared to those elected on the regular cycle).

While such members are still indirectly elected by the intermediary electors and do not have to be involved in public campaigns for re-election, they no longer have the high levels of intrinsic characteristics as seen in politicians elected during the regular cycle. They face greater upfront costs, given they lack governmental experience and seniority like their counterparts. Once assigned shorter terms, they do not have enough time to learn and contribute to legislative activities and instead shirk from their duties. Thus, our theoretical expectation is that members elected during by-elections facing a shorter term in an indirectly elected house will exhibit lower levels of legislative performance as compared to members serving longer terms. We summarize our expectations visually in Figure 1.

In the next section, we introduce our empirical context and lay out the natural experiments that we analyse.

Figure 1: Theoretical Expectations



Note: Our main expectations are that the higher intrinsic qualities of indirectly elected MPs overcomes negative incentives created by shorter terms: thus, their legislative effort is similar to that of their peers assigned longer terms. However, when such MPs are elected during by-elections (periods wherein the positive selection no longer holds), we expect that shorter terms would depress an MPs legislative effort as compared to those assigned longer terms.

3 Empirical Context

In 1952, the first Parliament of "Independent India" came into existence, two years after the Indian Constitution was officially adopted with which India became a Republic after over 200 years of British Colonial Rule.

A unicameral Constituent Assembly first met in 1946 and served as a legislature till the first elections were held in 1952. The utility of a second chamber was debated, and ultimately, the assembly decided to have a bicameral legislature. Thus the 'Rajya Sabha' was created, whose mode of election and composition differed from the directly elected 'House of People' (Election Commission of India 1955).

The *Rajya Sabha* is a federal chamber, whose members are typically elected by State Assemblies, with a small share nominated by the President of India. The entire house is

not subject to dissolution - one third of the members retire every second year. While the House of the People (*Lok Sabha*) enjoys some greater powers in law-making over the *Rajya Sabha*, particularly pertaining to financial matters[3], members of the two Chambers enjoy similar powers, privileges and responsibilities. The strength of the *Rajya Sabha* has gradually increased over the years - from 216 members in 1952 to 245 members in 2024.

We highlight the settings in which these two studies are based. The first experiment is based in a time when India had just gained independence from British Colonial Rule. Several MPs from the first study took part in the freedom movement - by engaging in agitation, political organisation or drafting the constitution, and are largely more elite and less representative of the population at the time. This is a context in which the selection model of political representation is dominant. MPs in the second study are elected on account of untimely deaths of sitting MPs - given the unexpected nature of the event, parties do not have a large pool of able candidates to choose from, and hence the MPs who are actually selected may not be of the highest quality. By-elections are instances wherein the selection model of political representation is no longer dominant.

In the following table, we conduct a Welch Two Sample t-test to test whether the samples of MPs in the two studies are indeed different. The t-test tests the hypothesis that the two populations have equal means. Table 1 shows that MPs in the two experiments are considerably different. While the MPs in 1952 and the MPs elected through by-elections have similar ages, the MPs in 1952 are more likely to be from a legal background, are more

[3]In particular, only the *Lok Sabha* can pass or modify money bills that regulate taxes and government spending such as the annual budget. The Council of Ministers is only responsible to the *Lok Sabha* and these members alone can initiate no-confidence and adjournment motions among others to discipline the executive branch

Table 1: Comparing the two samples

	MPs in 1952	MPs post bye elections	p-value
Age	50.54	NA	0.36
Law background	0.36	0.21	0.02
Previous Legislative Experience	0.43	0.29	0.03
Higher Education	0.79	0.45	0.00
Future Terms Served	0.75	0.73	0.88

Note: Comparison of background of members elected in 1952, who form the sample for the first experiment and members elected through by-elections, who form the sample for the second experiment. Each characteristic takes the value 0 or 1, with higher values denoting higher probabilities. We observe that members in the first experiment are more likely to be lawyers, more likely to have previous legislative experience and are more likely to have higher education.

likely to have previous legislative experience and are more educated. Importantly, almost 80% of MPs in 1952 have a graduate or a post-graduate degree, at a time when the literacy in India was a little above 18% (1952 Census of India).

We conclude that the characteristics of the MPs in the two samples are very different. We argue that these two cases satisfy our conditions: while the first experiment studies the effect of term lengths on legislative performance in an indirectly elected house, the second experiment studies the effect of term lengths on legislative performance in an indirectly elected house when the selection model is no longer dominant. Leveraging the two experiments, we are able to estimate the effects of term lengths on legislative performance in indirectly elected legislatures.

4 Study 1: 1952 Lottery

As discussed in the previous section, the members of the Rajya Sabha are elected by electoral colleges from their respective state assemblies, for a period of six years. Being a continuous body, a third of the members retire every two years. This design gave rise to a natural problem of how to stagger membership in the House in the first Parliament.

Elections were held in 1951 and early 1952 for the Lok Sabha and various state assemblies. All representatives of the States (other than Jammu & Kashmir, Kutch and Tripura[4]).

On the 4th March, 1952, the elected members elected the Rajya Sabha. These elections were completed by the end of March, 1952. The names of all winners were published in the Gazette of India on the 31st of March, 1952, while the names of the nominated members were published on 2 April 1952 (Election Commission of India 1955).

4.1 Identification Strategy

The assignment of terms of office to members can be leveraged as a natural experiment, since the length for which each member would remain in the house was assigned by drawing lots in public. This is a common empirical strategy that leverages randomized natural experiments in legislative chambers, that may arise during redistricing (Titiunik 2016) or constitutional reforms (Dal Bo and Rossi 2011).

The natural experiment in the Indian case arises out of a constitutional reform post independence from colonial rule. Once elected, the Rajya Sabha met on 3 April 1952, to

[4]For Jammu and Kashmir, representatives were chosen by the President on recommendation of the State Government. For Kutch and Tripura, members were elected through electoral colleges

conduct its activities, and members continued to participate in the house. The President, after consultation with the Election Commission, published the Council of States (Term of Office of Members) Order on 26th September 1952, which stipulated the time and place where lots will be drawn to determine whether terms of members expire in 1958, 1956 or 1954. At the same time, they published a table which stipulated how many members from each state would be placed in the first (retirement in 1958 or a six-year term), second (retirement in 1956 or a four-year term) or third category (retirement in 1954 or a two-year term) as depicted in Figure 2. The names of members in each category were to be determined by drawing lots in public by the Chief Election Commissioner to determine the category to which each member was to belong (Election Commission of India 1955). Of the 216 members, the members representing the regions of *Ajmer and Coorg* and *Manipur and Tripura* were assigned a fixed two-year term, while 72 members were to be assigned a six-year term, and 71 members assigned to a four-year or a two-year term. Finally, on the 29 November, 1952, the names of members were published along with their allotted date of expiry of their term in office.

One threat to the identification strategy is whether there was potential manipulation while drawing the lots. This is a concern since the stakes were high for members who had been elected to the very first Parliament. Special provisions (through manipulation) could have been made for senior or influential legislators that had participated in the freedom movement, by providing them with longer or more secure terms. Favoritism could also have been extended based on background characteristics like party affiliation, by assigning longer terms to members of the ruling party. Finally, the performance of members during the first two

Figure 2: Council of States, Terms of Office Order

Groups of Members	Number of members to be placed in		
	First Category	Second Category	Third Category
1. Representatives of Assam	2	2	2
2. ,, ,, Bihar	7	7	7
3. ,, ,, Bombay	6	6	5
4. ,, ,, Madhya Pradesh	4	4	4
5. ,, ,, Madras	9	9	9
6. ,, ,, Orissa	3	3	3
7. ,, ,, Punjab	3	2	3
8. ,, ,, Uttar Pradesh	10	11	10
9 ,, ,, West Bengal	5	4	5
10. ,, ,, Hyderabad	3	4	4
11. ,, ,, Jammu and Kashmir	2	1	1
12. ,, ,, Madhya Bharat	2	2	2
13. ,, ,, Mysore	2	2	2
14. ,, ,, P.E.P.S.U.	1	1	1
15. ,, ,, Rajasthan	3	3	3
16. ,, ,, Saurashtra	1	2	1
17. ,, ,, Travancore-Cochin	2	2	2
18. ,, ,, Vindhya Pradesh	1	1	2
19. ,, ,, Bhopal, Bilaspur-cum-Himachal Pradesh, Delhi and Kutch	2	1	1
20. Members nominated by the President	4	4	4
	72	71	71

Note: Official order that groups members by states and assigns them to a six, four or two-year term (first, second and third category respectively)

sessions (spanning 38 days) of the House could have be taken into account, and the high-performers could have been rewarded with longer terms. We study parliamentary reporting during the period from 1952 to 1953 in newspaper archives and conduct a series of balance tests and show the length of term was indeed randomized.

4.1.1 Evidence from newspaper archives

First, we assemble the universe of articles in the Times of India (India's largest daily by readership) for articles on the "Rajya Sabha" or the "Council of States" between 1952 and 1953, particularly looking for any discussion on member terms and lotteries conducted to assign term lengths. We found several articles that discussed the public lottery, however, did not find any articles that discussed any manipulation. We did find articles that discussed similar state lotteries that had assigned a shorter term to a Chief Minister, indicating that even the senior-most members of the house could be assigned shorter terms. The Times of India also ran a weekly bulletin called "Week in Parliament" which discussed the house proceedings and controversies[5]. There were no reports of protests or expressions of displeasure regarding the ballot process that determined the lengths of terms, which increases our confidence in the fact that the treatment assignment mechanism was not being contested in the public sphere.

4.1.2 Evidence from balance tests

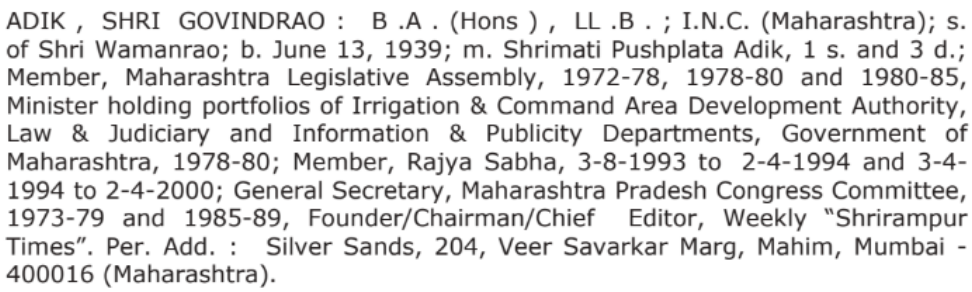
Second, we conduct two balance tests on pre-treatment covariates associated with the background and legislative performance of members. We digitize a large dataset on member characteristics using the bio-data of MPs which is self-reported information about each member that had to be provided for publication. We reproduce these details for one member in Figure 3.

From this information, we are able to capture and produce the following variables: gender of the MP[6], educational background, political party affiliation, professional background, age,

[5]Week in Parliament: The Council Protests, Parliament House, BG, The Times of India (1861-2010); Nov 30, 1952; ProQuest Historical Newspapers: The Times of India pg. 11

[6]using the title 'shri' or 'smt' as well as 's. of' or 'd. of' which translates to 'son of' or 'daughter of'

Figure 3: Example of an MP's published bio-data


ADIK , SHRI GOVINDRAO : B .A . (Hons) , LL .B . ; I.N.C. (Maharashtra); s. of Shri Wamanrao; b. June 13, 1939; m. Shrimati Pushplata Adik, 1 s. and 3 d.; Member, Maharashtra Legislative Assembly, 1972-78, 1978-80 and 1980-85, Minister holding portfolios of Irrigation & Command Area Development Authority, Law & Judiciary and Information & Publicity Departments, Government of Maharashtra, 1978-80; Member, Rajya Sabha, 3-8-1993 to 2-4-1994 and 3-4-1994 to 2-4-2000; General Secretary, Maharashtra Pradesh Congress Committee, 1973-79 and 1985-89, Founder/Chairman/Chief Editor, Weekly "Shrirampur Times". Per. Add. : Silver Sands, 204, Veer Savarkar Marg, Mahim, Mumbai - 400016 (Maharashtra).

previous experience as a legislator, and whether the member was a part of the Constituent Assembly and whether the member was assigned a position as a minister[7]. Finally, we also code whether a member holds a ministerial position in the house. All minister assignments coded in the dataset are assigned prior to treatment being assigned.

We find that different term groups are balanced across demographic characteristics, as seen in Table 2. We see that the coefficients are balanced across all covariates, except for previous experience in provincial legislatures which has a p-value of 0.08. The p-value of the F-statistic is 0.95 when the assigned term length is regressed on all characteristics. Since the p-value is larger than 0.05, we can conclude that the model is not significant, and we accept the null hypothesis that the coefficients of the predictors are jointly 0. In other words, the pre-treatment characteristics are not significant predictors of the assignment (either individually, or together), ruling out any favoritism across demographic characteristics.

Next, we construct a variables for each member on their legislative performance during the pre-treatment period of interest. This includes their attendance[8], parliamentary questions

[7]We obtain information about these member's positions in the council of ministers using a newly assembled dataset on Indian Council of Ministers.: TCPD-ICOM, https://tcpd.ashoka.edu.in/indian-council-of-ministers/, Trivedi Centre for Political Data

[8]We were able to confirm with the officials at the Rajya Sabha that member's attendance was not being registered in the early years, we are able to proxy for this using member's requested 'Leave of Absence' for

Table 2: Outcomes balanced in the pre-treatment period

	Short Term	Long Term	p-value t-test	p-value KS-test
Male	0.93	0.93	0.98	-
High School	0.13	0.12	0.86	-
Graduate	0.48	0.46	0.78	-
Post Graduate	0.35	0.28	0.31	-
Congress	0.72	0.68	0.57	-
Independent	0.04	0.06	0.52	-
CPI	0.03	0.06	0.37	-
Nominated	0.06	0.06	0.98	-
Lawyer	0.35	0.36	0.90	-
Member of CA	0.18	0.19	0.84	-
Age	50.77	50.07	0.69	0.91
Minister	0.04	0.03	0.58	-
Prev LA/LC	0.39	0.51	0.08	-
Prev Exp (Yrs)	10.14	9.17	0.55	0.65

Note: Comparison of the background of members who are assigned the shorter term (two or four years) and the members who are assigned the longer term (six years). These take values 0 or 1, except for Age and Prev Exp (Yrs), which are continuous. The large p-values from the t-test and the Kolmogorov–Smirnov test (for continuous variables) indicate that the members assigned shorter terms are similar to those assigned longer terms. Additional tests in Appendix Table A1 and A2.

Table 3: Baseline outcomes balanced between treatment and control groups

	Short Term	Long Term	p-value t-test	p-value KS-test
Attendance	37.03	36.96	0.92	1.00
Questions	3.01	4.54	0.28	0.66
Debates	6.11	7.88	0.40	1.00
Private Bills	0.14	0.14	0.97	1.00

Note: *p<0.1; **p<0.05; ***p<0.01. Comparing baseline (pre-treatment) measures of performance for those who are assigned the shorter terms (two or four years) and the members who are assigned a longer term (six years). The large p-values from the t-test and the Kolmogorov–Smirnov test (for continuous variables) indicate that the members assigned shorter terms are similar to those assigned longer terms on baseline levels of performance. Additional tests in Appendix Table A3 and A4.

participated in, short notice questions raised, the number of debates participated in and the number of private member bills introduced by the member.

We find that members are also balanced across their legislative performance at the baseline as shown in Table 3. Regressing the baseline outcomes on the assigned term length, we obtain a p-value of 0.9 for the F-statistic. Once again, since the p-value is larger than 0.05, we can conclude that the model is not significant, and we accept the null hypothesis that the coefficients of the predictors are jointly 0. In other words, the pre-treatment legislative performance of members is not a significant predictor of treatment assignment, ruling out the possibility of preferential treatment to high-performing legislators.

The results of the balance test, along with the absence of reporting regarding lottery manipulation in newspaper archives increases the credibility of our identification strategy.

particular days of the session. Results for this attendance variable should be interpreted with caution as we find that it is most commonly used on grounds of ill-health.

4.2 Measuring Outcomes

Our main outcome of interest is legislative performance by members of the Rajya Sabha, based on analogous measures of performance studied in the Senate and the US House of Representatives (Matthews 1973; Olson and Nonidez 1972). The Rajya Sabha maintains a website that provides information on the members[9] and their activities during the sessions[10]. We look at several parliamentary tools available to members and derive these from the official proceedings of the house that are scraped from the websites of the Rajya Sabha, which includes session and term-wise information on the individual efforts between 1952 and 1956.

We construct four measures of legislative effort: attendance, number of parliamentary questions raised, the number of debates participated in and the amount of private member's activity.

Attendance: While attendance was not formally registered in the House during the early years of the Parliament, we use requests for 'Leave of Absence' put forward by individual members as proxies for their house attendance. These typically involve the dates or period for which the member is requesting absence, as well as the reasons thereof. The Chairman of the House typically grants the leave - and this period is subtracted from the total days of house sittings to arrive at the attendance for individual members. The other outcome measures are directly constructed from the debates repository.

Parliamentary Questions: To study individual member initiatives to ensure accountability of the executive to the parliament, we use a dataset of parliamentary questions, which are the

[9]Rajya Sabha Official Website: rajyasabha.nic.in
[10]Rajya Sabha Official Debates: http://rsdebate.nic.in/

most important tool to request information and check the activities of the government.

Discussion on Bills: One of the core duties of the members elected to the Rajya Sabha is their contribution to law-making. Members participate in discussion on bills that are introduced by the Government or Private Members. Names of members who are to participate in bill discussion are given by party leaders or "whips", and are not indicative of individual effort, but rather the dynamics within parties.

Private Member's Activity: We put together data on the various ways in which members can engage in private member's activity. Private members are members who are elected legislators who are not ministers, but who would like to introduce legislation in the house. Members engage in this activity by introducing new legislation and participating in debates during legislation involving private members bills.

4.3 Estimation Strategy

As discussed before, the staggered entry and exit of members in the Rajya Sabha was determined by drawing lots. While the house consisted of 216 members, we exclude two members from our analysis, putting our sample to 214 whose term lengths were randomly assigned[11].

A member was assigned to one of three groups through the lottery - those who would serve a six-year, four-year or a two-year term. For the purpose of some of our analyses, we define a 'short-term' treatment as MPs who are assigned to serve two or four-year terms, as opposed to regular six-year terms as prescribed in the Indian Constitution, and demonstrate robustness

[11]Two members were excluded from our analysis since their terms were fixed (and not assigned by drawing lots). These were representatives of 'Manipur & Tripura' and 'Ajmer & Coorg'

to alternate definitions of the treatment for such analyses in the Appendix.

This design has several advantages over the previous approaches. First, given that the lottery was conducted in November of 1952, we are able to observe members' behavior in the house before the lottery between April and November 1952 - this spanned the first few sessions of the Parliament, for which we have data for each MP. This helps us control for baseline values of performance. Second, term lengths are randomly assigned at the individual MP-level (blocked by state) as opposed to at the district or state level[12], and thus does not require additional assumptions.

As seen in Figure 2, each state had a pre-determined total number of members, and these were to be assigned to each category in approximately similar proportions. The design is similar to a block randomized experiment, and we see from Figure 2 that within each block, the probabilities of assignment to treatment condition are slightly different. For instance, while MPs from Bombay can be assigned to treatment with a probability of 0.666, MPs in Saurashtra can be assigned to treatment with a probability of 0.75. It is important to adjust for this, as they could lead to bias in the treatment effects (Gerber and Green 2012) if we do not account for them.

Given this set-up, we can estimate two quantities – the average state-level treatment effect of term lengths on legislative performance, and the average individual treatment effect of term lengths on legislative performance.

We estimate the average block-level treatment effects using the Least-Squares Dummy Variable (LSDV) estimator (also commonly known as the one-way fixed effect model). This means

[12]see Dal Bo and Rossi (2011); Titiunik (2016) for details

that we simply control for the blocking variable in the regression analysis - in this case, it is the state. Each state is analysed as a mini-experiment, and we compute the average of the treatment effect across states. The estimating equation can be written as below:

$$Y_{ij} = \beta_0 + \beta_1 Term_2 + \beta_2 Term_4 + \beta_3 BaselineY_i + \delta_j + u_{ij} \quad (1)$$

We compute outcomes for the period 1952-54 (when all three groups are present in the house), wherein i indicates each member, j indicates the state and u_{ij} is the normally distributed error term. Y_{ij} is the scaled outcome variables for each member: attendance, number of questions raised, debates participated in and private members activity[13]. We control for the blocking variable (state - δ_j) and pre-treatment baseline outcomes indicated by $BaselineY_i$. We present results controlling for individual level demographic characteristics for robustness in the Appendix Section 2.1 (Table A5). β_1 and β_2 are treatment effects of interest – the effect of being assigned to a shorter term of two years or four years respectively.

4.4 Results

In Table 4, we examine the effects of term lengths on the four outcomes: attendance, number of parliamentary questions, participation in debates and participation in private members' activity. Table 4 computes average of block-level treatment effects and robust standard errors. Term lengths does not decrease legislative performance - the p-values for the four outcomes do not meet conventional levels of statistical significance. Thus there is not enough empirical

[13]measured as the number of private members bills introduced or debated

evidence to conclude that term lengths affect legislative performance in this context.

Table 4: Term Lengths and Legislative Performance

	Dependent variable:			
	Attendance	Questions	Debates	PMA
Short Term (2)	0.08	−0.05	0.001	−0.14
	(0.17)	(0.09)	(0.07)	(0.15)
Short Term (4)	0.04	−0.09	0.08	−0.03
	(0.17)	(0.09)	(0.07)	(0.15)
Baseline Attendance	0.04***			
	(0.01)			
Baseline Questions		0.09***		
		(0.004)		
Baseline Debates			0.07***	
			(0.002)	
Baseline PMA				1.38***
				(0.17)
Observations	214	214	214	214
Adjusted R^2	0.02	0.70	0.82	0.24

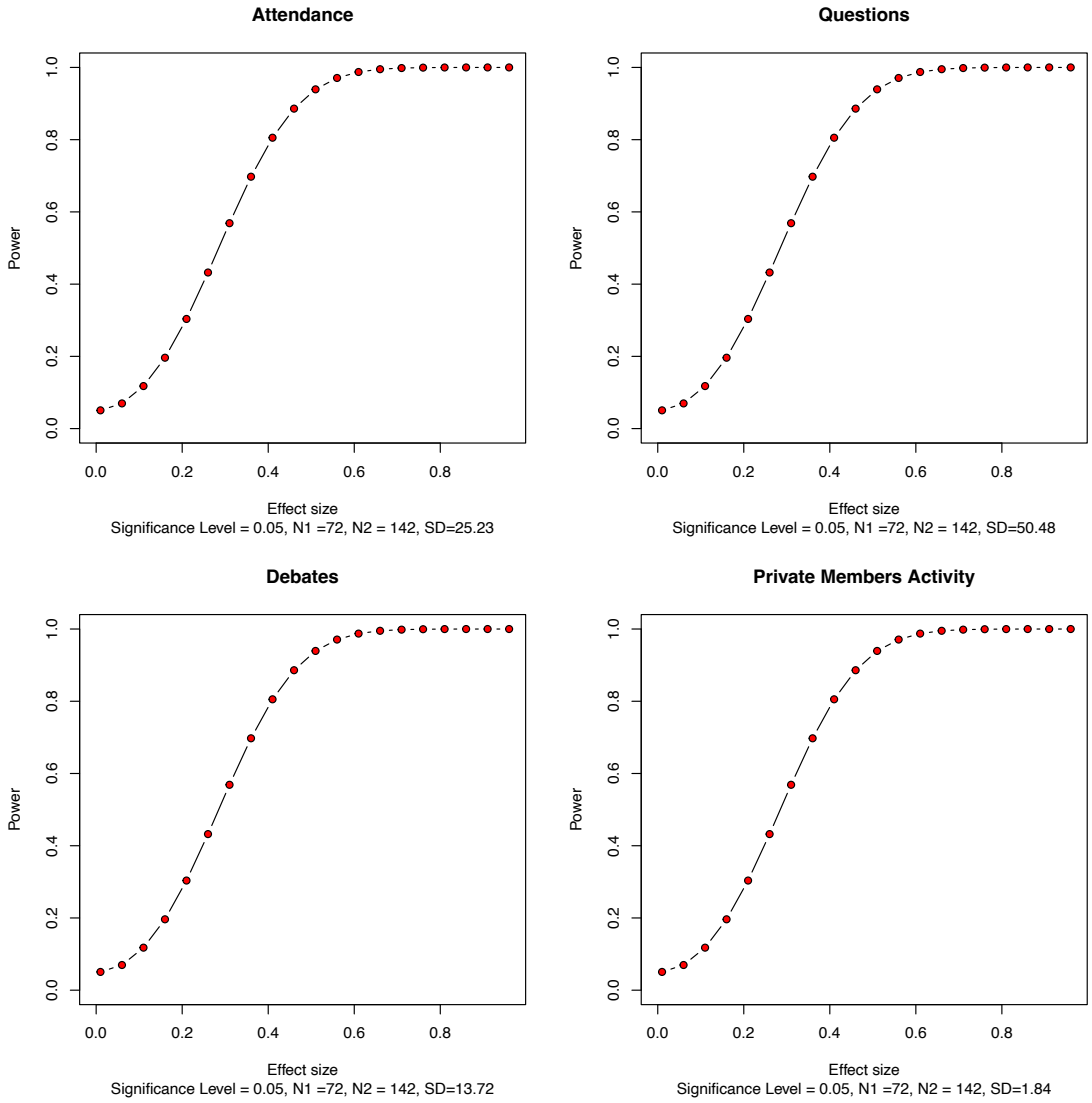
Note: *p<0.1; **p<0.05; ***p<0.01. Estimated effects of shorter terms on measures of legislative performance. Shorter (2) denotes a two year term, and Shorter (4) denotes a four-year term. All outcomes are count measures of the legislative activity and have been standardized. Controls include baseline levels of performance as shown in table. 'PMA' stands for Private Members Activity. Results with additional controls in Appendix Table A5.

In the Appendix Section 2.1, we estimate the treatment effects with controls (Table A5). Our results are consistent across the two analyses – we cannot conclude that shorter term lengths decrease legislative performance.

We conduct a power analysis (Figure 4) that shows us that the binarized experiment has over 80% power to detect medium to large effect sizes for each of our outcomes, however, we

do not have enough power to detect small effect sizes. This increases our confidence in the fact that either the term length does not affect legislative performance or at most, the effects are small.

Figure 4: Power Analysis



Note: Power analysis conducted for each outcome separately. The X-axis denotes effect sizes from 0 to 0.8 times the standard deviation. The Y-axis plots power from 0 to 100%. We have 80% power to detect medium to large effect sizes (greater than 0.4 times the standard deviation. This is a lower threshold than previous work that has power to reject effect sizes greater than 0.6 or 0.7 SDs of the outcome).

4.5 Robustness Checks

In this section, we demonstrate our results are robust to a number of different specifications. We reproduce all results in the Appendix Section 2.

First, we show robustness to combining the treatment of shorter terms (2-year and 4-year) into a single binary indicator of treatment of shorter terms in Appendix Section 2.2 and estimating the treatment effects using the least squares dummy variable estimator (Table A6).

Second, we estimate the average individual treatment effects using Inverse Probability Weighting (IPW) estimator in Appendix Section 2.3 (Table A7), where we calculate the probability of assignment for each group, and each group gets weighted with the inverse of the probability of being in that group. Our results are robust to this specification.

Third, we use a negative binomial regression and combine the treatments to model the outcomes, given that they are measured in counts. We can conclude from the results produced in Appendix Section 2.4 (Table A8) that our results are not due to model misspecification, and we consistently do not have the evidence to say that shorter terms worsen legislative performance.

Finally, we look at the treatment effects across different sessions during the period between 1952 and 1954. For this piece of analysis we transform the outcome in two important ways. First, we calculate the outcomes as the average participation per day by dividing the total participation by the length of the session. Second, we transform the outcome into z-scores in order to aid comparison of effect sizes across different units. Finally, we estimate the effect of

assignment to a shorter-term on outcomes within a particular session, by controlling for the baseline daily participation by using the following estimating equation:

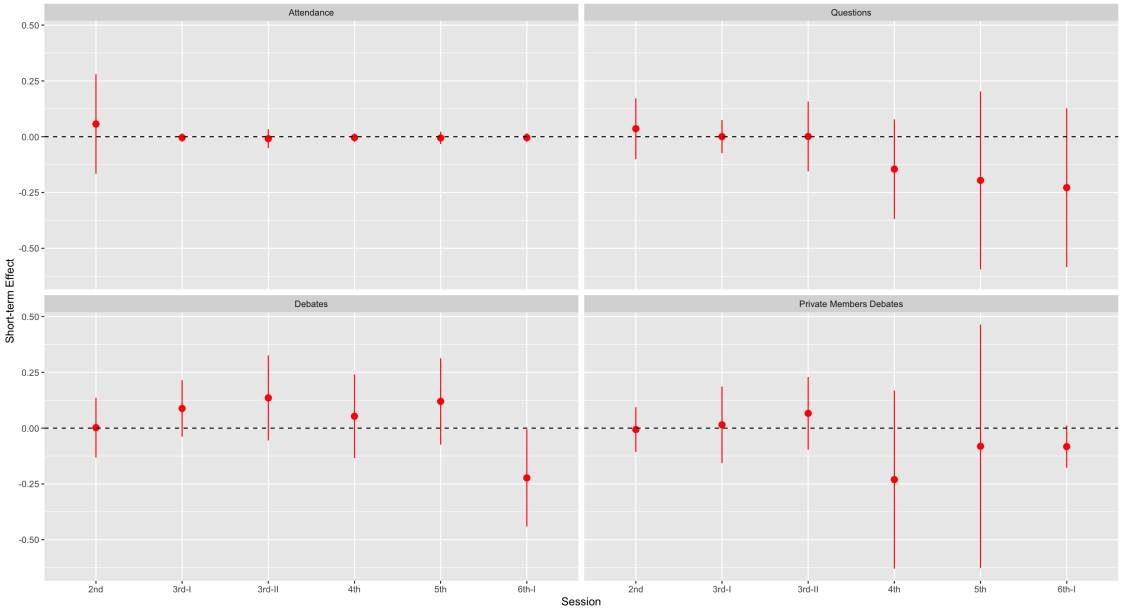
$$Z_{isj} = \beta_0 + \beta_1 Term_i * Session_s + \beta_2 BaselineY_i + \beta_4 X_i + \delta_j + u_{isj} \quad (2)$$

We compute the estimates across six sessions during the period of analysis for each of our outcomes. We run the same estimating equation as before, and cluster the standard errors at the MP level.

The results in Figure 5 support our earlier conclusion by showing the outcomes do not meet the conventional threshold for statistical significance in each separate period – we observe a that the effect of being assigned a shorter-term decreases legislative performance for only the debates outcomes in only one session in a statistically significant way. However, the effect of being assigned shorter-terms does not seem to affect legislative performance across a range of outcomes in different sessions. The regression table associated with this result is provided in the Appendix Section 2.5 (Table A9).

This analysis shows that there is no statistically significant effect of term lengths on legislative performance in indirectly elected houses. In the following section, we conduct a second study to look at the effects of term lengths over time across subsequent sessions of the *Rajya Sabha*, that allows us to analyse the effects of term lengths in an indirectly elected house when they are no longer positively selected.

Figure 5: Effect of Term Length on Legislative Performance: Session-wise analysis



Note: Results from a session-wise analysis conducted for each standardized outcome. We observe no detectable effects across each session. Results with estimates for analysis with controls in Appendix Table A9.

5 Study 2: By-Elections: 1960 to 1995

We conduct a second study, which exploits exogenous variation in term lengths in future sessions of the House in order to analyse what happens in the context of an indirectly elected house given adverse selection of legislators. We argue that MPs elected during a by-election no longer characterize the selection model since there are typically fewer contenders for elections announced during the middle of a term.

5.1 Identification Strategy

While a typical MP will hold membership in the Rajya Sabha for a period of six years, there are some cases wherein term lengths might be less than six years. These are for the members who are elected on the resignation of a sitting MP. According to the official rules of the House:

> A member elected in a by-election remains a member for the remainder of the term of the member who had resigned or died or disqualified to be a member of the House under the Tenth Schedule.

Thus, the vacation of a seat due to the resignation or death of a sitting MP creates a random variation in term lengths. For instance, if an MP dies in the first year when they are holding office, this assigns a five-year term for the member elected to replace them, and similarly, if an MP dies in the fifth year of holding office, the new MP elected can serve for only 1 year. This gives rise to a natural experiment that can help us understand the effect of being assigned a shorter-term treatment on legislative performance.

The pool of possible candidates from which a new MP is to be chosen is small, given that the by-election would take place between the normal election cycle, wherein the important electoral and leadership roles at the state and national level have already been assigned. We argue that this small pool of eligible and available candidates invariably leads to an electoral environment wherein the MP is not positively selected, and we expect that a shorter term would reduce their legislative performance. We leverage the vacation of a seat due to the death of a sitting MP that creates a random variation in term lengths for such MPs.

One possible threat to the identification strategy is that when political parties know that new members would be elected for a shorter term, they may field an even lower quality of candidates. In other words, there may be pre-treatment differences in the two groups. In order to rule out these concerns, we collect background data for the MPs (similar to the first analysis) and populate it with other information like previous tenures served in the Rajya Sabha, and previous tenure served in the state legislatures.

Table 5: Background characteristics balanced between treatment and control groups

	Short Term	Long Term	p-value t-test	p-value KS-test
Male	0.87	0.75	0.40	-
High School	0.11	0.00	0.01	-
Graduate	0.24	0.00	0.00	-
Post Graduate	0.22	0.42	0.24	-
Congress	0.46	0.58	0.47	-
CPI	0.04	0.00	0.16	-
Nominated	0.07	0.08	0.92	-
Lawyer	0.19	0.33	0.35	-
Age	51.60	55.71	0.32	0.37
Prev Exp: State	1.46	1.67	0.91	0.51
Prev Exp: RS	1.18	1.44	0.87	0.72

Note. Comparing the background characteristics for those who are assigned a shorter term (two or four years) and the members who are assigned the longer term (six years). The large p-values from the t-test and the Kolmogorov–Smirnov test (for continuous variables) indicate that the members assigned shorter terms are similar to those assigned longer terms with respect to their background characteristics.

Table 5 shows that the MPs are similar on a variety of measures, however we see some differences in education. Shorter term MPs are more likely to have a high school education, or a graduate degree. While these are not substantively meaningful differences, we include these variables as controls in our analysis. We also find that the F-Statistic for the joint hypothesis test is 1.27, and the corresponding p-value is 0.28. The F-Test thus supports the null hypothesis that all the coefficients in the model are not able to explain the treatment.

5.2 Measuring Outcomes

In order to evaluate the above hypotheses, we put together data on MPs in the Rajya Sabha who were assigned varied term lengths as their elections were triggered by resignations of MPs before they completed their entire term. In order to do this, we scrape the information on

each MP's term from the official website of the Rajya Sabha[14]. While this typically happens when a sitting MP dies, it may also happen due to the MP switching to another party, or rarely in cases of mergers or factions of parties in the House. We only consider members for whom a term is assigned due to the death of a sitting MP. We are able to tease out the reasons for each resignation and subsequent election using detailed parliamentary records, and thus, we match the MPs who were elected after a sitting MP's death to the Rajya Sabha[15].

We create a dataset of outcomes similar to the previous study for members who served between 1960 and 1995 in the Rajya Sabha by scraping the daily proceedings of the Rajya Sabha during this period[16]. We gather three outcomes for these MPs[17] - the number of parliamentary questions raised, the number of speeches (or debates) that the MPs participated in and the number of private member bills introduced by these MPs. We divide each outcome by the number of days that the parliament was functioning during their terms. Notably, none of these MPs who were elected mid-session during this period introduced any private member bills, and attendance data was not available for this period, so we exclude these two outcome from further analysis.

5.3 Estimation Strategy

We define the treatment of serving a shorter term similar to the one we use above: terms of four years or less are considered to be 'short terms', and our desired estimand is the average

[14]Parliament of India: Rajya Sabha, Council of States. https://rajyasabha.nic.in/

[15]According to the official procedures of the Rajya SAbha, a by-election within six months is required to be conducted. We use this heuristic to match the MPs. However, the remainder of the term of a member in relation to a vacancy is less than one year, then the by-election is not conducted. We drop these observations. For more reference, see Rajya Sabha at Work, https://rajyasabha.nic.in//Procedures/RajyasabhaAtWork

[16]Parliament of India: Official Debates of the Rajya Sabha accessed from https://rsdebate.nic.in/. The official debates repository stores the digitized debates in text and pdf formats

[17]Data for attendance during this period is not available.

treatment effect of being assigned a shorter term. The random assignment of shorter-terms to members allows for an estimation strategy that employs ordinary least squares regression (OLS). Here, we simply regress our desired outcomes on the treatment, along with covariate adjustment.

$$Y_{it} = \alpha + \beta_1 ShortTerm_i + \beta_2 X_i + \beta_3 Period_t + u_{it} \tag{3}$$

Through this equation, we are able to estimate the effect of a shorter term β_1 for each member i controlling for covariates X_i along with fixed-effects for the decade in which the MP's term began given by $Period_t$. Our estimate of interest is β_1, which provides the average treatment effect of a shorter term on various outcomes. We expect β_1 to be negative if our hypothesis is true: that indeed shorter terms hamper legislative performance.

5.4 Results

As is evident in Table 6, the results show that shorter term lengths decrease their legislative activity. We see that on being assigned shorter term, MPs decrease the number of questions asked per day by 81% (when compared to the mean of the outcome for un-treated members), and the number of debates participated in decreases by 80%.

5.5 Experience is a key moderator

The negative effect of shorter terms for adversely selected legislators in an indirectly elected house may be driven by important heterogeneity in MP characteristics. We find that the negative effects are driven by MPs who are relatively inexperienced, and consequently have

Table 6: Term Lengths and Legislative Performance for MPs elected post deaths

	Dependent variable:		
	Questions	Debates	PM Debates
Short Term	-0.69^{**}	-0.13^{**}	-0.01
	(0.29)	(0.06)	(0.004)
Observations	66	66	66
Adjusted R^2	0.08	0.10	0.14

Note: *p<0.1; **p<0.05; ***p<0.01. Estimated effects of shorter terms on measures of legislative performance for MPs elected post death of a sitting member. 'PM Debates' stands for Private Members debates. Controls include indicators for whether the MP is a graduate or has completed high school, and fixed effects for the decade of term. All estimates with covariates in Table A11.

to exert greater efforts for their re-election. On the other hand, experienced MPs are better acquainted with parliamentary norms, and do not shirk from their legislative duties.

We conduct this analysis in Table 7. We see heterogeneous treatment effects of shorter terms: members with no experience are those most affected by shorter terms and reduce their legislative performance. On the other hand, there is no evidence of an effect of shorter terms on members who enter the Rajya Sabha with some previous legislative experience.

5.6 Robustness Checks

For robustness, we reproduce the results in this section using a negative binomial model, as seen in Appendix Section 3.1 (Table A12), and our main results are consistent with this specification.

Second, we use a continuous treatment (length of term to be served) as opposed to a binary version of the treatment. In line with our expectations, we see in Appendix Section 3.2 (Table A13) that when members serve an extra year in the *Rajya Sabha*, it increases the number

Table 7: MPs elected post early resignations: Heterogeneity

	Dependent variable:		
	Questions	Debates	PM Debates
Short Term	-0.83^{**}	-0.15^{**}	-0.01^{*}
	(0.32)	(0.06)	(0.004)
Short Term x Experience	0.88	0.15	0.01
	(0.71)	(0.14)	(0.01)
Observations	66	66	66
Adjusted R^2	0.08	0.10	0.12

Note: *p<0.1; **p<0.05; ***p<0.01. Estimated effects of shorter terms on measures of legislative performance for MPs elected post death of a sitting member, including interaction with an indicator for previous legislative experience. 'PM Debates' stands for Private Members debates. All estimates with covariates in Table A14.

of questions raised and the number of debates they participate in. We observe no effect on debates and introduction or participation in debates of private members' bills. Overall, we take this as additional evidence that shorter term lengths worsen legislative performance.

6 Conclusion

In this paper, we evaluate the effect of term lengths on legislative performance. Our main takeaway is that term lengths do not affect legislative performance in an indirectly elected house, as shown in the results from the first study, given that the form of political representation in the indirectly elected house during this period follows from the selection model. Using a random-assignment of term-lengths in the Upper House of indirectly elected MPs in the Indian Parliament, we do not find that term lengths affects legislative activity. On the other hand, the second study finds that shorter terms worsen legislative performance,

results in line with previous work that has found that shorter terms worsen legislative performance (Titiunik 2016; Dal Bo and Rossi 2011). When elected legislators are no longer positively selected, we see that a shorter term worsens legislative performance, particularly for MPs with no prior legislative experience.

These lessons from the Indian experience contribute to our understanding of legislative performance – in that the effect of term lengths can be different for directly and indirectly elected legislatures. This points to the limits on the role of incentives in determining legislative performance. While incentives can improve or worsen performance of members, researchers need to be careful in calibrating the forms of political representation that characterizes the types of elected members. In other words, both institutional rules and the mode of representation matters in determining observed outcomes – if members are positively selected, the negative institutional incentives may not worsen legislative performance.

Our methodological contributions are twofold. We are the first study to leverage a unique natural experiment, that scholars can build upon to study other effects of shorter term-lengths. One direct extension of this work would be to look at legislative priorities by assessing the quality of contributions made by members. At the same time, we introduce a novel strategy to analyse effects of shorter terms across contexts by studying members who are elected after deaths of elected members - an approach that can be leveraged to study effects of shorter terms across different countries and legislatures. Similar designs can be leveraged to study the effects of committee memberships and ministerial positions.

References

Baskaran, Thushyanthan, Brian Min, and Yogesh Uppal. 2015. "Election Cycles and Electricity Provision: Evidence from a Quasi-Experiment with Indian Special Elections." *Journal of Public Economics* 126 (June): 64–73. https://doi.org/10.1016/j.jpubeco.2015.03.011.

Bernhard, William, and Brian R. Sala. 2006. "The Remaking of an American Senate: The 17th Amendment and Ideological Responsiveness." *The Journal of Politics* 68 (2): 345–57. https://doi.org/10.1111/j.1468-2508.2006.00411.x.

Bhatia, Udit. 2022. "Indirect Elections as a Constitutional Device of Epistocracy." *International Journal of Constitutional Law* 20 (1): 82–111. https://doi.org/10.1093/icon/moac001.

Dal Bo, E., and M. A. Rossi. 2011. "Term Length and the Effort of Politicians." *The Review of Economic Studies* 78 (4): 1237–63. https://doi.org/10.1093/restud/rdr010.

Davies, Emmerich. 2024. "Absence: Electoral Cycles and Teacher Absenteeism in India." In. British Journal of Political Science (forthcoming).

Election Commission of India. 1955. "Report on the First General Elections in India 1951-52." Volume 1 (General).

Fagan, E. J., and Zachary A. McGee. 2020. "Problem Solving and the Demand for Expert Information in Congress." *Legislative Studies Quarterly*, December, lsq.12323. https://doi.org/10.1111/lsq.12323.

Fearon, James D. 1999. "Electoral Accountability and the Control of Politicians: Selecting Good Types Versus Sanctioning Poor Performance." In *Democracy, Accountability, and*

Representation, edited by Adam Przeworski, Susan C. Stokes, and Bernard Manin, 1st ed., 55–97. Cambridge University Press. https://doi.org/10.1017/CBO9781139175104.003.

Ferraz, Claudio, and Frederico Finan. 2009. "Motivating Politicians: The Impacts of Monetary Incentives on Quality and Performance." w14906. Cambridge, MA: National Bureau of Economic Research. https://doi.org/10.3386/w14906.

Fong, Christian. 2020. "Expertise, Networks, and Interpersonal Influence in Congress." *The Journal of Politics* 82 (1): 269–84. https://doi.org/10.1086/705816.

Fouirnaies, Alexander, and Andrew B. Hall. 2022. "How Do Electoral Incentives Affect Legislator Behavior? Evidence from U.S. State Legislatures." *American Political Science Review* 116 (2): 662–76. https://doi.org/10.1017/S0003055421001064.

Fukumoto, Kentaro, and Akitaka Matsuo. 2015. "The Effects of Election Proximity on Participatory Shirking: The Staggered-Term Chamber as a Laboratory." *Legislative Studies Quarterly* 40 (4): 599–625. https://doi.org/10.1111/lsq.12090.

Gailmard, Sean, and Jeffery A. Jenkins. 2009. "Agency Problems, the 17th Amendment, and Representation in the Senate." *American Journal of Political Science* 53 (2): 324–42. https://doi.org/10.1111/j.1540-5907.2009.00373.x.

Gaines, Brian J., Timothy P. Nokken, and Collin Groebe. 2012. "Is Four Twice as Nice as Two? A Natural Experiment on Electoral Effects of Term Length." *State Politics & Policy Quarterly* 12 (1): 43–57. https://doi.org/10.1177/1532440011433588.

Gerber, Alan S., and Donald P. Green. 2012. *Field Experiments: Design, Analysis, and Interpretation*. First edition. New York London: W.W. Norton & Company.

Gersbach, Hans, Matthew O. Jackson, and Oriol Tejada. 2020. "The Optimal Length of Political Terms." *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3615407.

Green, Jeffrey Edward. 2013. "Analysing Legislative Performance: A Plebeian Perspective." *Democratization* 20 (3): 417–37. https://doi.org/10.1080/13510347.2013.786543.

Grose, Christian R. 2021. "Experiments, Political Elites, and Political Institutions." In *Advances in Experimental Political Science*, edited by James Druckman and Donald P. Green, 1st ed., 149–64. Cambridge University Press. https://doi.org/10.1017/9781108777919.011.

Grumbach, Jacob M., and Alexander Sahn. 2020. "Race and Representation in Campaign Finance." *American Political Science Review* 114 (1): 206–21. https://doi.org/10.1017/S0003055419000637.

Kellermann, Michael. 2009. "Congressional Careers, Committee Assignments, and Seniority Randomization in the US House of Representatives." *Quarterly Journal of Political Science* 4 (2): 87–101. https://doi.org/10.1561/100.00008061.

Mansbridge, Jane. 2009. "A 'Selection Model' of Political Representation*." *Journal of Political Philosophy* 17 (4): 369–98. https://doi.org/10.1111/j.1467-9760.2009.00337.x.

Matsusaka, John G. 2010. "Popular Control of Public Policy: A Quantitative Approach." *Quarterly Journal of Political Science* 5 (2): 133–67. https://doi.org/10.1561/100.00009055.

Matthews, Donald R. 1973. *U.S. Senators and Their World*. The Norton Library. New York: Norton.

Mayhew, David R. 2004. *Congress: The Electoral Connection*. 2nd ed. New Haven: Yale University Press.

Micozzi, Juan Pablo. 2013. "Does Electoral Accountability Make a Difference? Direct Elections, Career Ambition, and Legislative Performance in the Argentine Senate." *The*

Journal of Politics 75 (1): 137–49. https://doi.org/10.1017/S0022381612000928.

Miller, Warren E., and Donald E. Stokes. 1963. "Constituency Influence in Congress." *American Political Science Review* 57 (1): 45–56. https://doi.org/10.2307/1952717.

Napolio, Nicholas G., and Christian R. Grose. 2021. "Crossing Over: Majority Party Control Affects Legislator Behavior and the Agenda." *American Political Science Review*, August, 1–8. https://doi.org/10.1017/S0003055421000721.

Olson, David M., and Cynthia T. Nonidez. 1972. "Measures of Legislative Performance in the U. S. House of Representatives." *Midwest Journal of Political Science* 16 (2): 269. https://doi.org/10.2307/2110060.

Pomirchy, Michael. 2023. "Electoral Proximity and Issue-Specific Responsiveness." *Public Opinion Quarterly* 87 (3): 662–88. https://doi.org/10.1093/poq/nfad031.

Przeworski, Adam, ed. 1999. *Democracy, Accountability, and Representation*. 1. publ. Cambridge Studies in the Theory of Democracy. Cambridge: Cambridge University Press.

Rigby, Elizabeth, and Gerald C. Wright. 2013. "Political Parties and Representation of the Poor in the American States." *American Journal of Political Science* 57 (3): 552–65. https://doi.org/10.1111/ajps.12007.

Schultz, Christian. 2008. "Information, Polarization and Term Length in Democracy." *Journal of Public Economics* 92 (5-6): 1078–91. https://doi.org/10.1016/j.jpubeco.2007.12.008.

Titiunik, Rocío. 2016. "Drawing Your Senator from a Jar:term Length and Legislative Behavior." *Political Science Research and Methods* 4 (2): 293–316. https://doi.org/10.1017/psrm.2015.20.

Yamasaki, Junichi. 2020. "Time Horizon of Government and Public Goods Investment: Evidence from Japan." *Journal of Development Economics* 146 (September): 102518.

https://doi.org/10.1016/j.jdeveco.2020.102518.

Zelizer, Adam. 2019. "Is Position-Taking Contagious? Evidence of Cue-Taking from Two Field Experiments in a State Legislature." *American Political Science Review* 113 (2): 340–52. https://doi.org/10.1017/S0003055419000078.

Appendix

Term Lengths and Legislative Performance: Evidence from Natural Experiments in India

Contents

1 Balance Tests

1.1 Balance test on background characteristics

In this section, we reproduce the balance tests comparing the three groups of MPs in separate t-tests and Kolmogorov–Smirnov test (for continuous variables). We find that different term groups are balanced across demographic characteristics, as seen in Table A1 and A2. We see that the coefficients are balanced across all covariates.

Table A1: Background characteristics balanced between treatment (2-year term) and control groups

	2-year	6-year	p-value t-test	p-value KS-test
Male	0.93	0.96	0.48	-
High School	0.12	0.14	0.78	-
Graduate	0.46	0.49	0.68	-
Post Graduate	0.28	0.34	0.44	-
Congress	0.68	0.69	0.90	-
Independent	0.06	0.01	0.18	-
CPI	0.06	0.04	0.71	-
Nominated	0.06	0.06	0.98	-
Lawyer	0.36	0.37	0.95	-
Member of CA	0.19	0.14	0.39	-
Age	50.07	51.20	0.57	0.87
Minister	0.03	0.06	0.40	-
Prev LA/LC	0.51	0.31	0.01	-
Prev Exp (Yrs)	9.17	7.74	0.39	0.81

Note: Comparison of the background of members who are assigned the shorter term (two years) and the members who are assigned the longer term (six years). The large p-values from the t-test and the Kolmogorov–Smirnov test (for continuous variables) indicate that the members assigned shorter terms are similar to those assigned longer terms.

Table A2: Background characteristics balanced between treatment (4-year term) and control groups

	4-year	6-year	p-value t-test	p-value KS-test
Male	0.93	0.90	0.53	-
High School	0.12	0.13	0.97	-
Graduate	0.46	0.46	0.94	-
Post Graduate	0.28	0.35	0.34	-
Congress	0.68	0.75	0.39	-
Independent	0.06	0.06	0.98	-
CPI	0.06	0.01	0.18	-
Nominated	0.06	0.06	0.98	-
Lawyer	0.36	0.34	0.77	-
Member of CA	0.19	0.23	0.65	-
Age	50.07	50.35	0.89	0.81
Minister	0.03	0.03	0.99	-
Prev LA/LC	0.51	0.46	0.56	-
Prev Exp (Yrs)	9.17	12.13	0.15	0.16

Note: Comparison of the background of members who are assigned the shorter term (four years) and the members who are assigned the longer term (six years). The large p-values from the t-test and the Kolmogorov–Smirnov test (for continuous variables) indicate that the members assigned shorter terms are similar to those assigned longer terms.

Table A3: Baseline outcomes balanced between treatment (2-year term) and control groups

	2-Year	6-Year	p-value t-test	p-value KS-test
Absence (days)	36.96	36.76	0.83	0.84
Questions	4.54	3.20	0.40	0.23
Debates	7.88	6.18	0.44	0.83
Private Bills	0.14	0.15	0.80	0.64

Note: Comparing baseline (pre-treatment) measures of performance for those who are assigned the shorter terms (two years) and the members who are assigned a longer term (six years). The large p-values from the t-test and the Kolmogorov–Smirnov test (for continuous variables) indicate that the members assigned shorter terms are similar to those assigned longer terms on baseline levels of perforamnce.

Table A4: Baseline outcomes balanced between treatment (4-year term) and control groups

	4-Year	6-Year	p-value t-test	p-value KS-test
Absence (days)	36.96	37.30	0.66	1.00
Questions	4.54	2.82	0.26	0.49
Debates	7.88	6.04	0.43	0.63
Private Bills	0.14	0.13	0.84	1.00

Note: Comparing baseline (pre-treatment) measures of performance for those who are assigned the shorter terms (four years) and the members who are assigned a longer term (six years). The large p-values from the t-test and the Kolmogorov–Smirnov test (for continuous variables) indicate that the members assigned shorter terms are similar to those assigned longer terms on baseline levels of perforamnce.

1.2 Balance Tests by pre-treatment baseline performance

In this section, we reproduce the tests for baseline performance separately comparing the members assigned two-year terms and four-year terms to the members assigned a six-year term. We see in Table A3 and A4 that the baseline measures of performance between the members assigned shorter terms are similar to those assigned the regular six-year term.

2 Robustness of Main Effects

2.1 Main Results (with Controls)

In this section, we simply add covariates whose pre-treatment measure is slightly different among the treated and control group. Adding this covariate has no effect on our quantitative and substantive results as seen in Table A5.

2.2 Main Results: Alternate Specifications (LSDV)

In this section, we show robustness to alternate specifications of the main result. We first estimate the effects of shorter terms by combining the 2-year and 4-year treatment into a combined treatment called "short-term" and estimate the treatment effect using the least squares dummy variable estimator by running a regression as follows:

$$Y_i = \beta_0 + \beta_1 ShortTerm_i + \beta_2 State_i + \beta_3 BaselineY_i + \beta_4 X_i + u_i \tag{1}$$

We observe from Table A6 that the results are robust to this specification.

2.3 Main Results: Alternate Specifications (IPW)

Next, we demonstrate robustness by estimating the effects of shorter terms by combining the 2-year and 4-year treatment into a combined treatment called "short-term". We estimate the treatment effect using inverse probability weighting estimator, since within each state, the

Table A5: Term Lengths and Legislative Performance

	Dependent variable:			
	Attendance	Questions	Debates	PM Debates
Short Term (2)	0.08	−0.06	0.0003	−0.17
	(0.17)	(0.09)	(0.07)	(0.15)
Short Term (4)	0.03	−0.10	0.08	−0.05
	(0.17)	(0.09)	(0.07)	(0.15)
Baseline Attendance	0.03**			
	(0.01)			
Baseline Questions		0.10***		
		(0.004)		
Baseline Debates			0.07***	
			(0.002)	
Baseline PMA				1.40***
				(0.17)
Prev Experience	0.003	−0.05	−0.03	−0.21
	(0.14)	(0.08)	(0.06)	(0.12)
Minister	0.29	0.01	−0.21	−0.30
	(0.36)	(0.20)	(0.15)	(0.32)
Nominated	−0.38	−0.03	−0.11	−0.26
	(0.30)	(0.17)	(0.13)	(0.26)
Male	−0.34	−0.09	−0.01	−0.24
	(0.28)	(0.15)	(0.12)	(0.24)
Observations	214	214	214	214
Adjusted R^2	0.02	0.69	0.82	0.25

Note: *p<0.1; **p<0.05; ***p<0.01. Estimated effects of shorter terms (two and four years) on measures of legislative performance. Outcomes have been standardized. 'PMA' stands for Private Members Activity. Controls include baseline performance, previous legislative experience, ministerial experience, whether the member is a nominated member and gender.

Table A6: Comparing short and long term MPs (LSDV)

	Dependent variable:			
	Attendance	Questions	Debates	PM Debates
Short Term	2.12	−6.85	1.26	−0.20
	(4.27)	(7.39)	(2.06)	(0.29)
Baseline Attendance	0.95			
Baseline Questions		9.19		
Baseline Debates			2.37	
Baseline PMA				2.81
Observations	214	214	214	214
Adjusted R^2	0.02	0.69	0.82	0.26

Note: *p<0.1; **p<0.05; ***p<0.01. Estimated effects of shorter terms (two and four years) on measures of legislative performance using the Least Squares Dummy Variable estimator. 'PMA' stands for Private Members Activity All models include state as the blocking variable

probabilities of treatment are slightly different. We do this by running a regression as follows:

$$Y_i = \alpha + \beta_1 ShortTerm_i + \beta_2 IPW_i + \beta_3 BaselineY_i + \beta_4 X_i + u_i \quad (2)$$

Table A7: Comparing short and long term MPs (IPW)

	Dependent variable:			
	Attendance	Questions	Debates	PM Debates
Short Term	2.24	−5.59	1.22	−0.21
	(3.84)	(7.28)	(1.94)	(0.27)
Baseline Attendance	0.79**			
	(0.37)			
Baseline Questions		9.94***		
		(0.39)		
Baseline Debates			2.35***	
			(0.07)	
Baseline PMA				3.28***
				(0.37)
Observations	214	214	214	214
Adjusted R^2	0.01	0.75	0.83	0.27

Note: *p<0.1; **p<0.05; ***p<0.01. Estimated effects of shorter terms (two and four years) on measures of legislative performance using the Inverse Probability Weighting estimator. 'PMA' stands for Private Members Activity.

We see in A7 that the results are also robust to estimating treatment effects using the inverse probability weighting estimator.

2.4 Main Results: Alternate Specifications (NBR)

One concern with our approach can be that we do not correctly model the outcome, which is in counts. While model-based approaches are not required since we have are able to analyse this natural experiment similar to a true randomized trial, we show robustness to an alternate modelling of the outcome using negative binomial regression in A8.

Table A8: Comparing short and long term MPs (LSDV: Negative Binomial Model)

	Dependent variable:			
	Attendance	Questions	Debates	PM Debates
Short Term	0.01	0.03	0.20	−0.11
	(0.02)	(0.25)	(0.18)	(0.27)
Baseline Attendance	0.01**			
	(0.002)			
Baseline Questions		0.13***		
		(0.02)		
Baseline Debates			0.09***	
			(0.01)	
Baseline PMA				1.55***
				(0.34)
Observations	214	214	214	214

Note: *p<0.1; **p<0.05; ***p<0.01. Estimated effects of shorter terms (two and four years) on measures of legislative performance using the Least Squares Dummy Variable estimator and a negative binomrial regression model. 'PMA' stands for Private Members Activity.

2.5 Main Results: Analysed by Session

In Table A9 we produce the regression results in table for Figure 4 from the main paper. The outcome is transformed to a Z-score for each member i in session s during term j. The

Table A9: Comparing short and long term MPs (Session Wise)

	Attendance	Questions	Debates	PMA
Shorter Term x 2nd	0.06	0.04	0.00	−0.01
	(0.11)	(0.07)	(0.07)	(0.05)
Shorter Term x 3rd-I	−0.00	0.00	0.09	0.01
	(0.01)	(0.04)	(0.06)	(0.09)
Shorter Term x 3rd-II	−0.01	0.00	0.14	0.07
	(0.02)	(0.08)	(0.10)	(0.08)
Shorter Term x 4th	−0.00	−0.15	0.05	−0.23
	(0.01)	(0.11)	(0.09)	(0.20)
Shorter Term x 5th	−0.01	−0.20	0.12	−0.08
	(0.01)	(0.20)	(0.10)	(0.28)
Shorter Term x 6th-I	−0.00	−0.23	−0.22**	−0.08*
	(0.01)	(0.18)	(0.11)	(0.05)
Baseline Attendance	0.89*			
	(0.51)			
Baseline Questions		2.93***		
		(0.40)		
Baseline Debates			2.47***	
			(0.19)	
Baseline PMA				29.25***
				(6.16)
Num. obs.	1284	1284	1284	1284
Num. groups: state_1952	20	20	20	20
Adj. R^2 (full model)	0.24	0.51	0.69	0.17
Adj. R^2 (proj model)	0.20	0.41	0.64	0.13

Note: *p<0.1; **p<0.05; ***p<0.01. Estimated effects of shorter terms (two and four years) on measures of legislative performance by interacting the treatment with outcomes for each session. PMA stands for Private Members Activity. state1952 denotes the states in existence during 1952 that are used as fixed effects. Standard errors clustered at the MP level.

Table A10: Comparing short and long term MPs (Session Wise Fixed Effects)

	Attendance	Questions	Debates	PM Debates
Short Term	0.05	−0.06	0.03	−0.06
	(0.10)	(0.06)	(0.05)	(0.08)
Baseline Attendance	0.89*			
	(0.51)			
Baseline Questions		2.93***		
		(0.40)		
Baseline Debates			2.47***	
			(0.19)	
Baseline PMA				29.25***
				(6.15)
Num. obs.	1284	1284	1284	1284
Num. groups: state_1952	20	20	20	20
Num. groups: session	6	6	6	6
Adj. R^2 (full model)	0.25	0.51	0.69	0.17
Adj. R^2 (proj model)	0.03	0.41	0.64	0.07

Note: *p<0.1; **p<0.05; ***p<0.01. Estimated effects of shorter terms (two and four years) on measures of legislative performance by adding fixed effects for each session. 'PMA' stands for Private Members Activity. 'state1952' denotes the states in existence during 1952, and 'session' indicates the six sessions that are used as fixed effects. Standard errors clustered at the MP level.

estimating equation is given below and the standard error is clustered at the member level:

$$Z_{isj} = \beta_0 + \beta_1 Term_i * Session_s + \beta_2 BaselineY_i + \beta_4 X_i + \delta_j + u_{isj} \tag{3}$$

Finally in Table A10, we estimate treatment effects using the MP-session level data, with session fixed effects and show that our conclusions are robust to this specification as well.

3 Robustness of By-Elections Result

3.1 Complete table for main result

Table A11 shows estimates for the main variables and covariates used for the main results of the by-elections natural experiment.

Table A11: Term Lengths and Legislative Performance for MPs elected post deaths

	Dependent variable:		
	Questions	Debates	PM Debates
Short Term	−0.69**	−0.13**	−0.01
	(0.29)	(0.06)	(0.004)
Graduate	0.34	−0.01	−0.001
	(0.29)	(0.06)	(0.004)
Completed High School	−0.10	−0.02	0.001
	(0.40)	(0.08)	(0.01)
1970 decade	0.30	0.003	0.0004
	(0.31)	(0.06)	(0.004)
1980 decade	0.54	0.13**	0.01***
	(0.33)	(0.06)	(0.004)
1990 decade	0.32	0.10	0.001
	(0.33)	(0.06)	(0.004)
Observations	66	66	66
Adjusted R^2	0.08	0.10	0.14

Note: *p<0.1; **p<0.05; ***p<0.01. Estimated effects of shorter terms on measures of legislative performance for members elected post resignation, estimating the effects of shorter terms using negative binomial regression. Controls include education background (indicator for completing high school or being a graduate), and indicators for the decade of ther MP's term.

3.2 Robustness to alternate modeling of outcome

One concern with our second analysis may be that we would want to correctly model the outcomes, which are counts of questions, debates and participation in private members' debates. We reproduce the results for members elected post early resignations using a negative binomial model. As seen in Table A12, our results are robust to this alternate modeling of outcome.

Table A12: MPs elected post early resignations

	Dependent variable:		
	Questions	Debates	PM Debates
Short Term	−1.78**	−1.67	−1.29
	(0.74)	(1.23)	(4.93)
Graduate	1.42*	0.23	0.02
	(0.75)	(1.76)	(7.00)
Completed High School	−0.22	−3.89	−1.27
	(1.43)	(16.82)	(17.19)
Observations	66	66	66

Note: *p<0.1; **p<0.05; ***p<0.01. Estimated effects of shorter terms on measures of legislative performance for members elected post resignation, estimating the effects of shorter terms using negative binomial regression. Controls include education background (indicator for completing high school or being a graduate).

3.3 Robustment to alternate specification of treatment

We reproduce the results for members elected post early resignations using a an alternate specification of the treatment - in this analysis, we retain the continuous nature of our treatment. As seen in Table A13, our results are robust to this alternate method of defining the treatment - a one year increase in the length of term *increases* legislative performance of

members.

Table A13: MPs elected post early resignations (Continuous treatment)

	Dependent variable:		
	Questions	Debates	PM Debates
Short Term Length	0.16**	0.04***	0.002**
	(0.08)	(0.02)	(0.001)
Graduate	0.23	−0.02	−0.002
	(0.29)	(0.05)	(0.004)
Completed High School	−0.32	−0.06	−0.001
	(0.39)	(0.07)	(0.005)
1970 decade	0.44	0.03	0.001
	(0.30)	(0.06)	(0.004)
1980 decade	0.69**	0.17**	0.01***
	(0.34)	(0.06)	(0.004)
1990 decade	0.50	0.14**	0.003
	(0.33)	(0.06)	(0.004)
Observations	66	66	66
Adjusted R^2	0.05	0.14	0.18

Note: *p<0.1; **p<0.05; ***p<0.01. Estimated effects of shorter terms on measures of legislative performance for members elected post resignation, estimating the effects of length of terms measured as a continuous variable. Controls include education background (indicator for completing high school or being a graduate) and for the decade of member's term.

3.4 Complete table with controls for heterogeneity

Finally, Table A14 shows estimates for the main variables and covariates used for the test for heterogeneous treatment effects based on experience.

Table A14: MPs elected post early resignations: Heterogeneity

	Dependent variable:		
	Questions	Debates	PM Debates
Short Term	-0.83^{**}	-0.15^{**}	-0.01^{*}
	(0.32)	(0.06)	(0.004)
Experience	−0.96	−0.16	−0.01
	(0.66)	(0.13)	(0.01)
Short Term x Experience	0.34	−0.01	−0.001
	(0.29)	(0.06)	(0.004)
Graduate	−0.09	−0.02	0.001
	(0.41)	(0.08)	(0.01)
High School	0.34	0.01	0.001
	(0.31)	(0.06)	(0.004)
1970 decade	0.54	0.13^{**}	0.01^{***}
	(0.33)	(0.07)	(0.004)
1980 decade	0.41	0.11^{*}	0.002
	(0.33)	(0.07)	(0.004)
1990 decade	0.88	0.15	0.01
	(0.71)	(0.14)	(0.01)
Observations	66	66	66
Adjusted R^2	0.08	0.10	0.12

Note: *p<0.1; **p<0.05; ***p<0.01. Estimated effects of shorter terms on measures of legislative performance for members elected post resignation, estimating heterogeneous treatment effects with respect to prior legislative experience. Controls include education background (indicator for completing high school or being a graduate) and for the decade of member's term.