# Political Economy of Third Party Interventions*

Sabyasachi Das
Ashoka University

Souvik Dutta
IIIT Delhi

Abhirup Sarkar
ISI Kolkata

February, 2021

**Abstract**

The paper examines political economy consequences of a third party (World Bank) intervention in India. The intervention was a capacity building initiative that trained local politicians in various governance procedures in a sample of villages. We show that the state government reacted to the intervention by allocating additional resources to program villages with aligned incumbents. Consequently, party switching by opposition incumbents in favor of the ruling party *went up* significantly in program villages. Moreover, the reelection rate of opposition party incumbents *went down* due to the intervention, especially for those who didn't switch parties. The results highlight the importance of considering political economy consequences of such interventions, even in countries not heavily reliant on foreign assistance, to better understand their overall welfare effects.

**JEL Classification:** D72, D78, H43, H72, H77
**Keywords:** Policy Evaluation, Party Switching, Reelection, Gram Panchayat

*Sabyasachi Das: Economics Department, Ashoka University, National Capital Region, India (e-mail: sabyasachi.das@ashoka.edu.in). Souvik Dutta: Social Sciences and Humanities Department, Indraprastha Institute of Information Technology, Delhi, India (email: souvik@iiitd.ac.in). Abhirup Sarkar: Economics Research Unit, Indian Statistical Institute, Kolkata, India (email: abhirup@isical.ac.in). We thank the editor and two anonymous referees for substantial improvement in the paper. We also benefited from comments from Kaivan Munshi, Sona Golder, Sourav Bhattacharya, Sugat Chaturvedi, Subhasish Dey and seminar and conference participants at $17^{th}$ Nordic Conference on Development Economics (UNU-WIDER, 2018), IIM - Calcutta, IISER - Bhopal, IIIT - Delhi. We are grateful to Indian Institute of Management, Bangalore for their financial support in the form of seed grant (Project Code: 7399C). We thank the ISGP office (Panchayats and Rural Development Department, Government of West Bengal) and $4^{th}$ State Finance Commission (Government of West Bengal) for sharing the data and Soumya Purkait, Utpal Chakraborty and Subrata Chakraborty for their time and patience in helping us understand the ISGP project. Nematullah Khan and Imdadul Halder provided excellent research assistance. Usual disclaimers apply.

## 1 Introduction

Policy interventions by international as well as national non-governmental organizations (NGOs) are common in developing countries. The Structural Adjustment Program by the IMF, Community Development Projects by the World Bank, and the Global Polio Eradication Initiative (GPEI) by the Bill and Melinda Gates Foundation (BMGF) are examples of some large scale policy interventions undertaken by international organizations in various countries.[1] Domestic NGOs working on specific sectors (such as health or primary education) also provide parallel services to various policy initiatives of local and regional governments within a country.[2] Importantly, researchers often use third-party interventions, including interventions of their own (in the form of, say, Randomized Control Trials) to evaluate the effectiveness of various policies.[3] Third party policy interventions often allow the researchers to address some of the endogeneity problems in estimating program effects that may be present in evaluating government initiated public programs.[4]

However, policymaking is inherently a political process. Therefore, any policy intervention by an outside entity is likely to engender responses by the domestic political actors. Researchers are cognizant of this fact. Guiteras and Mobarak (2016), for example, show that a sanitation subsidy intervention by researchers in villages in Bangladesh led to local politicians attempting to claim credit for the program. Such "credit claiming" behavior of politicians in response to third party

[1]The scale of some of the programs is quite large. The BMGF, for example, has allocated USD 292 million in 2016 and USD 367.3 million in 2017 towards GPEI (GPEI Annual Reports). The World Bank has spent USD 85 billion in the period 2000-2010 towards community development projects across the world (Mansuri and Rao, 2013).

[2]The NGO Pratham in India, for example, provides various educational services for primary school children. BRAC is a similar organization providing primary education and health care services across Bangladesh.

[3]The set of such papers is too large to cite here. We cite some representative papers evaluating various types of policies using third party interventions. For example, Olken (2010) examines a governance intervention in Indonesian villages using a RCT that compares public good provision under elected politicians and via village meetings. Similar works exist with regard to education policies (Banerjee et.al. (2007); Duflo, Dupas, and Kremer (2015)) and health policies (Tarozzi et al. (2014); Olken, Onishi, and Wong (2014)).

[4]In recent times, researchers are increasingly conducting interventions with governments themselves (Muralidharan, Niehaus, Sukhtankar (2016)) or exploiting details of government interventions (Bharadwaj, Lakdawala, Li (2019)) to estimate causal effects of policies. However, third party interventions still remain a more popular and common method to evaluate the impact of policies.

interventions, especially when the source of funding is not transparent, has been observed in other contexts as well (see, for example, Böhnke et.al. (2010), Cruz and Schneider (2014), etc.).

Credit claiming, however, is not the only possible political consequence of such interventions. How the domestic government reacts to a third party intervention depends, at least partly, on the *distribution* of political rewards generated by it. If part of the reward is accrued by the politicians who are aligned to the government, then the government may act in a way that can *complement* the intervention. However, if the intervention rewards rival politicians, then it may try to undermine it. The political economy effect of third party intervention, therefore, may depend on how the incentive of the domestic government interacts with the intervention.[5] Moreover, some of the political economy consequences may not be desirable, and hence, can be consequential for the overall welfare implication of the intervention.

In this paper, we examine these concerns and provide evidence of such political economy consequences of an intervention by the World Bank in an Indian state. The intervention in question, known as the Institutional Strengthening of Gram Panchayats (ISGP) program, was a capacity building initiative that trained local politicians and officials in various governance practices (such as budgeting, maintaining accounts, digitization, holding regular meetings etc.) in a sample of 1000 village governments or Gram Panchayats (GPs from now on) in the state of West Bengal.[6] The program was launched in 2010 in collaboration with the Panchayats and Rural Development Department of the Government of West Bengal. It was intended to improve the efficacy of the local politicians and officials in their delivery of public goods and services. Moreover, the GPs that received the training were later audited, and the ones found to be performing better, received lump-sum grants ("ISGP grant") under the program.

One year after the launch of the program, in 2011, state elections happened and a new party—AITC—came into power defeating the Left Front which was in

[5]This is similar in spirit to the possibility that individual beneficiaries of an intervention may privately respond to it which may affect the efficacy of the intervention. Das et al. (2013), for example, show that in response to anticipated grants to schools in India and Zambia, households substituted away their private spending on the education of their children, which resulted in a null effect of the grant on test scores. We argue that such concerns may be present for the response of the government as well.

[6]West Bengal has about $3,500$ GPs in the entire state.

power for the previous few terms. In 2011, however, a majority of local governments were still ruled by the Left Front. It is understandable that AITC would want to fare better and capture power in more villages in the upcoming local elections in 2013.[7] The change in the political leadership in the state, therefore, created an incentive for the state government to reallocate its resources to GPs.[8] Importantly, the reallocation incentive interacted with the presence of the ISGP program. The state government had reasons to believe that the intervention increased the governance capacity of the program GPs (i.e., the GPs that are part of the ISGP program).[9] Consequently, the incumbents in those GPs were expected to have better reelection prospects. We, therefore, hypothesize that the state government would have incentive to reinforce the effect of the intervention in program GPs which are *aligned* to the ruling party by allocating higher resources to them.[10] Using a theoretical model we argue that such a resource allocation strategy would maximize the presence of the ruling party in the local governments in the forthcoming local elections.

For the empirical analysis, we compile detailed data on GP level yearly revenue during the period 2008-09 to 2012-13 and candidate level GP election results for 2008 and 2013. The criteria used by the ISGP program officials to select GPs into the program allows us to use the regression discontinuity (RD) method to estimate the causal effect of the intervention. We discuss the selection criteria and the identification issues in detail in Section 5.1. Moreover, for some of the analysis we test heterogeneity in the program effect (across, say, aligned and non-aligned GPs). For this we use a method similar to the difference-in-discontinuity method described in Grembi, Nannicini, and Troiano (2016). We elaborate on this in Section 5.2.

We show that from 2011 onwards, the ISGP program led the state government under the new ruling party to allocate higher resources to the program GPs

[7] The previous local elections were in 2008.

[8] The state government can spend resources on its own to strategically provide public goods. However, such public projects are usually much larger in scale with a wider externality than the local public goods that the GPs usually provide. Hence, it is harder for the state government to influence the outcomes of a village election by providing public goods on its own.

[9] We provide evidence and arguments in favor of this in Section 6.

[10] In West Bengal elections in GPs happen at the level of wards within a GP. (See Section 2.1 for details.) Therefore, the incumbents in a GP are at the level of wards, while resource is allocated to the entire GP. Consequently, we define a GP to be aligned if the majority of incumbents in a GP belong to AITC at the beginning of the sample period. The rest of the GPs are referred to as non-aligned or rival.

with *aligned* incumbents (i.e., incumbents belonging to the ruling party). The allocation was 32% higher in 2011-'12 and 19% in 2012-'13. Importantly, the aligned non-program GPs (i.e., aligned GPs from the same districts which were not part of the program) did not receive higher resources either after or before 2011. The differential allocation within aligned GPs, therefore, can not be explained by the state government's general willingness to reward aligned GPs overall. The differential allocation resulted in a significant increase in rival incumbents switching their party affiliations in favor of the ruling party during the GP elections in 2013. To the best of our knowledge, this is the first paper that shows how discriminatory allocation by higher level government to aligned local jurisdictions can lead to higher likelihood of party switching among rival local politicians. Moreover, the intervention led to a 24% *fall* in the overall reelection rate of the incumbents. The fall in the reelection rate is driven by the non-switchers (from the opposition parties) in the program GPs. The reelection rate of the aligned incumbents or those that switched to the AITC party did not change due to the intervention.

The results suggest that the intervention led to significant changes in the local political economy of rural West Bengal. We argue that intensifying party switching behavior among opposition incumbents and reducing the reelection rate of local politicians are two undesirable effects of the intervention. The practice of switching party affiliation among the local politicians in rural India is a fairly frequent phenomenon, as we show later in Section 6. Yet the issue is not well explored in the existing literature on the local governments in India. In this context, it is important to note the result, since the literature on party switching highlights that such behavior weakens the party structure and erodes trust in the political system. Desposato (2006), for example, argues that "party switching may be viewed as a challenge to representation when voters use party labels to cast ballots and pick policy platforms. Switching effectively destroys the meaning of party labels, raises voters' information costs, and eliminates party accountability. Switching can be viewed as a threat to the very core of democratic representation." The increase in party switching in program GPs, therefore, points towards a potentially adverse effect of the intervention. Moreover, researchers have shown that reelection motive of politicians is an important accountability mechanism behind improved governance outcomes in developing countries (Ferraz and Finan (2011), Nath (2014)). Therefore, a fall in the reelection rate could have had adverse impacts on quality of

governance in the program GPs in the subsequent period.

Our results, therefore, demonstrate how well intended and well implemented policy interventions by third party organizations may engender unintended political economy responses. This is especially striking considering the fact that the intervention was primarily non-financial in nature and in a context where dependence on outside assistance (financial or otherwise) is relatively low.

This paper contributes to the literature that shows that interventions from outside entities generate political economy effects at home. Apart from the credit claiming literature that we discuss above, there is a large literature on foreign aid that discusses its various political economy consequences. Many of these papers are in the context of African and Latin American countries, where aid constitutes a significant part of governments' resources. This is in contrast to the context we study, where such dependence on financial and institutional assistance from third party entities is minimal. Setting aside the contextual distinction of our study, our work also contributes to the literature in more substantive ways. Some papers in the foreign aid literature discuss how aid resources (i.e., the intervention itself) can be strategically manipulated by the domestic government to achieve favorable political outcomes. Briggs (2012), for example, shows that the incumbent government in Ghana directed World Bank funds from an electrification project strategically to constituencies which benefitted them in the elections. Similar evidence has been found in the context of Kenya (Jablonski (2014), Briggs (2014)) and Zambia (Masaki (2018)) as well. Our work shows similar manipulation of the third party fund in the context of India. Other papers in the foreign aid literature highlight the negative impact of aid on certain political outcomes, such as corruption (Isaksson and Kotsadam (2018)), civil conflict (Nunn and Qian (2014)), deterioration of institutions (Djankov et al. (2008), Busse and Gröning (2009)) etc. We contribute to the literature by showing negative impacts of intervention on reelection rate and party switching behavior of local politicians. Moreover, the results highlight that political turnover, i.e., change of political power mid-way through a program implementation can substantially affect program outcomes by changing political incentives.

We also contribute to the literature that examines allocation of public resources by a higher level government across local jurisdictions. Bardhan and Mookherjee (2006), for example, point out that the state government in West Bengal (under the Left Front) did engage in strategic allocation resources across GPs to favor cer-

tain groups. Khemani (2003), on the other hand, argues that in the context of India, constitutional rules can limit the extent to which resource allocation is determined politically. Several papers point out that politically aligned regional or local governments get higher resources from the higher level government (see Solé-Ollé and Sorribas-Navarro (2008) for evidence from Spain, Worthington and Dollery (1998) for Australia and Levitt and Snyder (1995) for USA etc.). Our paper shows that such incentives for strategic allocation can get more pronounced in presence of a third party intervention that claims to improve governance qualities of local governments. Moreover, we show how party allegiance of local incumbents can also respond to such differential allocation to aligned jurisdictions. Finally, it also adds to the set of papers that examine party switching behavior of politicians in other contexts (such as Reed and Scheiner (2003), Yoshinaka (2005), Desposato (2006), Barrow (2007), Grose and Antoine (2003) etc.). While these papers mostly focus on national level legislatures and discuss the various factors that shape their party defection decisions, we study this phenomenon in local elections in India and highlight how it can be used by the incumbent government to undermine the effect of an intervention.

The rest of the paper is organized into the following sections: section 2 lays out the background and institutional details, section 3 describes the formal model we use to form our hypotheses, section 4 presents the data and the summary statistics, section 5 elaborates on the identification strategy and estimation methodology, section 6 discusses the results, and finally, section 7 makes concluding observations.

## 2 Institutional Details and Context

### 2.1 Village Governance in India

The village council or Gram Panchayat is the lowest tier of governance in India. It is part of a three-tier governance structure that all Indian states adopted after the $73^{rd}$ Constitutional amendment in 1993. In this system, each state is divided into a number of districts. West Bengal, for example, has 18 districts. The districts are further divided into blocks which are in turn divided into GPs. Each of the three tiers is governed by an elected council headed by a president. The GP council is composed of council members each of whom is elected from a single member ward within a GP. Each GP has a president, known as the *sarpanch*, analogous to a mayor

in a municipality. All the ward representatives or councilors are elected every five years in a local election. In West Bengal, the GP president is elected indirectly, by the elected council members from among themselves.[11] Therefore, the elections in a GP in West Bengal happen at the GP-ward level. Importantly, unlike in most other Indian states, political parties can nominate candidates in the ward level elections in West Bengal. Therefore, we know the party affiliations of the candidates as well as the incumbents.[12]

The council members of a GP decide on their activities through deliberations in their internal meetings. The primary responsibility of a GP council is to provide local public goods, such as village roads, drinking water facilities (hand pumps, wells, etc.), primary schools, health centers, irrigation facilities (such as public canals, watersheds) etc. The GPs, however, have minimal taxation power and hence their own resources can hardly suffice to meet their expenditure needs. Their expenditure is met by resources received from higher tier governments, i.e., the state and the central governments. These resources received by the GPs can be divided into two broad categories - tied and untied (or discretionary) funds.

Tied funds are those which are earmarked to be used for a particular government scheme or program. GPs are usually the implementing agencies of these schemes. We mention four such important schemes. The National Rural Guarantee Scheme (NREGS) program is a large public works program run by the central government under which one adult member from each rural household is entitled to 100 days of employment in a year. Employment is generated by implementing various public projects in the villages. This is by far the most politically salient program and received a lot of attention from researchers. Among the other central government schemes that GPs implement include the IAY (Indira Awas Yojna) which provides subsidy to poor households to build a house, the National Rural Health Mission (NRHM) which provides affordable primary health care services, including maternal health and child care services, to the rural population, and the Backward Region Grant Fund (BRGF) which provides additional resources to backward regions of India to meet their local infrastructure needs etc.

[11] In some other states of India, the *Sarpanch* is directly elected by the voters, as in a presidential system.

[12] In most states of India political parties can not formally nominate candidates in local elections. Therefore, even though the local candidates may have party affiliations, it is not observable to the researchers in administrative data.

Each GP also receives untied or discretionary grants from the state government. These grants are not earmarked for any government program and therefore can be used for the provision of public goods at the discretion of the GP council. The state government, therefore, enjoys a greater degree of control over the amount of discretionary funds that the GPs receive. The allocation of resources for the central government schemes is decided by the relevant ministries of the central government. Therefore, the state government has limited capacity to influence its allocation across the GPs within the state.

### 2.2 ISGP Program

In September 2010, the World Bank initiated a program in collaboration with the state government of West Bengal to strengthen the institutional capacity of local governments by providing training to the GP politicians and officials. The program is called the Institutional Strengthening of Gram Panchayats (ISGP). The program officials first identified nine districts where they wished to focus on and then selected 1000 GPs from the 1684 GPs present in those districts to implement the program.[13] We refer to these GPs as "program GPs" and the 684 GPs not selected from the nine districts as "non-program GPs." Figure 1 shows the program GPs in shaded areas in a map of West Bengal.[14] We observe that they are geographically dispersed across the state. We discuss in detail the criteria used to identify the program GPs in the section on identification strategy (Section 5.1).

The program had two components –governance training and allocation of discretionary grants. A team of program officials at the state level trained a number of teams of officials in each of the nine districts identified for the IGSP program. The district teams then, in turn, visited the respective program GPs and trained the politicians and the local officials in the GPs through onsite handholding. The training involved best practices in budgeting, preparation of annual plans, maintenance of accounts of revenue and expenses, usage of computers and digital software for these activities, following procedures for holding village meetings and meetings of council members, maintenance of compliance protocols and various other governance issues.

[13]The districts are Bankura, Birbhum, Bardhaman, Coochbehar, Dakshin Dinajpur, Howrah, Nadia, Paschim Midnapur and Purba Midnapur.

[14]The ISGP program is still continuing in the state and since the fiscal year 2016-'17, it has been expanded to cover the entire state of West Bengal.

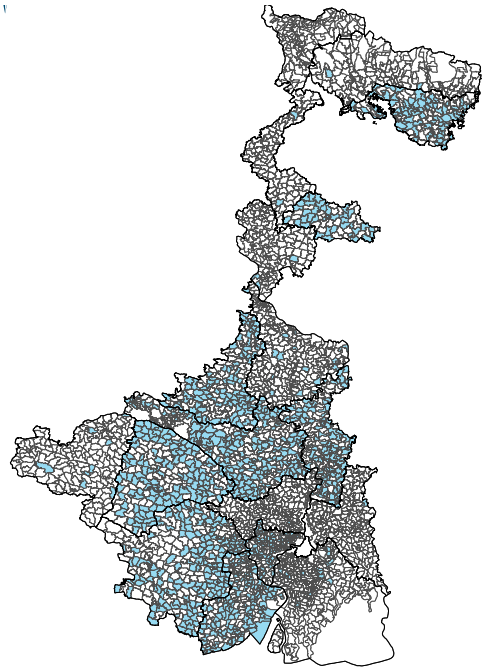


**Figure 1.** The ISGP Program GPs in West Bengal

There were in total 62 teams involved in training the local functionaries of the 1000 GPs and, a team on average spent 24 mentoring days in each GP for the purpose of training. In the subsequent years following the training, the program office sent third party auditors to each of the program GPs to audit their governance practices on an yearly basis. Moreover, the program provided an annual discretionary grant to the program GPs which were found to be performing well according to the audit. This discretionary grant (the "ISGP grant"), like any other discretionary grant, could be utilized for the provision of any local public goods and services. For the program GPs, therefore, the total discretionary grant includes the ISGP grant as well. The ISGP program is managed from within the relevant department of the state government. Further, the government officials were also involved in the planning, execution, and monitoring of the program. Therefore, the state government exercised control in the allocation of ISGP grant as well. In the first three years since the program began, 483, 841, and 794 GPs qualified for the ISGP grant for the financial years 2010-'11, 2011-'12, and 2012-'13, respectively.[15] In the year 2012-'13,

[15]For the financial year 2010-'11 the grant was meant for only six months, as the program began in September 2010.

the average size of the ISGP grant was about 42 rupees per capita in a GP, which is about a third of the total discretionary fund received from the state.[16]

### 2.3 State and Local Elections in West Bengal

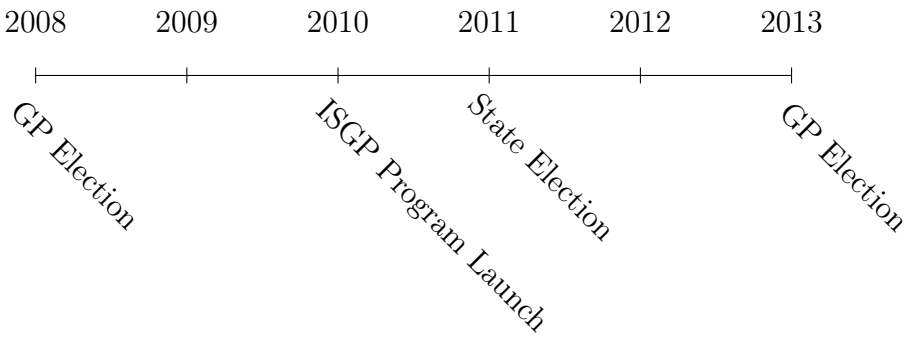



**Figure 2.** Election Timeline

In West Bengal, as in the rest of India, both state and local elections happen in every five years. However, the two types of elections are not synchronized in the state –the local elections happen two years after the state level election. Figure 2 shows the timeline of the elections in the state for the period 2008–2013. The state election in 2011 is a critical one as a new party –AITC (All India Trinamool Congress) –came into power that year defeating the coalition of Left parties, known as the Left Front, led by the CPI(M) (Communist Party of India - Marxist). Prior to the 2011 election, the Left Front had been in power in West Bengal for multiple terms. Importantly, they had a sizable presence in the local governments as well. In the 2008 GP elections, for example, a majority of wards in our sample GPs were won by the Left Front. They were also the majority party in a majority of GPs. We discuss this in further detail in Section 4.2. Therefore, post 2011 while the AITC was in power in the state government, the Left Front had a significant presence in the local governments. It is therefore expected that the new ruling party, AITC, would seek to change this scenario in the forthcoming local elections in 2013.

Since the state government allocates discretionary grants to GPs, as mentioned previously, the new ruling party could potentially use it to influence the

[16]The fund is, however, small compared to the overall annual expenditure of a GP. For example, it is only 8% of the annual NREGS expenditure.

outcome in its favor. If we look at the GP election outcomes, we do observe that the share of wards won by AITC doubled in 2013; in 2008 they won only 25% of seats, which increased to 50% in 2013. The ISGP program was introduced in 2010, i.e., the year before the state level election took place. In the next section, we conceptually examine the consequences of such an intervention on the resource allocation strategy of the new state government in power after 2011 with an objective to maximize its party's performance in the upcoming local elections.

## 3 Model

To understand the potential implications of the ISGP intervention we posit in this section an analytical model. It helps us form expectations regarding the kind of patterns we expect to observe in the data and guides our empirical tests. We conceptualize the problem as an optimization exercise for the state government. For simplicity, we assume that the state has a two-tier governance structure - the state government above and a continuum of villages or GPs below. We assume that GPs are of mass one and are denoted by $i \in [0, 1]$. Each GP has an incumbent politician who is either aligned to the ruling party ($A$), or belongs to the rival party, i.e., is non-aligned ($N$).[17] We denote the party identity of incumbent in GP $i$ by $\rho_i$, where $\rho_i \in \{A, N\}$.

The probability that an incumbent gets reelected in the forthcoming local election, denoted by $p$, depends on how many resources the GP has received from the state for the provision of local public goods and services (denoted by $t$), and the governance quality of the GP (denoted by $g$). $g$ therefore denotes the overall managerial quality of the incumbent in a GP or the level of efficiency with which she implements public projects. The relationship between the winning probability of the incumbent and $g$ and $t$ is not straightforward. The likelihood of win depends on the vote share of the incumbent, which in turn would depend on her performance. $g$ and $t$ may affect the performance positively, and hence, can indirectly affect the probability of win. We however do not model these mediating channels in detail and

[17] To keep the theoretical analysis simple we assume that in each GP there is only one incumbent politician and she can belong to either the ruling party of the state government or one of the opposition parties. We interpret it as a GP having either a "high" presence of the ruling party (i.e., a larger number of council members belonging to the ruling party), or a "low" presence, respectively. In the empirical analysis, we accordingly categorize GPs based on whether majority of incumbents in the GP belong to the ruling party.

assume a reduced form relationship between $p$ and, $g$ and $t$. Specifically, we assume that $p$ is expressed as a function of $g$ and $t$, i.e., $p = p(g, t)$, where

$$\frac{\partial p}{\partial g} > 0, \quad \frac{\partial p}{\partial t} > 0, \quad \frac{\partial^2 p}{\partial g^2} < 0, \quad \frac{\partial^2 p}{\partial t^2} < 0, \quad \text{and} \quad \frac{\partial^2 p}{\partial g \partial t} > 0.$$

This means that $p$ is increasing and concave in both the arguments. Importantly, $g$ and $t$ are *complements* in nature in determining the reelection probability. Therefore, the same allocation of resources to a GP would have a larger effect on its incumbent's reelection chances if the GP has a higher governance quality.[18] To keep things simple, we assume that initially all GPs have the same governance capacity, i.e, $g = g_0$ for all GPs.[19]

The state government has to allocate a given sum of money $R$ (say, state resources available for transfers to the local governments) across the GPs. The objective of the state government is to maximize the presence of the ruling party across local governments in the forthcoming local elections. We assume that the state government is aware of the governance qualities as well as party alignments of incumbents in all GPs. Let $m_A$ be the proportion of GPs with incumbent type $A$ and $m_N$ be the proportion of GPs with incumbent type $N$. Therefore, $m_A + m_N = 1$. We analyze the results of our model under three different scenarios - (i) no intervention, (ii) with ISGP intervention, and (iii) with ISGP intervention and possibility of politicians switching party affiliation.

### 3.1 No Intervention

In this case the optimization problem of the state government is straight forward. It is given by

[18] Notice we do not need the cross partial to be high in magnitude. As long as it is positive, i.e., there is some complementarity between $g$ and $t$, our results would follow.

[19] In reality, the GPs are likely to be heterogeneous in their governance qualities. However, we empirically estimate the causal effect of the ISGP program by using the regression discontinuity design (RDD) method (see Section 5 for details). Hence within our comparison pool of GPs, the governance quality would be similar across all GPs.

$$\begin{aligned} \max_{(t_i)_{i\in[0,1]}} \quad & \int_{\rho_i=A} p_i di + \int_{\rho_i=N} (1-p_i) d_i \\ \text{s.t.} \quad & \int_i t_i di \;=\; R \\ & t_i \geq \underline{t},\ \forall i \in [0,1]. \end{aligned}$$

The objective function is the sum of probabilities of the ruling party winning in each GP. The first condition is the standard budget constraint faced by the state government. The second constraint says that the state government needs to allocate a minimum amount $\underline{t}$ to any GP. We assume that $\underline{t} < R$. In absence of such a constraint, the state government would always prefer to allocate zero resource to all opposition GPs. We implicitly assume that doing so is costly, which motivates our constraint.[20] We have the following result for the No Intervention case:

**Result 1** *In absence of any intervention, the state government allocates higher resources to aligned GPs relative to non-aligned GPs.*

All the proofs of the results are in Appendix Section A. Result 1 shows that the GPs with the ruling party in power gets a higher allocation of state resources. This is obvious given the way we have set up the incentive of the state government. With this baseline, rather straight forward, result in place, we now analyze how the ISGP intervention on a subset of GPs may affect the state government's resource allocation problem.

### 3.2 ISGP Intervention

As part of the intervention, a subset of GPs are selected for the ISGP program. Each GP is therefore either assigned to the ISGP program ($I_i = 1$) or not ($I_i = 0$). For simplicity, we assume that half of the aligned and non-aligned GPs each are assigned to the ISGP program.[21] The intervention leads to an increase in the governance quality of the program GPs from $g_0$ to $g_H$ ($g_H > g_0$).[22] Also, the program GPs

[20] The source of the cost could be public pressure created by the GP incumbents through media and demonstrations etc. to protest against below "subsistence" allocation.

[21] The results remain same even if the proportions are different from half, as long as they are not very close to either zero or one. In our estimating data sample, the share of ISGP villages is 57%.

[22] This is not necessary for us. Even if the program does not significantly increase the governance quality of the program GPs, as long as the state government perceives it to be the case, the results would follow.

receive some additional resource —the ISGP grant.[23] The state government now has an additional resource $E$ from the ISGP grant to be distributed only among the program GPs. The total resources available to the state government is therefore $R + E$. We denote by $r_i$ the resource from the state budget allocated to GP $i$. Let $e_i$ denote the ISGP grant allocated to a program GP $i$. The total grant $t_i$ allocated to a program GP is, therefore, given by $t_i = r_i + e_i$, and for a non-program GP it is $t_i = r_i$. Now we restate the government's optimization exercise as follows.

$$
\begin{aligned}
\max_{(t_i)_{i\in[0,1]}} \quad & \left[\int_{I_i=0,\rho_i=A} p_i di + \int_{I_i=0,\rho_i=N} (1-p_i) di\right] + \left[\int_{I_i=1,\rho_i=A} p_i di + \int_{I_i=1,\rho_i=N} (1-p_i) di\right] \\
\text{s.t.} \quad & \int_i t_i di \;=\; R + E \\
& \int_{I_i=1} e_i di \;=\; E \\
& t_i \geq \underline{t},\ \forall i \in [0,1] \\
& t_i \geq \bar{t},\ \forall i \in \{i \mid I_i = 1\}.
\end{aligned}
$$

The first constraint is the standard budget constraint faced by the government, while the second one states that the ISGP grant is to be distributed among program GPs only. The next constraint states that the state government has to allocate a minimum amount $\underline{t}$ to all GPs. The final constraint requires the state government to allocate at least $\bar{t}$ to any program GP, where $\bar{t} > \underline{t}$. This captures the idea that the program GPs receive more resources than non-program GPs due to the presence of ISGP grant.[24]

Clearly, the state government would allocate $\underline{t}$ to a non-aligned non-program GP and $\bar{t}$ to a non-aligned program GP. The non-aligned program GP will now receive a higher amount, $\bar{t}$, thanks to the ISGP program. Now, within the aligned GPs, the program GPs have higher governance quality. Since $g$ and $t$ are complementary, it incentivizes the state government to allocate higher resources to the program GPs. However, program GPs are also entitled to receive additional resources, thanks to the ISGP grant. Since marginal return on resource allocation is

[23] In reality some program GPs didn't receive the ISGP grant even though they received the training, as we describe in Section 2.2.

[24] We implicitly assume that $\frac{1}{2}(\bar{t}-\underline{t}) < E$, i.e., the minimum additional allocation to the program GPs is feasible.

diminishing in initial allocation, it pushes the allocation in the opposite direction. Therefore, without imposing additional structure on the problem, the effect of having the ISGP intervention on resource allocation would remain ambiguous. We now make the following assumption:

$$\frac{\partial p(\bar{t}, g_H)}{\partial t} > \frac{\partial p(\underline{t}, g_0)}{\partial t} \tag{1}$$

Assumption (1) says that at the minimum allocations for the program and non-program GPs, the marginal return on allocation is still higher for the program GPs. Essentially, it assumes that the difference $(\bar{t} - \underline{t})$ is not very high relative to the difference between $g_H$ and $g_0$. Under this assumption, we show that the intervention distorts the resource allocation in favor of the program GPs that are aligned to the state government. Formally, we have the following result:

**Result 2** *The program GPs receive higher resources than non-program GPs. The state government allocates even higher resources to aligned program GPs.*

At this point, we introduce in this framework the possibility of party switching by incumbent politicians. As we will discuss later in Section 6, party switching is a common, though less explored, phenomenon in the local political economy of rural India. The possibility of local politicians switching their party affiliations allows an additional channel through which the ruling party at the state can improve its presence in the local governments. In the subsequent discussion, we examine the implication of such a possibility.

### 3.3 ISGP Intervention and Party Switching

Suppose some of the incumbents are willing to switch their party affiliation.[25] The following is the timeline of events in the model. First, each incumbent $i$ simultaneously decides whether to switch her party identity or not, i.e., $W_i \in \{1, 0\}$. The new

[25]There could be unobservable characteristics of the incumbents, such as (lack of) loyalty towards a party or (lack of) belief in a specific ideology etc., which could make them more prone to party switching. We assume that such incumbents are present in equal proportions across both program and non-program GPs. This implicitly assumes that the intervention was done on a randomly selected subset of GPs. In reality, the program GPs were not selected randomly, as we describe above. However, as before, our RDD methodology in the empirical analysis ensures that within our comparison pool of program and non-program GPs, the program assignment was effectively random.

or final party identity of the incumbent $i$ is now denoted by $\widetilde{\rho}_i \in \{A, N\}$. Hence, $\widetilde{\rho}_i = \rho_i$ if $W_i = 0$, i.e., the final party identity of the incumbent politician is the same as before if she has not switched party. The state government observes the final party identity of all incumbents and their governance qualities before allocating resources.

We assume that rerunning is costly for incumbents. Rerunning cost is normalized to zero if the incumbent doesn't switch her party and is $c \in (0, 1)$ if she switches her party. The expected cost of rerunning, therefore, is higher for the switcher incumbent compared to a non-switcher. This is because a switcher incumbent has to spend time and effort to familiarize herself with the organizational structure and the overall machinery of the new party to be able to campaign successfully. We assume that the rents accrued to the incumbent from holding office is one. Thus, the expected payoff of the incumbent politician if it decides to rerun is given by

$$U(t_i, g_i) = \begin{cases} p(t_i, g_i) - c & \text{if } W_i = 1, \\ p(t_i, g_i) & \text{if } W_i = 0. \end{cases}$$

Given the objective function of the state government and the fact that switching incentives of the politician are shaped by resource allocation, the opposition party incumbents would have a greater incentive to switch to the ruling party than the other way around. Moreover, this incentive will be stronger in the program villages as captured by our next result.

**Result 3** *There exists $c^* \in (0, 1)$ such that for all $c \leq c^*$, the intervention increases party switching behavior in program GPs. Switching is in favor of the ruling party in the state government.*

Our theoretical analysis, therefore, highlights the importance to take into account how the state government may respond to an intervention. It shows that the response from the state government generates heterogenous effects of the intervention and affects how incumbent politicians behave. We now turn to the discussion on empirical analysis where we show evidence in favor of the predictions of the model.

## 4 Data Description

### 4.1 Sources and Compilation

We compile several administrative datasets from four different sources for the empirical analysis. We describe the datasets below.

**Election Records and Coding of Incumbent Behavior:** The detailed ward-level election records for the 2008 and 2013 village elections are obtained from the State Election Commission. The dataset contains the names and party affiliations of all the candidates, along with their vote tallies. We match the names of the candidates across the two elections to create markers for the council members from 2008 election who were rerunning in 2013 and who got reelected. For a given council member in a ward in a GP in 2008, we search for a candidate with the same name appearing in the candidate list of any ward election *within* the GP in 2013. If the name appears then we code the council member to be rerunning in 2013. Similarly, if there is a winner in any 2013 ward election within the GP with the same name as the council member then we code the council member as reelected in 2013. Understandably, this method may have errors. It is quite possible that a different individual bearing the same name as one of the incumbent council members may be running for election in the same GP. Therefore, our measures of rerunning and reelection rates could potentially be higher than what they truly are. We, however, should not expect the extent of such errors to change discontinuously around the evaluation score threshold. Therefore, the estimates of the causal effect of the program on these rates should still be valid.

Since the election results contain the party affiliations of the candidates, one can also match the party names across the two elections for the subset of incumbent council members from 2008 who chose to rerun in 2013. We check if the rerunning incumbents have the same party across two elections or not. If the party names do not match, then we code the incumbent as a "party switcher." This allows us to compute party switching rates of incumbents across GPs in our sample. This method suffers from the same problem of miscoding as the name matching method. However, the causal effect of the program on party switching behavior should still be valid for the reason explained above. One additional issue with this approach is that we only observe party switching by those incumbents who chose to rerun in

2013. However, we are interested in the incentive of the local incumbent to switch parties only if she is rerunning. This is because the state government's resource allocation strategy would depend on the behavior of only those incumbents who are rerunning as they could potentially be co-opted to increase the ruling party's presence in the GP. Therefore, we do have the necessary information regarding party switching behavior that we need for the analysis.

**GP Budgets:** It is generally hard to get data on GP level budgets, as the GP accounts are not streamlined and digitized in most states of India. We, however, were able to access from the office of the fourth State Finance Commission (SFC) of West Bengal, the yearly revenue and expenditure details of GPs for the period 2008–2013. The dataset on GP budget contains detailed information on revenue received from various sources as well as expenditure carried out under various heads for every year during 2008–2013. One of the primary objectives of the SFC is to propose a formula to allocate across GPs (and other local government entities) the state government's resources dedicated to local governments. For this purpose, they had carefully collected this data from each GP. Moreover, they had sent out teams of inspectors to a subset of GPs to verify their actual accounts to get a sense of the budgets. Therefore, it likely that the data is of higher quality.[26]

**ISGP Administrative Data:** We collect administrative data regarding the ISGP program from the ISGP Project wing within the Panchayats and Rural Development Department, Government of West Bengal. The dataset includes the evaluation scores of all the GPs in the 9 districts initially chosen by the program officials for the years 2005-'06 to 2008-'09.[27] It also contains some additional information about the quality of governance practices of the program GPs as assessed by the program auditors.

[26]For further verification we compare the official NREGS records (available from www.nrega.nic.in) for 2012-'13 against the SFC data. Appendix Table D2 reports the average values of the two measures and their correlation in the form of regression. The regression coefficient between the two measures is 0.97. It is statistically significant at 1% level and is statistically not different from one. This gives us confidence in using the SFC data for our analysis.

[27]We only use the evaluation score based on the 2007-'08 survey for our purpose.

**Demographic Data:** We match the datasets with details of demographic information of the GPs, such as total population, sex ratio, SC/ST population, etc. The demographic dataset was compiled by the fourth State Finance Commission (SFC) using the census of 2011 and was generously shared by the SFC officials.

**Table 1**—Summary statistics

| Variable | Mean | Standard Deviation |
|---|---|---|
| *Panel A: Demographics* | | |
| Total Population | 20261.69 | 5995.10 |
| SC/ST population share | 0.36 | 0.19 |
| Literacy rate | 0.77 | 0.10 |
| Sex ratio | 0.937 | 0.022 |
| *Panel B: GP Revenue & Expenditure* | | |
| *for 2012-'13* | | |
| Per capita total discretionary grant | 133.18 | 71.19 |
| Per capita ISGP grant | 42.21 | 49.91 |
| Per capita expenditure on public goods | 321.22 | 520.44 |
| Per capita NREGS expenditure | 526.25 | 421.52 |
| Per capita BRGF expenditure | 21.38 | 31.69 |
| Per capita IAY expenditure | 1.39 | 21.46 |
| Per capita NRHM expenditure | 3.92 | 6.56 |
| *for the period 2008-'09 to 2012-'13* | | |
| Per capita total discretionary grant (per year) | 78.46 | 78.76 |
| Per capita expenditure on public goods (per year) | 212.22 | 343.12 |
| *Panel C: Local Election* | | |
| Share of Left Front Seats in a GP in 2008 | 0.55 | 0.30 |
| Share of AITC Seats in a GP in 2008 | 0.25 | 0.26 |
| Share of AITC Seats in a GP in 2013 | 0.50 | 0.42 |
| Rerun rate in 2013 | 0.17 | 0.38 |
| Reelection rate in 2013 | 0.08 | 0.27 |
| Rate of Party Switching in 2013 | 0.22 | 0.41 |
| Rate of Party Switching in favor of Ruling Party | 0.12 | 0.33 |
| Rate of Party Switching to Independent Candidate | 0.04 | 0.21 |

*Notes:* The variables in Panels A and B are at the level of GP, while that in Panel C are at the level of ward-GP. The Panel B figures are in Indian Rupees.

## 4.2 Descriptive Statistics

Table 1 reports the descriptive statistics for demographics, election data and GP's revenue and expenditure figures. We have complete election data for 17345 unique wards across 1370 GPs comprising of both ISGP and non-ISGP GPs for 2008 and

2013. Of these GPs, the demographic details are for 1351 GPs.

Panel A in Table 1 shows the descriptive statistics related to demographics. The average population of GP is 20,261 of which 36% belong to scheduled class (SC) or scheduled tribe (ST) groups.[28] The literacy rate and sex ratio of the sample GPs are 0.77 and 0.93, respectively.

Panel B reports the revenue received under discretionary grants and expenditure carried out under the various central government programs. The total per capita discretionary grant received in 2012-13 by an average GP is about 133 rupees. An average GP spent about 526 rupees per capita under the NREGS program, which indicates that it is the largest expenditure head in an annual budget of a GP. The other schemes, such as the BRGF, IAY and NRHM together constitute a small fraction of the overall spending by a GP. The GPs on average spent 321 rupees per capita in 2012-13 on provision of public goods and services. This is higher than the discretionary grant because it possibly includes public projects funded by non-discretionary funds as well as leftover revenue from the previous year. Since we do not know the revenue source used to fund the public projects we are not able to isolate the expenditure carried out from the discretionary funds received in the current fiscal year. We discuss this further in Appendix Section C where we analyze the effects of the program on public goods provision. Panel C reports the summary of electoral outcomes. In 2008, the Left Front won 55% of wards in an average GP while AITC won only 25%. The share of AITC controlled wards in 2013 increased to 50%. Focusing on the behavior of incumbents rerunning in 2013, we observe that on average 17% of the incumbents from 2008 reran for office in 2013 elections and 8% got reelected. The reelection rate, therefore, is low in GPs in West Bengal, which is not unlike the other states of India (Banerjee et al., 2017). We discuss the party switching behavior below in the relevant part of Section 6.

## 5 Empirical Methodology

### 5.1 Identification

We wish to estimate the causal effect of the ISGP program on various outcome variables to test our hypotheses. However, the program GPs were not randomly

[28]The Scheduled Castes (SCs) and Scheduled Tribes (STs) are officially designated groups of historically disadvantaged people in India.

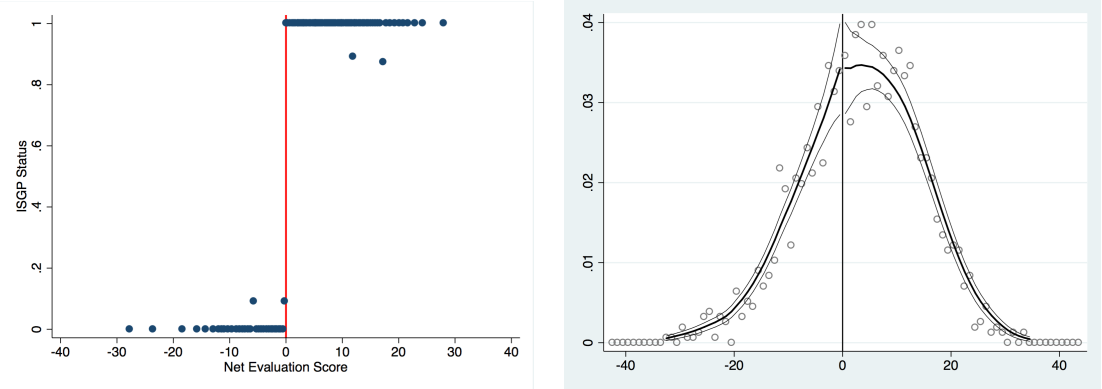
selected. Therefore, we can not simply compare the average values of the outcome variables in program vs. non-program GPs. The program officials first selected nine districts from the full list of 18 districts of West Bengal, since these were the most well-functioning districts of the state. The officials then used an index of performance created by the state government, known as "self-evaluation scores," to select the 1000 GPs out of the total 1684 GPs present in the 9 districts. These scores, ranging from 0 to 100 in value, were created using the responses of the GP functionaries in a Self Evaluation Survey conducted in 2007-'08. The survey was conducted by the relevant department of the state government for the entire state and had been done on an annual basis for the previous few years as well.

The survey asked a range of questions on attendance of villagers in Gram Sansad meetings[29], civic services (such as road construction, wells and drainage repairing etc.) delivered, pro-poor activities undertaken, physical infrastructure constructed, mobilization and utilization of resources, management of GP offices and documents etc. Each of these items were scored based on how well a GP had performed on them, as reported by the GPs. The aggregate score created from the individual scores is referred to as the self-evaluation score.

The program officials used a cut-off value of the self-evaluation score to select the GPs into the program. We, therefore, identify the causal impact of the ISGP program by exploiting the fact that inclusion of GPs into the ISGP program is plausibly exogenous across GPs around the cut-off score. Hence, we use a sharp regression discontinuity design (RDD) to select our treatment and control GPs. The threshold value of evaluation score that was used to decide inclusion into the program was district specific. This is because for each district, GPs were ordered according to their evaluation scores and the top 60% GPs were included in the program. We therefore create a *net evaluation score* which is the evaluation score of a GP net of the relevant district specific cut-off and use that as our forcing variable. If the variable takes negative value then the GP is not included in the program, while a positive value would mean that the GP is part of the program. Figure 3(a) shows the distribution of the ISGP status of GPs (included or not) as a function of the net evaluation score. We observe that there is a strict discontinuity in the program

[29]Gram Sansad meetings are regularly held village meetings where villagers can voice their demands for various public goods to the local politicians.

status of GPs at the net evaluation score of zero.[30]




(a) Discontinuity in Evaluation Score (b) McCrary Test

**Figure 3.** Random ISGP Status Assignment at the Evaluation Score Cutoff

It is important to emphasize here that the self-evaluation survey that the program officials used was conducted in 2007-'08, i.e., three years prior to the ISGP program. The GP politicians had no knowledge of the ISGP program at that time. Therefore, there is no reason to believe that there was manipulation of this score around the (district specific) cut-off to get in or out of the program. We formally test this claim by carrying out the McCrary test. Figure 3(b) plots the density of the net evaluation scores for negative and positive values separately. We see that the densities are not statistically different from each other at the cut-off value of zero. To further bolster our claim that the RD design helps us identify the causal impact of the program, we show that various baseline characteristics of GPs, such as total population, population belonging to SC/ST groups, sex ratio, etc., move continuously as a function of the forcing variable at the cut-off value of zero. Appendix Table D3 reports the results of running a standard RDD specification on twelve baseline characteristics. For all the variables we get that there is no discontinuity at the threshold score, implying that the GPs which are on both sides of the cut-off and are in the neighborhood of the cut-off are comparable in terms of baseline characteristics. Therefore, any discontinuity in the outcome variables at the cut-off score can be attributed to the causal effect of the program.

[30]We observe that there is a very small share of non compliers in the data. Hence, it effectively becomes a sharp discontinuity.

The rationale for using the evaluation score as the selection criteria, as explained by the program officials, was that the evaluation score is supposed to capture how well-functioning a GP is. The program officials intended to initiate the program in the most well-functioning GPs within each district, and, hence selected high score GPs. Whether the claim about the score is true or not is, however, hard to say. Since the score is based on the responses of the GP officials to a survey, the score could be a very noisy index of governance quality.[31] The relationship between score and governance quality, however, has no bearing on our identification strategy. As long as the nature of the relationship, howsoever complex, doesn't change discontinuously around the district specific cut-off points, the RDD method would give us the correct estimate of the causal effect of the program.

### 5.2 Empirical Strategy

We consider two sets of outcome variables for our analysis —the GP resource allocation and the electoral outcomes of the incumbents. We note that even though the elections in a GP happen at the level of wards, the revenue received is at the level of the entire GP. Our unit of analysis is, therefore, either a GP or a ward within a GP depending on which outcome variable we focus on. To estimate the effect of the intervention on any of the outcome variables we perform regression discontinuity design (RDD), whereby we estimate the jump in the value of the outcome variable at the threshold value zero of the net evaluation score. We first compute the optimal bandwidth for an outcome variable, $h^*$, using the MSERD method proposed by Calonico, Cattaneo, and Titiunik (2014). We then restrict the sample to GPs with net evaluation scores in the range $[-h^*, h^*]$.[32] To perform the RDD estimation we run the following specification:

$$R_{gd} = \phi + \gamma_1 \mathcal{I}[score_{gd} > 0] + \beta_1 score_{gd} + \beta_2 \mathcal{I}[score_{gd} > 0] * score_{gd} + \epsilon_{gd} \quad (2)$$

[31] We regress per capita NREGS expenditure and per capita person-days generated under NREGS in the year 2012-'13 on the net evaluation score of GP, controlling for a host of GP level observables and district fixed effects. We find that higher net evaluation score is indeed positively correlated with greater NREGS implementation (see Appendix Table D1).

[32] The value of $h^*$ and hence the estimation sample would depend on the specific outcome variable considered. Therefore, the sample size may vary across outcome variables.

where $R_{gd}$ is per capita resource allocation in GP $g$ in district $d$, $score_{gd}$ is the net evaluation score of the GP. Our coefficient of interest is $\gamma_1$ which estimates the jump at the threshold.

Some of our empirical exercises involve testing for heterogeneity in the program effects. For example, Result 2 tests whether the intervention led to additional resources being allocated to aligned program GPs (i.e., program GPs with AITC in power). We therefore have to identify heterogeneity in the discontinuity (across aligned and non-aligned program GPs). Hence, we propose an approach similar to the *difference-in-discontinuity* method proposed by Grembi, Nannicini, and Troiano (2016). To test for heterogeneity claimed by Result 2 we define a dummy variable $M_{gd}$ which takes value one if the GP $g$ in district $d$ has majority of council members belonging to AITC party at the baseline (i.e., after the 2008 GP elections), and zero otherwise. We say that GPs with $M_{gd} = 1$ are ruled by AITC and refer to them as aligned GPs. Since decision-making within GPs happens through deliberation and negotiation among council members, this we believe is a fair assumption to make. Finally, we run the following specification on the same sample of GPs as above:

$$\begin{aligned} R_{gd} &= \phi_d + \gamma_1 \mathcal{I}[score_{gd} > 0] + \gamma_2 M_{gd} + \gamma_3 \mathcal{I}[score_{gd} > 0] * M_{gd} \\ &\quad + \beta_1 score_{gd} + \beta_2 \mathcal{I}[score_{gd} > 0] * score_{gd} + \epsilon_{gd}, \end{aligned} \tag{3}$$

In both specifications $\beta_1$ ($\beta_1 + \beta_2$) captures the linear relationship between the outcome variable and the net evaluation score to the left (right) of the threshold score. We use local linear regression on the two sides of the threshold following Grembi, Nannicini, and Troiano (2016).[33] Many researchers also propose this as the benchmark, or even the ideal design in contexts involving RDD (see Gelman and Imbens (2019), Imbens and Lemieux (2008)). $\gamma_1$ is the discontinuity in resource allocation at the threshold score for GPs which are not aligned. Hence, $\gamma_1$ is the

[33]The context of Grembi, Nannicini, and Troiano (2016) requires them to test for heterogeneity in discontinuity over time (before and after changes in fiscal rules). Therefore, they allow the linear relationships to also change over time. In our context, the source of heterogeneity is cross-sectional (across aligned and non-aligned GPs). However, we test specification (3) for *each year* within the tenure of a GP council separately. Therefore, in our analysis we do allow $\beta_1$ and $\beta_2$ (and all other coefficients) to vary over time. Adding further interactions in specification (3) would lead to power issues. For robustness, we propose an alternate specification in Appendix Section B where we pool all years' data and run a single regression on them in a "pre-post" setup. The pooled sample gives us enough power to introduce all possible interactions in the specification. The result, reported in Appendix Table D4, produces almost identical results.

causal effect of the intervention on the non-aligned GPs. $\gamma_1 + \gamma_3$, on the other hand, is the effect of the program on the aligned GPs. Result 2 predicts that both $\gamma_1 > 0$ and $\gamma_3 > 0$. $\phi_d$ is district fixed effect. We use district fixed effects to ensure that we estimate the heterogeneity across the treatment and control GPs within a district. Allocation of state resources to GPs is subject to a lot of other political economy concerns, such as the political alignment or understanding between the district council and the state government. Since we have GPs spread across 9 districts, heterogeneity analysis of GPs on the two sides of the thresholds may lead to more noisy estimates due to such considerations. Therefore, absorbing the district specific characteristics makes the estimation sharper.

We explain the test of Result 2 to elaborate on our empirical strategy in general. The testing of Result 3 doesn't require any test of heterogeneity. Hence we use the standard RDD method in that case.

## 6 Results

**Governance Capacity:** We first test if the ISGP intervention increased the governance capacity of the GPs. We do this in two ways. First, we test how the intervention affected the implementation of central government programs by the GPs. The state government has less control over the GP level resource allocation under the central government programs. The implementation of these schemes is, therefore, not subject to the state government's resource allocation strategy. We therefore use the volume of program implementation as our first measure of governance capacity.[34] We then look at audit outcomes of the program GPs to infer about change in governance quality after the program came into effect. For the first exercise, we examine the implementation of four schemes, namely NREGS (National Rural Employment Guarantee Scheme), IAY (India Awas Yojna), NRHM (National Rural Health Mission) and BRGF (Backward Region Grant Fund).

Table 2 reports the RDD estimates of the causal effect of the intervention on these schemes. We look at two measures of NREGS implementation - per capita

[34]We understand that project implementation may get affected by various factors such as efficiency of the bureaucracy, which are distinct from the GP's governance capacity. However, the GPs are the implementing agency for all of these programs and existing evidence shows that the local politicians can significantly affect the overall implementation of public projects in a GP. We therefore consider this to be a proxy of governance capacity.

**Table 2**—RDD Results: Effect of ISGP on Program Implementation

| | NREGS | | IAY | NRHM | BRGF |
|---|---|---|---|---|---|
| | Person-days | Job Cards | | | |
| | (1) | (2) | (3) | (4) | (5) |
| ISGP | -0.49 | -0.01 | 13.64* | 3.79** | 7.07 |
| | (0.51) | (0.01) | (7.94) | (1.54) | (4.98) |
| Observations | 337 | 495 | 208 | 334 | 364 |

*Notes:* The dependent variables for the first two columns are per capita person-days generated (column (1)), per capita job cards issued (column (2)) under the NREGS program for the financial year 2012-'13. The next three dependent variables are per capita expenditures (in Indian rupees) in India Awaas Yojna (column (4)), National Rural Health Mission (column (5)) and Backward Region Grant Fund (column (6)). CCT refers to the MSERD bandwidth proposed by Calonico, Cattaneo, and Titiunik (2014). The control function is polynomial of order one. *** p<0.01, ** p<0.05, * p<0.1

person-days generated under NREGS (column (1)) and per capita job cards issued (column (2)). Since the NREGS program requires 60% of expenditure to be made on wage payment, the person-days of work generated under the program is a good proxy for the volume of public projects implemented (in real terms). Further, the residents of the village seeking work need to register themselves and get a "job card" issued against them to become eligible to work under the program. Therefore, number of job cards issued also provides an alternate measure of the scale of the program in the relevant GP. For both measures, we find that there is no effect of the ISGP program. The coefficients are very small and negative in magnitude and are not statistically significant. This implies that the program didn't lead to any increase in implementation of the program. Table 2 columns (3)-(5) report the effect on the per capita expenditures under the other three central government programs mentioned above. We see that for the first two programs, we find a statistically significant positive effect of the ISGP program. The sizes of the coefficients for all the three programs are also large. This suggests that the capacity building program did affect program implementation of the GPs by increasing its capacity to implement the relatively smaller welfare programs. It is possible that the GPs are relatively more invested in its implementation of the NREGS program, given the visibility and political salience of the program, as have been documented for many states (Rajasthan: Gupta and Mukhopadhyay (2016), Das, Mukhopadhyay,

and Saroy (2018); Andhra Pradesh: Afridi, Dhillon, Solan (2019)), including West Bengal (Dey and Sen (2016)). Therefore, the intervention could have had limited possibility to improve the implementation of NREGS to begin with.[35] The smaller programs are potentially more neglected by the GPs. This may explain why we observe that these programs experienced an improvement due to the intervention.

We next look at outcomes in the audits of the program GPs. One major issue with this outcome is that it is measured only for the set of program GPs after the program was introduced, as the auditors only tracked their performance post intervention. Therefore, we do not have a comparison group for this measure. However, by looking at how the measure changed over time, we may infer about the improvement in governance capacity of the program GPs. The audit teams gathered information about four aspects of governance practices of the GPs, namely their planning and budgeting process, project execution and service delivery, accounting and financial reporting, and finally, transparency and citizen engagement through public meetings. On each of the aspects the auditors acquired information about specific outcomes, such as whether annual plans were prepared and uploaded into the system after the relevant committee's meeting and approval, whether procurement contracts met the necessary criteria etc. Each of these items were scored and aggregated to create an overall governance score. The governance score ranges from 0—100. The first audit happened at the end of 2011-'12, and therefore, captures the governance quality during that financial year. The second audit is relevant for 2012-'13.

Appendix Figure D1 plots the densities of the two scores for the program GPs. As we see, the distribution shifts markedly towards the right, indicating that the practices improved significantly for the program GPs over the two years.[36] If we look at the "project execution and service delivery" component of the score, while 33% of program GPs received full score in that category in 2011-'12, it went up to 61% in 2012-13.[37] It is certainly possible that the non-program GPs also experi-

[35]It is of course possible that the intervention was ineffective and hence, we don't see any improvement in NREGS implementation. However, we would not have observed the improvement in implementation in other programs in that case. Alternatively, it could also be the case that the ISGP intervention was effective, but NREGS is administratively a more demanding program to implement. Hence, it is harder to improve outcomes in NREGS relative to other programs.

[36]The average score increased from 82 in 2011-'12 to 92 in 2012-'13.

[37]Maximum score for that category, like any of the other three categories, is 25.

enced similar improvement in their governance practices during that time. However, the program officials believed that the audit outcomes revealed real improvement in governance qualities of the program GPs due to the intervention.[38] The audit reports were made available to the government and therefore, the government also had reasons to believe that the IGSP program improved governance quality of the program GPs.[39] As we indicate before, our results would follow as long as the state government perceived the intervention to be effective, even if in reality it had a limited impact on the capacity of the GPs to implement projects.

**Resource Allocation to GPs:** We now examine the heterogenous effect of the ISGP intervention on per capita total discretionary grants that the GPs receive. As stated before, the discretionary grants include grants from the state government and, for the program GPs, the ISGP grant. We wish to test if the allocation of discretionary grant follows patterns predicted by our theoretical analysis.

Since we have yearly data on resource allocation, we do our analysis for each of the financial years between the 2008 and 2013 GP elections, i.e., from 2008-'09 to 2012-'13. Before we formally test Result 2 using specification (3), we first test whether the ISGP program led to overall increase in per capita discretionary grant. For that purpose we run specification (2). Our coefficient of interest is $\gamma_1$. The ISGP program was implemented in 2010. Therefore, we expect no difference in per capita discretionary grant between program and non-program GPs prior to 2010 and a positive difference (owing to the ISGP grant) following 2010. Hence, we hypothesize that $\gamma_1 = 0$ for the years 2008-'09 and 2009-'10 and $\gamma_1 > 0$ for the next three years.

Table 3 Panel A reports the results which verify this claim.[40] We observe that for the years 2008-'09 and 2009-'10 (columns (1) and (2) respectively), $\gamma_1$ is small in magnitude and statistically insignificant. However, for columns (3)-(5),

[38]The program officials took several steps to ensure transparency in the auditing process. They hired third party audit firms on a yearly basis by floating tenders and ensured that the same firm is not given the tender every year (by introducing cooling off periods in the contracts). Additionally, a second audit firm was hired who verified the audit reports by revisiting 10% of the program GPs.

[39]Moreover, another independent consulting agency was hired to evaluate the program by collecting data on various governance outcomes for a small sample of program and non-program GPs. The report, which the state government had access to, argued that several governance measures improved in the program GPs more than the non-program GPs.

[40]To maintain parity across Panels A and B we report the Panel A results with district fixed effects. However the results are similar with the standard RDD specification mentioned above.

**Table 3**—Effect of ISGP on Allocation of Discretionary Grant

| | 2008 (1) | 2009 (2) | 2010 (3) | 2011 (4) | 2012 (5) |
|---|---|---|---|---|---|
| | | | **Panel A** | | |
| ISGP | -4.842 | 5.103 | 17.21*** | 29.70*** | 27.86** |
| | (4.737) | (5.664) | (5.538) | (10.43) | (13.43) |
| | | | **Panel B** | | |
| ISGP | -5.164 | 5.185 | 15.82*** | 21.90* | 22.24 |
| | (4.480) | (6.054) | (5.793) | (12.01) | (14.34) |
| AITC Majority | 1.637 | -4.497 | 4.309 | 1.253 | -8.307 |
| | (6.274) | (4.733) | (4.471) | (8.619) | (9.077) |
| AITC Majority * ISGP | 0.828 | 0.858 | 4.314 | 30.13** | 24.12* |
| | (7.231) | (5.768) | (5.912) | (15.29) | (12.43) |
| Mean Dep. Var. | 29.25 | 44.44 | 60.38 | 94.81 | 127.16 |
| Bandwidth ($h^*$) | 5.51 | 5.51 | 5.51 | 5.51 | 5.51 |
| Observations | 423 | 423 | 423 | 423 | 423 |

*Notes:* The dependent variables are per capita allocation of total discretionary grant (in Indian rupees) for the financial years 2008-'09 to 2012-'13. The years mentioned for each column refer to financial years. 2008, for example, refers to the 2008-'09 financial year and so on. "AITC Majority" is a dummy that takes value one if the majority of council members in a GP belong to AITC party in the baseline. Optimal bandwidth computation for all the columns uses the MSERD method proposed by Calonico, Cattaneo, and Titiunik (2014). Robust standard errors are in parentheses. *** p<0.01, ** p<0.05, * p<0.1

$\gamma_1$ has a relatively large and positive magnitude and is statistically significant. In 2010-'11 the program GPs received about 17 rupees per capita, or 28.5% more discretionary grant than non-program GPs. It went up to 30 rupees (31.3%) and 28 rupees (21.9%) per capita in the next two years. Since the program began in the middle of the 2010-'11 financial year, the ISGP grant allocation for that year was lower as compared to the next two years. This explains the lower absolute value of the coefficient estimate for 2010-'11 as compared to the next two years. Since ISGP grant was part of the intervention itself, the result is only expected and, therefore, it is effectively a sanity check on the data.

We now estimate equation (3) with the same outcome variable. This will allow us to test Result 2 and will constitute the first evidence in favor of strategic resource allocation by the state government in response to the intervention. Result 2 predicts that $\gamma_3 > 0$. Since the new party AITC came into power in 2011, we

expect the strategic allocation of resources to begin from 2011-'12. Hence, we expect $\gamma_3 > 0$ for 2011-'12 and 2012-'13 and $\gamma_3 = 0$ for the first three years. The results are reported in Panel B of Table 3. We find that $\gamma_3$ is small in magnitude and statistically insignificant for the first three years. It jumps to about 30 in 2011-'12 and 24 in 2012-'12 (both are statistically significant). The estimate of $\gamma_1$, however, turns positive from 2010-'11 onwards. This shows that even though the program GPs on average received higher discretionary grant from the beginning of the ISGP program, the ones having majority of AITC councilors received even higher grants right after AITC assumed power in the state government. We find that in 2011-'12, for example, the non-aligned program GPs received 21.9 rupees per capita higher than non-aligned non-program GPs. However, the aligned program GPs received 50.77 ($= 21.9 + 30.13 - 1.25$) rupees per capita higher compared to aligned non-program GPs. Importantly, the estimate of $\gamma_2$ is small and statistically insignificant in all the years. This implies that aligned non-program GPs didn't receive any differential allocation either before or after the program. It is the *program* GPs with aligned incumbents that gained disproportionately from the intervention *after* the change in power at the state. We therefore verify Result 2.[41]

Additionally, Appendix Table D6 reports the same results as Table 3 Panel B, but separately for ISGP grant and discretionary grant from state budget, in Panels A and B respectively. In Panel A we have results from 2010-11, as ISGP grant was given out from that year onwards. The results suggest that the overall impacts in Table 3 are stronger for the ISGP grant and that the estimates of effects on discretionary grants from the state budget, though positive, are relatively smaller in magnitude.[42] This could be due to the fact that the allocation of state budget grants tend to be stickier, possibly due to preexisting allocation practices. New sources of revenue (such as the ISGP grant), on the other hand, are presumably more prone to manipulation.

The results above further rule out the case that the allocation is driven by

[41] As a robustness check, we pool all years' data and run a difference-in-discontinuity specification in "pre-post" set up, as mentioned before. We discuss the specification in Appendix Section B and report the results in Appendix Table D4.

[42] Appendix Table D5 shows the overall effect of the program on ISGP grant and state budget grant separately. It shows that the program, on average, did not crowd out state government's own resources in the first two years of the program. The (imprecisely estimated) negative effect in the last year seems to be concentrated among the rival program GPs (column (5) of Panel B Appendix Table D6), suggesting strategic crowding out, to some degree, of state resources for them.

"bottom-up" factors. For example, if the program GPs become more capable of advocating for higher resources from the state government (due to the governance training), then we should not expect differential resource allocation across aligned and non-aligned GPs. Similarly, if aligned GPs have a greater access to the state government, since they share the same political party and hence have smoother communication channels with the government, then we should expect higher allocation to all aligned GPs. However, as we mention above, we find none of these patterns.[43]

Appendix Section C discusses the effect of the program on expenditure on public services such as water supply, sanitation, public health etc., and finds a similar pattern. Therefore, the higher allocation to the aligned program GPs did result in higher expenditure on public goods in those GPs.

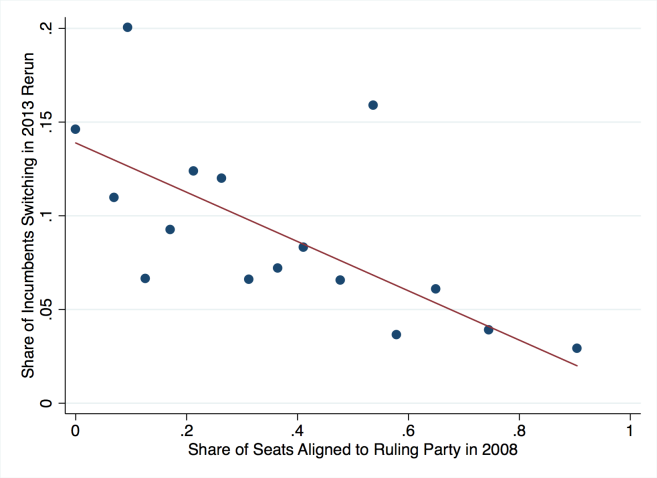



**Figure 4.** Party Switching in GPs with Low Presence of Ruling Party

**Party Switching by Incumbents:** In this section, we test Result 3, which tests whether non-aligned incumbents switched parties significantly more if they belonged to the treatment GPs. This is a logical implication of Result 2. Testing the hypothe-

[43]It could still be the case that the intervention improved GPs' ability to demand greater resources, but the state government pays greater attention to aligned GPs. Such a "bottom up" mechanism may explain differentially higher allocation to aligned program GPs. However, if the intervention is effective then we should expect some positive effect for the rival program GPs as well. Appendix Table D6 shows that the additional total grants received by rival program GPs is fully driven by the ISGP grants (columns (3)-(5) in Panel A). They do not receive any additional discretionary grants from the state government (same columns in Panel B). Therefore, the "bottom up" mechanism can not explain our results completely.

sis, however, requires us to consider the possibility that politicians may switch their party affiliations. At this point, therefore, some discussion is warranted about the phenomenon of party switching behavior by local politicians.

As Table 1 Panel C reports, on average about 22% politicians switched parties in the 2013 local election. Therefore, the phenomenon of party-switching is far from uncommon in the villages of West Bengal. Further, we observe that more than half of the switches were in favor of the ruling party. Another 18% of the switchers became independent candidates, which often implies an implicit shift of allegiance to the ruling party. Moreover, Figure 4 plots in a bin-scatter graph the relationship between the share of incumbents in a GP belonging to the ruling (AITC) party and the share of incumbents switching party affiliation in 2013 election. We observe that most of the party switching behavior is concentrated in GPs where the ruling party had a low presence during the 2008-2013 regime. This is consistent with the fact that the majority of switchers moved to the ruling party.

**Table 4**—Effect of ISGP on Party Switching Behavior of Politicians

| | Party Switch (1) | AITC Switch (2) |
|---|---|---|
| ISGP | 0.26*** | 0.28** |
| | (0.09) | (0.11) |
| Mean Dep. Var. | 0.24 | 0.25 |
| Bandwidth ($h^*$) | 3.46 | 3.38 |
| Observations | 672 | 396 |

*Notes:* Both the dependent variables are dummies in this table. For column (1) it is an indicator for the incumbent switching party affiliation conditional on rerunning, for column (2) an indicator for the incumbent switching to the AITC party. For column (2) the sample includes the rerunning incumbents who belonged to a non-AITC party in 2008. Optimal bandwidth computation for all the columns uses the MSERD method proposed by Calonico, Cattaneo, and Titiunik (2014). The control function is polynomial of order one. Standard errors are clustered at GP level. *** p<0.01, ** p<0.05, * p<0.1

We test Result 3 by running a standard RDD specification on two outcome variables - (i) whether a rerunning incumbent has switched her party affiliation in 2013, and (ii) whether a rerunning incumbent who was affiliated with a rival party in 2008 has switched her affiliation to AITC in 2013. We report the RDD estimate for the first outcome variable in column (1) of Table 4. The party switching rate jumps at the threshold by 0.26. This is a large effect considering the average of the estimating sample is 0.24. It is also statistically significant at 1% level. Appendix Figure D2 (a) shows the jump graphically. In Appendix Figure D2 (b) we plot the second outcome variable against net evaluation score. We observe a similar jump at the threshold. The point estimate of the jump, reported in column (2) of Table 4 is 0.28, which is larger than the mean of the estimating sample, 0.25. Hence, a large part of the increase in party switching rate is explained by rival incumbents switching to the AITC party. The findings therefore verify Result 3.[44]

**Reelection Rate of Incumbents:** Our empirical analysis of GP revenue is motivated by the idea that the state government by being strategic about its resource allocation wished to impact the reelection rates of local politicians. In this section, we therefore test if the ISGP program led to any change in the rerunning and reelection behavior of the incumbent politicians. We look at two outcomes - an indicator of rerunning, i.e., whether the incumbent in a ward in a GP has rerun in the 2013 election and an indicator of reelection, i.e., whether the incumbent got reelected in the 2013 election, conditional on rerunning. We run specification (2) with these two outcome variables to test if the average rerunning and reelection rates were affected by the intervention. We then test for heterogeneity in treatment effect across aligned and rival incumbents, and then within rival incumbents across those who switched to the AITC party and those who didn't. As before, incumbent party identity (aligned or rival) is based on affiliations in 2008. We cluster the standard errors at the level

[44] Appendix Table D8 estimates the jump in party switching for the rerunning AITC incumbents. The result shows that party switching also increased for AITC incumbents. However, the increase is smaller in magnitude and is less precisely estimated, suggesting that switching is more pronounced for rival incumbents. Moreover, 60% of the switchers from AITC became independent candidates, rather than joining another party. (It is 20% for the switchers from non-AITC parties.) Since greater proportion of rival incumbents joined AITC in the program villages, there is higher likelihood that AITC incumbents from program villages did not get party tickets to run in the 2013 election. This may explain why AITC incumbents became independent candidates at a greater rate in the program villages.

of GP.

**Table 5**—Effect of ISGP on Reelection Rates of Incumbents

| | Rerunning Rate | | | Reelection Rate | | | |
|---|---|---|---|---|---|---|---|
| | Full Sample (1) | AITC Incumbent (2) | Rival Incumbent (3) | Full Sample (4) | AITC Incumbent (5) | Rival Incumbent (6) | Rival Incumbent (7) |
| ISGP | 0.0213 | 0.00203 | 0.0323 | -0.119* | -0.0614 | -0.156* | -0.204** |
| | (0.0236) | (0.0557) | (0.0305) | (0.0614) | (0.105) | (0.0847) | (0.0880) |
| Incumbent: AITC Switcher | | | | | | | -0.0290 |
| | | | | | | | (0.0897) |
| Incumbent: AITC Switcher * ISGP | | | | | | | 0.163 |
| | | | | | | | (0.110) |
| $H_0 : \delta_1 + \delta_3 = 0$ ($p$ *value*) | | | | | | | 0.72 |
| Mean Dep. Var. | 0.24 | 0.32 | 0,21 | 0.50 | 0.60 | 0.45 | 0.45 |
| Observations | 3,205 | 971 | 2,233 | 974 | 396 | 565 | 565 |

*Notes:* The dataset is at the level of individual incumbent politician. The dependent variables in columns (1)-(3) is an indicator for rerunning in the 2013 election. The dependent variables in rest of the columns is an indicator for the incumbent getting reelected in 2013 election, conditional on rerunning. Column (1) has the full sample of incumbents within the optimal bandwidth. Columns (2) and (3) are for the subsamples of AITC and non-AITC incumbents, respectively. Column (4) has the full sample of rerunning incumbents within the optimal bandwidth. Column (5) has the sample of incumbents belonging to AITC party, while the sample for columns (6) and (7) is the set of incumbents belonging to other parties. "Incumbent: AITC Switcher" is a dummy that takes value one if the incumbent switched her affiliation to the AITC party. Optimal bandwidth estimation uses the MSERD method proposed by Calonico, Cattaneo, and Titiunik (2014). Standard errors are clustered at GP level. *** p<0.01, ** p<0.05, * p<0.1

Table 5 reports the results. Column (1) reports the estimate for probability of rerunning. We find that the intervention did not have any effect on the rerunning rate of incumbents. The coefficient is small and statistically insignificant. We then check of the effect on the samples of aligned and rival incumbents separately, in columns (2) and (3) respectively. We find that the effects are null for both. In column (4) we report the average effect on reelection, conditional on rerunning. We observe that the conditional probability of reelection was *lower* for incumbents in program GPs relative to non-program ones. The probability of reelection falls by 0.12 (or, by about 24%) and the estimate is significant at the 10% level. This is a surprising result considering our previous finding that total discretionary grant was higher among program GPs. To examine further, as before, we estimate the effects for aligned and rival incumbents in columns (5) and (6) respectively. We find that the negative effect of the program is driven primarily by the rival incumbents. The estimate is -0.06 (or, about 10% of the sample mean) for the aligned incumbents; it is small in magnitude and is statistically insignificant. On the other hand, the effect is -0.16 (or, 35% of sample mean) for the rival incumbents, which is both

large in magnitude as well as statistically significant at 10% level. In column (7) we test if the negative effect for the rival incumbents is heterogenous across those who switched to the AITC party in 2013 and those who didn't.[45] We use the same specification as before to test for heterogeneity in treatment effect. The party switching status of incumbents, however, is an endogenous variable. Therefore, the interaction term could be misidentified. Hence the readers should exercise caution in interpreting the results. Result in column (7) suggests that the negative effect for the rival incumbents is completely driven by those who didn't switch to the AITC party. For the non-switchers the effect is $-0.204$ (or 45% of mean). The interaction effect is positive and large in magnitude, but is noisily estimated. The effect of the intervention on "AITC switchers" (i.e., those who switch to AITC) is, however, given by the sum of the two coefficients ($\delta_1 + \delta_3$). We report the p-value of the test at the bottom of column (7); we can not reject the null hypothesis that it is zero. This implies that for the AITC switchers the intervention didn't have any effect on the reelection rates. This is similar to the null effect on the AITC incumbents (column (5)). Researchers have argued that reelection motive acts as an important accountability mechanism for politicians, and consequently, lack of reelection motive can negatively affect governance outcomes (Ferraz and Finan (2011), Nath (2014)). Since the overall reelection rate of incumbents in the sample is only 0.08, the fall in reelection rate caused by the ISGP program can be construed as an adverse outcome of the intervention.

To explore the possible reasons for this pattern, we test if the effect of the intervention on reelection rate was heterogeneous across AITC majority and minority GPs. Appendix Table D9 reports the results separately for AITC and non-AITC incumbents. Column (1) shows that the effect on AITC incumbents was similar in both types of GPs. On the other hand, the fall in reelection rate among non-AITC incumbents induced by the intervention is concentrated in AITC majority GPs. This is consistent with the explanation that the intervention and its associated allocation of resources seem to have made AITC a more attractive party in the local GP elections, and more so in AITC majority GPs. The rival incumbents in those GPs who did not switch to AITC, therefore, lost out as a consequence. This however does not explain why the reelection rate of AITC incumbents did not

[45] Since we use the sample of rerunning incumbents for the analysis, we can identify the party switchers among them.

increase in program GPs. We hypothesize that since AITC incumbents across the state experienced a large increase in their overall reelection rate in 2013, it dampened the possibility of the ISGP program having an additional effect. Moreover, as column (1) of Appendix Table D9 shows, AITC incumbents in AITC majority GPs were, on average, 16 percentage points more likely to win. Therefore, the differential effect of the intervention on those GPs would also likely to be less pronounced.

## 7 Conclusion

We examine a World Bank capacity building program implemented in a sample of villages in West Bengal, India. The intervention was benign in its objective and was well-implemented in a state that otherwise is not heavily reliant on foreign assistance for either resources or expertise on governance. Yet we find that the intervention led to unintended and potentially adverse political economy consequences. We provide evidence that the state government responded to the program in a way that complemented the program by allocating additional resources to program villages with politically aligned incumbents. Additionally, the intervention resulted in substantial increase in the party-switching behavior of the incumbents from opposition parties in favor of the ruling party and a fall in the reelection rate of the rival incumbents. Our analysis indicates that we need to consider political economy concerns to have a broader understanding of the welfare effects of such interventions.

It also provides a cautionary tale for advocating third party interventions in developing countries, including countries where such interventions are not politically salient. The program was implemented in collaboration with the state government. Also, it was well designed and effectively implemented; thorough documentation was maintained for every step of the implementation, the training period was intensive, the audits were regular, and the allocation of the ISGP grant was swift. However, in spite of this, we find that the state government reacted to the program driven by its political incentive. Given this, it seems that political economy responses to third party interventions may be widespread. Also, it may not be possible to completely avoid such political responses from domestic governments, since incentives of politicians are shaped by institutional and political context which are often hard to change a priori. However, if we are cognizant of the possibility of such reactions, then we may design future interventions accordingly.

## References


Afridi, F., Dhillon, A., and Solan, E. (2019). Electoral Competition and Corruption: Theory and Evidence from India. Working Paper.

Agrawal, A., Chhatre, A., and Gerber, E. R. (2015). Motivational crowding in sustainable development interventions. *The American Political Science Review*, 109.3: 470-487.

Banerjee, A. V., Cole, S., Duflo, E., and Linden, L. (2007) Remedying education: Evidence from two randomized experiments in India. *The Quarterly Journal of Economics* 122.3: 1235-1264.

Banerjee, A., Duflo, E., Imbert, C. and Pande, R. (2017) Entry, Exit and Candidate Selection: Evidence from India. Unpublished Manuscript.

Bardhan, P., and Mookherjee, D. (2006) Pro-poor targeting and accountability of local governments in West Bengal. *Journal of Development Economics* 79.2: 303-327.

Barrow, L. K. (2007) Party On? Politicians and Party Switching in Mexico. *Politics* 27.3: 165-173.

Bharadwaj, P., Lakdawala, L. K., and Li, N. (2019). Perverse consequences of well intentioned regulation: evidence from India's child labor ban. *Journal of the European Economic Association*, 00(0):1-38.

Böhnke, J., Koehler, J., and Zürcher, C. (2010) Assessing the Impact of Development Cooperation in North East Afghanistan 2005-2009: Final Report. *Evaluation Reports* 49.

Briggs, Ryan C. (2012) Electrifying the base? Aid and incumbent advantage in Ghana. *The Journal of Modern African Studies* 50(4): 603-624.

Briggs, Ryan C. (2014) Aiding and abetting: project aid and ethnic politics in Kenya. *World Development* 64: 194-205.

Busse, M. and Gröning, S. (2009) Does foreign aid improve governance? *Economics Letters* 104(2): 76-78.

Calonico, S., Cattaneo, M. D., and Titiunik, R. (2014). Robust data-driven inference in the regression-discontinuity design. *The Stata Journal*, 14(4), 909-946.

Cruz, C., and Schneider, C. (2014) Foreign Aid and the Politics of Undeserved Credit-Claiming. *Working Paper*.

Das, J., Dercon, S., Habyarimana, J., Krishnan, P., Muralidharan, K., and Sundararaman, V. (2013) School Inputs, Household Substitution, and Test Scores. *American Economic Journal: Applied Economics* 5(2): 29-57.

Das, S., Mukhopadhyay, A., and Saroy, R. (2018) Does Affirmative Action in Politics Hinder Performance? Evidence from India. Ashoka University Discussion Paper (No. 04/18).

Desposato, S. W. (2006) Parties for rent? Ambition, ideology, and party switching in Brazil's chamber of deputies. *American Journal of Political Science* 50(1): 62-80.

Dey, S., and Sen, K. (2016). Is partisan alignment electorally rewarding? Evidence from village council elections in India. Evidence from Village Council Elections in India. Effective States and Inclusive Development (ESID) Working Paper 63.

Dietrich, S., Mahmud, M., and Winters, M. S. (2018) Foreign aid, foreign policy, and domestic government legitimacy: Experimental evidence from Bangladesh. *The Journal of Politics* 80(1): 133-148.

Djankov, S., Montalvo, J. G., and Reynal-Querol, M. (2008) The curse of aid. *Journal of economic growth* 13(3): 169-194.

Duflo, E., Dupas, P., and Kremer, M. (2015) School governance, teacher incentives, and pupil-teacher ratios: Experimental evidence from Kenyan primary schools. *Journal of Public Economics* 123: 92-110.

Ferraz, C., and Finan, F. (2011) Electoral accountability and corruption: Evidence from the audits of local governments. *American Economic Review* 101(4): 1274-1311.

Gelman, A., and Imbens, G. (2019) Why high-order polynomials should not be used in regression discontinuity designs. *Journal of Business and Economic Statistics* 37(3): 447-456.

Grembi, V., Nannicini, T., and Troiano, U. (2016) Do fiscal rules matter?. *American Economic Journal: Applied Economics* 8(3): 1-30.

Grose, C. R., and Yoshinaka, A. (2003) The electoral consequences of party switching by incumbent members of Congress, 1947-2000. *Legislative Studies Quarterly* 28(1): 55-75.

Guiteras, R. P., and Mobarak, A. M. (2016) Does development aid undermine political accountability? Leader and constituent responses to a large-scale intervention. *National Bureau of Economic Research*. No. w21434.

Gupta, B., and Mukhopadhyay, A. (2016) Local funds and political competition: evidence from the National Rural Employment Guarantee Scheme in India. *European Journal of Political Economy*, 41, 14-30.

Imai, K., King, G., and Rivera, C. V. (forthcoming) Do Nonpartisan Programmatic Policies Have Partisan Electoral Effects? Evidence from Two Large Scale Experiments. *Journal of Politics* forthcoming.

Imbens, G. W., and Lemieux, T. (2008) Regression discontinuity designs: A guide to practice. *Journal of econometrics* 142(2): 615-635.

Isaksson, A. S., and Kotsadam, A. (2018) Chinese aid and local corruption. *Journal of Public Economics* 159: 146-159.

Khemani, S. (2003). *Partisan politics and intergovernmental transfers in India*. The World Bank.

Jablonski, Ryan S. (2014) How aid targets votes: the impact of electoral incentives on foreign aid distribution. *World Politics* 66(2): 293-330.

Kilby, C. (2000) Supervision and performance: the case of World Bank projects. *Journal of Development Economics* 62(1): 233-259.

Levitt, S. D., and Snyder, J. M. (1995) Political parties and the distribution of federal outlays. *American Journal of Political Science*, 39, 958-980.

Mansuri, G, and Rao, V. (2004) Community-based and-driven development: A critical review. *The World Bank Research Observer* 19(1): 1-39.

Mansuri, G., and Rao, V. (2013) *Localizing development: Does Participation Work?*. World Bank Policy Research Report.

Masaki, T. (2018) The political economy of aid allocation in Africa: Evidence from Zambia. *African Studies Review* 61(1): 55-82.

Mogues, T., and Benin, S. (2012) Do external grants to district governments discourage own revenue generation? A look at local public finance dynamics in Ghana. *World Development* 40(5): 1054-1067.

Muralidharan, K., Niehaus, P., and Sukhtankar, S. (2016). Building state capacity: Evidence from biometric smartcards in India. *American Economic Review*, 106(10), 2895-2929.

Muralidharan, K., Niehaus, P., Sukhtankar, S., and Weaver, J.. Improving last-mile service delivery using phone-based monitoring. *American Economic Journal: Applied Economics.*, forthcoming.

Nath, A. (2014) Political Competition and Elite Capture of Local Public Goods, Working Paper.

Olken, B. A. (2010) Direct democracy and local public goods: Evidence from a field experiment in Indonesia. *American Political Science Review* 104(2): 243-267.

Olken, B. A., Onishi, J., and Wong, S. (2014) Should aid reward performance? Evidence from a field experiment on health and education in Indonesia. *American Economic Journal: Applied Economics*, 6(4): 1-34.

Nunn, N., and Qian, N. (2014) US food aid and civil conflict. *American Economic Review* 104(6): 1630-66.

Reed, S. R., and Scheiner, E. (2003) Electoral incentives and policy preferences: Mixed motives behind party defections in Japan. *British Journal of Political Science* 33(3): 469-490.

Solé-Ollé, A., amd Sorribas-Navarro, P. (2008) The effects of partisan alignment on the allocation of intergovernmental transfers. Differences-in-differences estimates for Spain. *Journal of Public Economics*, 92(12), 2302-2319.

Tarozzi, A., Mahajan, A., Blackburn, B., Kopf, D., Krishnan, L., and Yoong, J. (2014) Micro-loans, insecticide-treated bednets, and malaria: evidence from a randomized controlled trial in Orissa, India. *American Economic Review* 104(7): 1909-41.

Worthington, A. C., and Dollery, B. E. (1998) The political determination of intergovernmental grants in Australia. *Public Choice*, 94(3-4), 299-315.

Yoshinaka, A. (2005) House Party Switchers and Committee Assignments: Who Gets What, When, How. *Legislative Studies Quarterly* 30(3): 391-406.

# Supplementary Appendix

## A Proofs of Results

### A.1 Proof of Result 1

Let us denote $t^A(g_0)$ as resource allocation to a GP controlled by the ruling party and with $g = g_0$. Similarly, we define $t^N(g_0)$ as resource allocation to a GP controlled by the opposition party and with $g = g_0$. From the above optimization exercise, it is clear that $t^N(g_0) = \underline{t}$ for all GPs ruled by opposition parties. Hence $t^A(g_0) = \frac{R - m_N \underline{t}}{m_A}$ for all villages belonging to the ruling party. It is easy to verify that $t^A(g_0) > t^N(g_0)$.

### A.2 Proof of Result 2

Let's denote by $t^i(g_H)$ and $t^i(g_0)$ the total resources allocated to program and non-program GPs of alignment type $i$, respectively, where $i = A, N$. From the optimization exercise, it is easy to see that $t^N(g_H) = \bar{t}$ and $t^N(g_0) = \underline{t}$. Now consider two villages $i$ and $j$ belonging to the ruling party where the former is under the ISGP program and the latter is not. The first order condition of the optimization exercise leads to

$$\frac{\partial p_i(t_i, g_H)}{\partial t_i} = \frac{\partial p_j(t_j, g_0)}{\partial t_j} \tag{4}$$

Under the assumption given by equation 1, the state government would allocate $t^A(g_H) > \bar{t}$ to an aligned ISGP village. On the other hand, the state government would ideally want to allocate $t^A(g_0) < \underline{t}$ to an aligned non-ISGP village until equation 4 is satisfied. However, because of the constraint $t_i \geq \underline{t}\ \forall i \in [0, 1]$, in equilibrium we have $t^A(g_0) = \underline{t}$. Hence, the following holds:

$$t^A(g_H) + t^N(g_H) > t^A(g_0) + t^N(g_0) \tag{5}$$

### A.3 Proof of Result 3

The expected benefit for a rival incumbent to switch in favor of the ruling party is given by:

$$p(t^A(g_H), g_H) - p(t^N(g_H), g_H) = p(t^A(g_H), g_H) - p(\bar{t}, g_H) > 0$$

among program GPs, and

$$p(t^A(g_0), g_H) - p(t^N(g_0), g_H) = p(\underline{t}, g_H) - p(\underline{t}, g_H) = 0$$

among non-program GPs. The first inequality follows from $t^A(g_H) > \bar{t}$ and $\frac{\partial p}{\partial t} > 0$. The rival incumbents in program GPs get a positive benefit from switching to the ruling party. Therefore, they will switch if and only if $p(t^A(g_H), g_H) - p(\bar{t}, g_H) > c$. Hence, if we define $c^* \equiv p(t^A(g_H), g_H) - p(\bar{t}, g_H) \in (0, 1)$, we get that for all $c \leq c^*$, all the rival incumbents in program GPs will switch to the ruling party. Moreover, it is evident that no aligned incumbent will switch to the opposition party. Finally, no rival or aligned incumbent in non-program GPs would switch (since switching is costly). On the other hand, all rival incumbents switch in favor of the ruling party in program GPs.

## B Robustness to the Main Result

We perform a robustness check to the main result reported in Table 3 by performing an alternate specification on the pooled sample of GPs for all the years from 2008-09 to 2012-13. To test specification corresponding to specification 2 we run the following specification:

$$\begin{aligned} R_{gdt} &= \phi_d + \psi_t + \gamma_1 \mathcal{I}[score_{gd} > 0] + \gamma_2 \mathcal{I}[score_{gd} > 0] * Post_t \\ &\quad + score_{gd}[\beta_1 + \beta_2 Post_t] + \mathcal{I}[score_{gd} > 0] * score_{gd}[\beta_3 + \beta_4 Post_t] + \epsilon_{gdt} \end{aligned} \quad (6)$$

where $R_{gdt}$ is total discretionary grant per capita in GP $g$ in district $d$ in year $t$, $Post_t$ takes value one if the year $t$ is 2010-11 or later and zero otherwise. $\psi_t$ are year fixed effects. We restrict the sample to the same set of GPs considered in Table 3 and cluster the standard errors at the GP level. Equation (6) is therefore the full difference-in-discontinuity specification of Grembi, Nannicini, and Troiano (2016) where we allow for interactions between $score_{gd}$ and $M_{gd}$, as well as between $\mathcal{I}[score_{gd} > 0] * score_{gd}$ and $M_{gd}$. Our coefficient of interest in this case is $\gamma_2$ which estimates whether the revenue jumps at the threshold score of zero in the "Post" period. We report the result in column (1) of Table D4. We find that the program GPs received 25.74 rupees per capita higher than non-program GPs in the "Post" period relative to the previous years. The coefficient is statistically significant at

1% level. Moreover, the calculations from the five coefficients in Panel A of Table 3 (columns (1)-(5)) gives us an estimate of 24.8 (=(17.21+29.7+27.86)/3 - (5.1 - 4.8))/2), which is almost identical to the coefficient we get.

We test the heterogeneity effect across aligned and rival GPs by running the following specification:

$$\begin{aligned} R_{gdt} &= \phi_d + \psi_t + \gamma_1 \mathcal{I}[score_{gd} > 0] + \gamma_2 \mathcal{I}[score_{gd} > 0] * Post_t \\ &\quad + \gamma_3 M_{gd} + \gamma_4 \mathcal{I}[score_{gd} > 0] * M_{gd} + \delta_1 Post\_AITC_t * M_{gd} \\ &\quad + \delta_2 \mathcal{I}[score_{gd} > 0] * Post\_AITC_t * M_{gd} \\ &\quad + score_{gd}[\beta_1 + \beta_2 M_{gd} + \beta_3 Post\_AITC_t] \\ &\quad + \mathcal{I}[score_{gd} > 0] * score_{gd}[\beta_4 + \beta_5 M_{gd} + \beta_6 Post\_AITC_t] + \epsilon_{gd}, \quad (7) \end{aligned}$$

where $Post\_AITC_t$ is an indicator variable that takes value one if the year $t$ is 2011-12 or 2012-'13 and zero otherwise. Since the AITC came to power in 2011, we expect the GPs with majority of AITC incumbents to receive additional resources from that year onwards. The specification allows for interactions between the running variable and the two differencing variables, $Post\_AITC_t$ and $M_{gd}$ separately on both sides of the threshold. This is an augmented version of the difference-in-discontinuity specification where we have two differencing variables. We may refer to it as the "difference-in-difference-in-discontinuity" specification. Our coefficient of interest is, therefore, $\delta_2$ which captures the differential allocation to AITC majority program GPs in the years 2011-12 and 2012-13 relative to previous years. We report the result in column (3) of Table D4. In column (2) we report the results when we use the "Post" dummy for all interactions in specification (7). We find that while the estimate of the coefficient $\delta_2$ is large in column (2), it is imprecise. However, in column (3), the estimate becomes larger in magnitude and is statistically significant at 5% level. We find that the aligned program GPs received on average 23.32 rupees per capita higher in the years 2011-12 and 2012'13 relative to their allocations in the previous years. The magnitude is again comparable with the average estimate we get using the five relevant coefficients in Panel B of Table 3, which is 25.12 (=(30.13+24.12)/2 - (0.828+0.858+4.314)/3). Therefore, we get that the alternate specification gives us similar results to our main specification.

## C ISGP Program and Public Goods Provision

In this section we examine the heterogenous effect of the ISGP program on expenditure on public goods by the GPs. The expenditure includes investments (new construction as well as maintenance expenditure) in roads, water supply, sanitation services, health centers, street lighting, solid waste disposal etc. These constitute a significant part of the activities of GP politicians. However, we do not know which revenue source was utilized for these expenses. Specifically, they may include expenses carried out from other central and state government funded programs as well as leftover revenue carried over from previous year. We observe that in the full sample, the average per capita expenditure during the period 2008-09 to 2012-13 was 212.22 rupees. This is much higher compared to the average discretionary grant from state government during the same period, which was 78.46 rupees. Therefore, it is highly likely that the public goods expenditure reported in the SFC data include projects funded through other revenue sources as well. With this important caveat in place, we discuss below the findings from our analysis on this data.

To test for heterogeneity we run the specification (3) on the sample of GPs within the optimal bandwidth. Our first outcome variable is yearly average of per capita expenditure on public goods during 2008-'09 to 2012-'13. The result is reported in column (1) of Table D7. We find that the per capita expenditure increases discontinuously by 30.63 for the aligned program GPs. However, for the rival program GPs, the coefficient estimate is -1.74. Both coefficients are however noisily estimated. The result is consistent with our finding that the aligned program GPs received greater allocation of resources than rival program GPs. We further test if the increase in allocation is concentrated during the later part of the tenure when the ISGP program was in place. For this we compute the yearly average of per capita expenditure for the pre-ISGP period (i.e., 2008-09 and 2009-10) and post-ISGP period (i.e., 2010-11 to 2012-13). We find that the increase in expenditure in aligned program GPs is entirely driven by the post-ISGP period. This further confirms our hypothesis.

All the coefficients in Table D7 have very high standard errors and therefore are statistically insignificant. One possible reason for this could be that we calculate the total public goods expenditure figure from the data that reports expenditure for individual public goods (such as roads, school buildings, water supply

etc.) separately. Data for individual public good items, however, are much noisier. The revenue in the form of discretionary and tied grants comes to the GPs' accounts in tranches and therefore, are easier to keep track using the bank account history. On the other hand, calculating expenses for individual public projects requires much more accounting discipline and paper work. In spite of this, we find that the magnitudes of the estimates are large and economically meaningful. We find that during 2010-11 to 2012-13, aligned program GPs spent an additional 51.86 rupees per capita per year. From Table 3 we get that they received an additional (4.31+30.13+24.12 =) 58.56 rupees per capita in state discretionary grants, which is comparable to this estimate. Therefore, we find consistent results for the public goods expenses as well.

## D Additional Figures and Tables

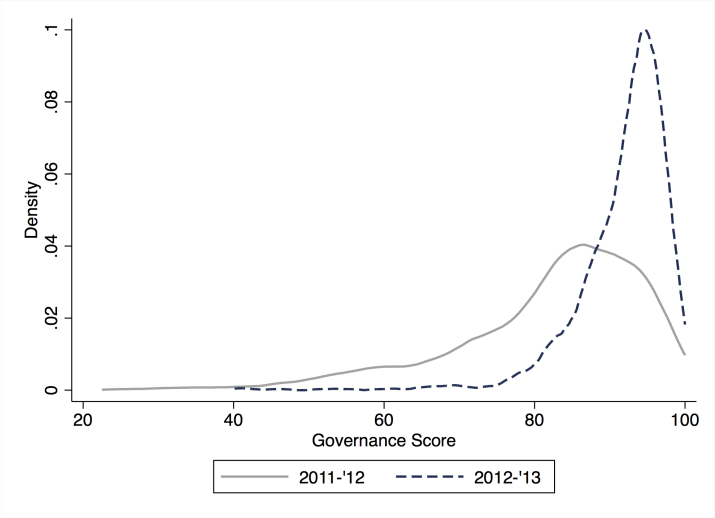
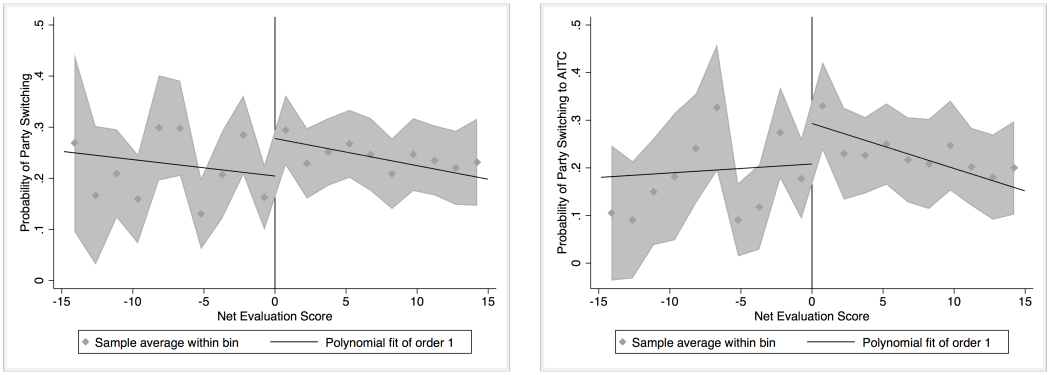



**Figure D1.** Governance Measure Improved for Program GPs




(a) Party Switching (b) Party Switching to AITC

**Figure D2.** ISGP Affects Probability of Party Switching by Incumbents

**Table D1**—Relationship between Net Evaluation Score and NREGS Implementation

| | Per Capita Expenditure (1) | Per Capita Person-days (2) |
|---|---|---|
| Net Evaluation Score | 3.660*** | 0.0219*** |
| | (0.925) | (0.00542) |
| Population | -0.0104*** | -7.35e-05*** |
| | (0.00171) | (1.00e-05) |
| Sex Ratio | 824.3* | 7.399*** |
| | (481.8) | (2.825) |
| SC/ST Share | 192.0*** | 1.294*** |
| | (65.30) | (0.383) |
| Literate Share | -0.896 | -0.0162* |
| | (1.444) | (0.00846) |
| Prop. of Politicians AITC | 50.74 | 0.0671 |
| | (42.95) | (0.252) |
| District FE | YES | YES |
| Observations | 1,331 | 1,331 |
| R-squared | 0.306 | 0.342 |

*Notes:* The dependent variables are per capita expenditure in NREGS program (in Indian rupees) (column (1)) and per capita person-days generated under the same program (column (2)) for the year 2012-'13. *** p<0.01, ** p<0.05, * p<0.1

**Table D2**—Relationship between NREGS Data from Two Sources

| | NREGA Per Capita Exp. (SFC) |
|---|---|
| | (1) |
| NREGA Per Capita Exp. (Official) | 0.970*** |
| | (0.115) |
| Mean/SD of Dep. Var. | 627.45 |
| | (1726.26) |
| Mean/SD of Indep. Var. | 545.24 |
| | (405.83) |
| Observations | 1,292 |

*Notes:* The observations are at the GP level. The dependent variable is per capita expenditure under the NREGS program according to the State Finance Commission data. The independent variable is the same information according to the official website. Standard errors are reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1

**Table D3**—Village Controls Move Smoothly Across the Discontinuity Threshold

| | ISGP Coefficient (1) | N (2) |
|---|---|---|
| Area | -0.37 | 401 |
| | (-2.67) | |
| Population | -510.05 | 399 |
| | (-1483.2) | |
| SC pop. | 1047.2 | 348 |
| | (-1201.9) | |
| ST pop. | 343.5 | 378 |
| | (-376.87) | |
| Sex Ratio | 0.004 | 500 |
| | (-0.004) | |
| 0-4 pop. Share | 1.31 | 513 |
| | (-1.67) | |
| Literacy Rate | -0.004 | 448 |
| | (-0.019) | |
| Council Size | 1.16 | 474 |
| | (-0.79) | |
| Prop. AITC | 0.06 | 505 |
| | (-0.05) | |
| Prop. Left Front | 0.07 | 276 |
| | (-0.07) | |
| BPL Share | -1.84 | 470 |
| | (-5.5) | |
| pc Public Good | -20.74 | 313 |
| | (-23.07) | |

*Notes:* The observations are at the GP level. The dependent variables are area of GP, total population, SC and ST population, sex ratio, share of population with 0-4 age, literacy rate, number of councilors in GP, share of AITC and Left Front councilors in 2008, share of Below Poverty Line (BPL) households, and per capita public good expenditure. Optimal bandwidth computation for all the columns uses the MSERD method proposed by Calonico, Cattaneo, and Titiunik (2014). The control function is polynomial of order one. Robust standard errors are reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1

**Table D4**—Effect of ISGP on Total Discretionary Grant: Robustness

| | Total Discretionary Grant | | |
|---|---|---|---|
| | (1) | (2) | (3) |
| ISGP | -0.438 | 2.568 | 5.722 |
| | (4.478) | (5.410) | (5.900) |
| Post * ISGP | 25.74*** | 21.23*** | 15.97*** |
| | (7.121) | (7.672) | (3.651) |
| AITC Majority | | 4.527 | 6.154 |
| | | (8.369) | (7.954) |
| AITC Majority * ISGP | | -13.46 | -13.82 |
| | | (11.45) | (11.19) |
| Post * AITC Majority | | 1.241 | |
| | | (7.073) | |
| Post * AITC Majority * ISGP | | 14.94 | |
| | | (9.586) | |
| Post AITC * AITC Majority | | | -2.205 |
| | | | (8.302) |
| Post AITC * AITC Majority * ISGP | | | 23.32** |
| | | | (11.13) |
| Bandwidth ($h^*$) | 5.51 | 5.51 | 5.51 |
| Year FE | YES | YES | YES |
| Observations | 2,115 | 2,115 | 2,115 |

*Notes:* The dependent variables in all columns is per capita total discretionary grant from the state government (in Indian rupees). "Post" takes value one if the year is 2010 or later and zero otherwise. "Post AITC" takes value one if the year is 2011 or 2012 and zero otherwise. "AITC Majority" is a dummy that takes value one if the majority of council members in a GP belonged to AITC party in 2008. Optimal bandwidth computation for all the columns uses the MSERD method proposed by Calonico, Cattaneo, and Titiunik (2014). Standard errors are clustered at the GP level and are reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1

**Table D5**—Effect of ISGP on Allocation of Grant by Source

| | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| | | | **Panel A: ISGP Grant** | | |
| ISGP | | | 13.55*** | 29.50*** | 35.53*** |
| | | | (2.726) | (6.764) | (7.215) |
| Mean Dep. Var. | | | 9.15 | 30.06 | 36.67 |
| | | | **Panel B: State Budget Grant** | | |
| ISGP | -4.607 | 3.268 | 3.657 | 0.207 | -7.670 |
| | (4.702) | (5.514) | (4.764) | (7.780) | (11.31) |
| Mean Dep. Var. | 28.99 | 43.68 | 51.39 | 64.95 | 90.73 |
| Bandwidth ($h^*$) | 5.51 | 5.51 | 5.51 | 5.51 | 5.51 |
| Observations | 423 | 423 | 423 | 423 | 423 |

*Notes:* The dependent variables for Panel A and B are per capita allocation of ISGP and state budget grants, respectively, (in Indian rupees). The years mentioned for each column refer to financial years. 2008, for example, refers to the 2008-'09 financial year and so on. Optimal bandwidth computation for all the columns uses the MSERD method proposed by Calonico, Cattaneo, and Titiunik (2014). Robust standard errors are in parentheses. *** p<0.01, ** p<0.05, * p<0.1

**Table D6**—Heterogeneous Effect of ISGP on Allocation of Grant by Source

| | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| | | | **Panel A: ISGP Grant** | | |
| ISGP | | | 12.44*** | 24.67*** | 30.30*** |
| | | | (2.815) | (8.826) | (7.392) |
| AITC Majority | | | 0.667 | 4.002 | 0.738 |
| | | | (2.291) | (6.002) | (6.392) |
| AITC Majority * ISGP | | | 4.174 | 17.78 | 20.21** |
| | | | (3.454) | (13.01) | (8.925) |
| Mean Dep. Var. | | | 9.15 | 30.06 | 36.67 |
| | | | **Panel B: State Budget Grant** | | |
| ISGP | -4.865 | 3.492 | 3.377 | -2.771 | -8.066 |
| | (4.417) | (5.913) | (5.029) | (8.063) | (12.42) |
| AITC Majority | 2.362 | -3.074 | 3.641 | -2.749 | -9.045 |
| | (6.212) | (4.479) | (4.151) | (6.225) | (6.561) |
| AITC Majority * ISGP | 0.390 | -0.0704 | 0.140 | 12.35 | 3.917 |
| | (7.192) | (5.516) | (5.233) | (8.540) | (8.405) |
| Mean Dep. Var. | 28.99 | 43.68 | 51.39 | 64.95 | 90.73 |
| Bandwidth ($h^*$) | 5.51 | 5.51 | 5.51 | 5.51 | 5.51 |
| Observations | 423 | 423 | 423 | 423 | 423 |

*Notes:* The dependent variables for Panel A and B are per capita allocation of ISGP and state budget grants, respectively, (in Indian rupees). The years mentioned for each column refer to financial years. 2008, for example, refers to the 2008-'09 financial year and so on. "AITC Majority" is a dummy that takes value one if the majority of council members in a GP belong to AITC party in 2008. Optimal bandwidth computation for all the columns uses the MSERD method proposed by Calonico, Cattaneo, and Titiunik (2014). Robust standard errors are in parentheses. *** p<0.01, ** p<0.05, * p<0.1

**Table D7**—Effect of ISGP on Public Goods Expenditure

| | 2008-2012 (1) | 2008-2009 (2) | 2010-2012 (3) |
|---|---|---|---|
| ISGP | -1.743 | 16.15 | -13.67 |
| | (47.54) | (38.76) | (57.54) |
| AITC Majority | 43.32 | 34.06 | 49.49 |
| | (38.79) | (25.56) | (49.41) |
| AITC Majority * ISGP | 30.63 | -1.216 | 51.86 |
| | (53.28) | (34.33) | (69.31) |
| Mean Dep. Var. | 189.95 | 121.29 | 235.72 |
| Bandwidth ($h^*$) | 4.89 | 4.89 | 4.89 |
| Observations | 405 | 405 | 405 |

*Notes:* The dependent variables are mean yearly per capita public good expenditure (in Indian rupees). Column (1) therefore is the yearly mean for the period 2008-09 to 2012-13, column (2) for 2008-09 to 2009-10, and column (3) for 2010-11 to 2012-13. "AITC Majority" is a dummy that takes value one if the majority of council members in a GP belong to AITC party in the baseline. Optimal bandwidth computation for all the columns uses the MSERD method proposed by Calonico, Cattaneo, and Titiunik (2014). Robust standard errors are in parentheses. *** p<0.01, ** p<0.05, * p<0.1

**Table D8**—Effect of ISGP on Party Switching Behavior of AITC Incumbents

| | Switch from AITC |
|---|---|
| | (1) |
| ISGP | 0.12* |
| | (0.07) |
| Mean Dep. Var. | 0.11 |
| Bandwidth ($h^*$) | 4.50 |
| Observations | 336 |

*Notes:* The dependent variable is an indicator for the rerunning incumbent switching from the AITC party to another party or becoming an independent. The sample includes rerunning incumbents who belonged to AITC in 2008. Optimal bandwidth computation for all the columns uses the MSERD method proposed by Calonico, Cattaneo, and Titiunik (2014). The control function is polynomial of order one. Standard errors are clustered at GP level. *** p<0.01, ** p<0.05, * p<0.1

**Table D9**—Heterogeneous Effect of ISGP Program on Reelection Rates

| | AITC Incumbent (1) | Rival Incumbent (2) |
|---|---|---|
| ISGP | -0.0629 | -0.132 |
| | (0.113) | (0.0859) |
| AITC Majority | 0.161** | -0.00928 |
| | (0.0697) | (0.130) |
| AITC Majority * ISGP | 0.0144 | -0.119 |
| | (0.103) | (0.137) |
| Observations | 396 | 565 |

*Notes:* The dataset is at the level of individual incumbent politician. The dependent variables in both the columns is an indicator for the incumbent getting reelected in 2013 election, conditional on rerunning. Columns (1) and (2) are for the subsamples of AITC and non-AITC incumbents, respectively. "AITC Majority" is a dummy that takes value one if the majority of council members in a GP belong to AITC party in the baseline. Optimal bandwidth estimation uses the MSERD method proposed by Calonico, Cattaneo, and Titiunik (2014). Standard errors are clustered at GP level. *** p<0.01, ** p<0.05, * p<0.1