Incentivizing Local Governance: Public Grants and Information Campaigns as Performance-based Rewards for Elected Politicians

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March 2018

Abstract

Political institutions in developing countries are characterized by failures in electoral accountability that undermine the political motivation to deliver public goods and to respond to citizen needs. To investigate whether a performance-based incentive can be used to better align political incentives with citizen needs, we randomly assigned recently elected politicians in India to one of two incentive schemes (or a control group). Both incentives rewarded politicians by making their political effort more visible to citizens—either through public recognition or by increasing their access to public funds—thereby increasing the electoral payoffs to better performance. We find that both incentives improved politician performance on objective measures of their citizens' wellbeing, including improved access to recurring private transfers from federal safety net programs, implementation performance on flagship state programs targeted to the poor, and public investments made during the president's tenure. The effects were particularly large for improving provision of public goods and services inside the GP, along with distributional effects that suggest a reduction in inequality in access to public goods within a GP based on the household's physical and social proximity to the elected president. We also find differential effects by electoral competition, with politicians with stronger electoral competition showing greater responsiveness to incentives, which suggests that the incentives operate via the electoral process. These results show that private incentives that interact with the underlying political incentives can be used to leverage the political motivation to improve public policy outcomes.

JEL Classification: D72, D73, D78, H75, J33

Keywords: Incentives, Political agency, Accountability, Local governance

1 Introduction

Well-functioning political institutions, which enable citizens as principals to effectively incentivize the government (as their agents) to act in their best interest, are seen as key to improving government performance on the delivery of public goods and services (World Bank, 2016). In many developing countries, political decentralization reforms have been adopted in response to the failures of the centralized state in being accountable to its citizens (Bardhan and Mookherjee, 2005). However, the empirical evidence on the effectiveness of these reforms is mixed. In particular, the promise of efficiency gains in political accountability and the delivery of public programs have, in large part, not materialized; and the benefits of these reforms are likely to vary depending on the presence of accountability mechanisms such as contested elections, public transparency on budgets and investments, and local oversight (Mansuri and Rao, 2013; Mookherjee, 2015).

In this paper, we investigate if a performance-based incentive scheme for elected politicians can overcome the principal-agent problems in local governments, and improve citizens' wellbeing. Previous work has studied the impact of performance-based incentives for bureaucrats and public officials (see Finan et al. (2017) for review), and of increased salaries for political leaders (Ferraz and Finan, 2009). To our knowledge, this is the first paper to examine the impact of incentives on politician performance; and in contrast to previous performance-based schemes, our incentives provide public rewards that can bring private political benefits to politicians by improving the electoral payoffs to their effort.

Politicians, like other agents, are governed by career concerns; and re-election is their primary concern. Hence, not surprisingly, contested elections that provide citizens with an opportunity to reward or punish a politician for his/her performance while in office, have been shown to improve policy outcomes (Besley and Case, 1995; Ferraz and Finan, 2011; de Janvry et al., 2012). But politicians' actions and their efforts are typically not easy to observe. In this context, improved visibility of political efforts through information campaigns can help voters make more informed choices (Banerjee et al., 2011; Aker et al., 2017); and institutions like the media can improve political accountability and induce responsiveness to citizen needs (Besley and Burgess, 2002). In local governments, citizens may also find it easier to monitor politicians, and to demand better services from them (Bardhan, 2002).

Political visibility alone, however, may not suffice in many contexts. As the documented presence of clientilist practices of buying political support through targeted transfers or explicit vote buying suggests, the political incentive to deliver public goods itself could be weak in weak institutional settings (Bardhan and Mookherjee, 2012; Khemani, 2015). Moreover, in the absence of appropriate mechanisms for political accountability, attempts to improve citizen monitoring are likely to have little effect on improving public policy outcomes (Banerjee et al., 2010, 2015; Pradhan et al., 2014; World Bank, 2016). Citizen's ability to effectively monitor

politicians and hold them accountable, therefore, depends on how such monitoring interacts with the underlying political incentives and institutional contexts. In this paper we investigate if performance-based incentives for politicians—where the rewards are closely tied to building citizens monitoring capabilities, and designed to improve the visibility of political effort—can improve observed policy choices.

The politicians in our study-sample were drawn from a cohort of elected representatives who had recently been elected for a five-year term to the office of president of the Gram Panchayat (GP) or the village government in the south Indian state of Tamil Nadu. Incentives were determined based on an objective evaluation of president performance during their current political term; and those who qualified received the reward towards the end of this term, before the next scheduled election. Our sample of 198 GPs were randomly assigned into one of two performance-based incentive schemes (an information or a monetary incentive), or a control group. Information on performance was collected for all three groups through a performance audit. The *information* incentive advertised the achievement of high performing presidents by organizing an information campaign that highlighted this performance. High performing presidents who were assigned to the *monetary* incentive received additional public resources in the form of cash grants that could be used for investment in local infrastructure, and public goods.

By informing citizens about the quality of performance across a broad range of activities that the presidents are responsible for, both these incentives offer resources, which presidents can use to improve their reelection prospects. For instance, the information incentive can be used to take political credit for the delivery of a range of public and private programs; while the monetary incentive can be used to finance additional public investments, which can help leverage political support. Both our incentives provide public rewards, and they are designed to provide private political payoffs to GP presidents through their reelection incentives. In an institutional context that is defined by limited fiscal resources for local governments (Mani and Mukand, 2007), and by political visibility that relies largely on private exchanges rather than public information (Bardhan and Mookherjee, 2012), these incentive effects are likely to be strong.

We find that our incentives improved the performance of GP presidents. More importantly, both the monetary and information incentives had positive impacts on objective measures related to the key mandates of the GP related to the delivery of public programs during this time. These measures included improved access to recurring private transfers from federal and state safety net programs, implementation performance on flagship state programs targeted to the poor, and public investments made during the president's tenure. The effects of both incentives were particularly large for improving provision of public goods and services inside the GP, along with distributional effects that suggest a reduction in spatial inequality in access to public goods

within a GP. These effects of the incentives on local public investments are particularly striking within a status quo that is is typically characterised by elite capture, poor implementation, and weak incentives to deliver public goods. This suggest that private incentives that hold the potential to reward politicians with an electoral success, can lead to better public good outcomes.We also find differential effects of the incentives by electoral competition, with greater responsiveness to incentives in GPs with stronger electoral competition. This suggests that our incentives operate, at least in part, via the electoral process.

Our results contribute to the literature on the political economy of local accountability. They relate to results on the role of improved political visibility in responding to citizen needs (Besley and Burgess, 2002); as well as studies that examine the role of state-led audits in reducing corruption (Olken, 2007; Ferraz and Finan, 2008; Bobonis et al., 2016; Avis et al., forthcoming). In our case, the process of improving political visibility is implemented through a performance-based incentive scheme for politicians, which has previously been used only for employees of public bureaucracies and private organizations. In this context, our results also relate to the literature on the use of performance-based incentives to improve the delivery of public goods and services in a wide range of settings.[1] Such incentives have largely been private;[2] and they have thus far focused on public officials—government bureaucrats[3], front line service providers, and community groups—all of whom are not politicaly accountable. In contrast, our incentive scheme works with politically motivated agents; and it seeks to build a scheme of public rewards that can leverage this political motivation to improve public policy outcomes. Finally, our results are also directly relevant to the literature on the role of political institutions in shaping local policy outcomes in the Indian context. While this literature is largely focused on the impacts of a policy of mandated representation for women and disadvantaged groups in local government (Chattopadhyay and Duflo, 2004; Ban and Rao, 2008; Bardhan et al., 2005; Clots-Figueras, 2011), we examine if incentives—that provide additional public resources or disseminate favorable monitoring outcomes to voters—can be used to better align political incentives with citizen needs.

The rest of the paper proceeds as follows. Section 2 presents a political agency model with imperfect information to highlight the underlying theoretical motivation for the two public rewards. Section 3 describes the institutional context for our experiment, Section 4 outlines the experimental design, Section 5 discusses the data, and Section 6 reports the results of the experiment. Section 7 concludes.

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[1] Lavy (2002, 2009), Muralidharan and Sundararaman (2011), and Duflo et al. (2012), among others, have examined the effects of financial and non-financial incentives on public teachers; Bó et al. (2013) on government bureaucrats; Khan et al. (2015) on tax inspectors; Olken et al. (2014) on community groups; Ashraf et al. (2014), Deserranno (2016), and Giné et al. (2017) on development workers; Mullen et al. (2010) and Miller et al. (2012) on healthcare workers; Baicker and Jacobson (2007) and Banerjee et al. (2014) on policing. For review of the literature, see Finan et al. (2017).

[2] With the exception of Olken et al. (2014).

[3] Including other public agents like tax inspectors, public teachers, and the police.

2 Theoretical Model

Consider a two-period political agency model, similar to the one developed by Besley and Burgess (2002), where citizens are imperfectly informed about the actions of the incumbent politician, and politician quality is unobserved. In the start of period 1, a politician is voted into office. The elected politician chooses to put effort ($e \in [0, E]$) in period 1. The elected politician can be one of three types, which is only revealed to the politician. Altruistic politicians (type a) always put in the maximal effort E, and selfish politicians (type s) never put in effort (i.e. $e = 0$); whereas, the effort level of opportunistic politicians (type o) depends upon their reelection incentives. These three types make up the entire pool of politicians, and the probabilities that each type of incumbent is selected ex ante from this pool are $\{p_a, p_s, p_o\}$ respectively. All politicians derive a utility Δ from holding the office each term, therefore this also captures the value of reelection to the incumbent politician in period 2. In the beginning of period 2, an election is held where the incumbent politician faces a randomly selected challenger from the politician pool.[4]

Citizens are of two types. *Decided* citizens vote for the incumbent or the challenger based solely on ideological reasons. Hence their voting decision is independent of politician type (or the level of effort by the incumbent in period 1). Suppose they make up δ fraction of the population, and let v be the fraction among the *decided* that vote for the incumbent on ideological grounds.

Undecided citizens vote based on politician's type. Politician type matters to citizens because their wellbeing is, in part, affected by the level of effort put by the politician while in office, for instance, through public goods and services delivered by the elected politician.[5] In fact, only *altruistic* politician will put any positive effort in period 2, as politicians have no further reelection incentives. Therefore, *undecided* citizens would prefer to vote for a politician who is *altruistic*. Since politician type is not observable, *undecided* citizens will instead vote based on the incumbent action because an incumbent who has shown to put in nonzero effort in period 1 is definitely not *selfish*, and conditional on putting positive effort the probability that the incumbent is altruistic is higher than that for a randomly selected challenger from the politician pool.[6]

Incumbent's effort is however not directly observable to citizens. But they can learn whether the incumbent has put nonzero effort in one of two ways: (1) by monitoring the actions of the incumbent, and/or (2) through direct benefits resulting from the incumbent's actions.

Direct benefits to citizens typically come from having access to better public goods, and

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[4]The probabilities that a randomly selected challenger is altruistic, selfish, or opportunistic are also given by $\{p_a, p_s, p_o\}$ respectively.

[5]These citizens might also care about politician type because they get intrinsic value from having an altruistic politician in an elected office.

[6]Using Bayes rule, the probability that the incumbent is altruistic given that a positive effort level has been observed and that opportunistic incumbents are putting effort is $\frac{p_a}{p_a + p_o} > p_a$. All opportunistic politicians will put nonzero effort, if the solution for the optimal effort does not yield a corner solution. In fact, interior solution is guaranteed if elections are reasonably competitive, and condition that bring this about discussed later in the section.

from improved delivery of public services in and around their area of residence.[7] Provision of public goods and services, such as constructing a new road or hiring workers to clean the streets, depends on the public resource budget available to carry out such actions. Suppose C is the total amount of monetary resource that was available to the incumbent in period 1.

Citizens can also monitor the actions of the incumbent directly; or they can receive information about incumbent effort indirectly through external sources like civil societies, community organizations, and media that monitor and publish politicians' activities, or through state-led formal audits. Let the extent of information available to the citizens through monitoring be m.

Let $s(e, m, C)$ be the fraction of *undecided* citizens who are informed (i.e. information that the incumbent has put nonzero effort). We describe ways in which these three factors— incumbent effort, the monitoring ability of citizens, and the public budget— come together to influence observability of incumbent effort to citizens: $s(0, m, C) = 0$, $s_e(e, m, C) > 0$, $s_{ee}(e, m, C) < 0$, $s_m(e, m, C) > 0$, $s_c(e, m, C) > 0$, $s_{em}(e, m, C) > 0$, and $s_{ec}(e, m, C) > 0$. Information about effort is more easily observed by citizens when incumbent has put more effort. More importantly, improved monitoring and increasing public resources are both assumed to increase the marginal impact of effort on the fraction that is informed. In other words, better accountability allow incumbents to take credit for their effort, say through favorable audit ratings and media coverage. Likewise, new public investments—that require public resources—enhance the visibility of effort by increasing the direct benefits that citizens receive from access to public goods and services.

The incumbent wins the election if

$$r(1 - \delta)s(e, m, C) + \delta v > \frac{1}{2},$$

where r is the voter turnout rate among undecided citizens, and suppose v, the fraction of *decided* citizens who vote for the incumbent, is uniformly distributed on interval $[a, 2b - a]$.[8] For any given v, the probability that the incumbent wins the election if he puts in effort e is given by

$$\mathcal{P}\left(r(1 - \delta)s(e, m, C) + \delta v > \frac{1}{2}\right) = \mathcal{P}\left(v > \frac{\frac{1}{2} - (1 - \delta)rs}{\delta}\right)$$

$$= \begin{cases} 1 & \text{if } \frac{\frac{1}{2} - (1 - \delta)rs}{\delta} < a; \\ \left(2b - a + \frac{(1 - \delta)}{\delta}rs - \frac{1}{2\delta}\right)/(2b - 2a) & \text{if } \frac{\frac{1}{2} - (1 - \delta)rs}{\delta} \in [a, 2b - a]; \\ 0 & \text{if } \frac{\frac{1}{2} - (1 - \delta)rs}{\delta} > 2b. \end{cases}$$

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[7]Benefits to the citizens can also come from direct transfer of money or product from the incumbent to individuals while in office, which is an example of vote-buying.

[8]$1 > b > a \geq 2b - 1$.

If the incumbent loses or wins for sure, then the optimal effort level is zero. This is the case when b is small enough or a is large. Thus, the existence of an interior solution for effort relies on whether there is a strong electoral competition. For instance, the case where $a = 0$ and $b = 1/2$ describes a scenario where neither the incumbent nor the challenger has any ideological advantage, and it also guarantees an interior solution. In other words, some amount of electoral competition is a prerequisite for opportunistic politicians to put a nonzero effort, and ultimately, for whether their effort is responsive to factors such as C and m described in the model.

An opportunistic incumbent chooses his/her effort level to maximize

$$\max_{e} \ \{\mathcal{P}(e; m, C, r, a, b)\Delta - e\},$$

and assuming an interior solution, the first-order condition for the optimal effort denoted by e^* yields

$$h(e^*, m, C) = \frac{(1-\delta)\theta\Delta}{2(b-a)\delta} s_e(e, m, c) - 1 = 0.$$

The derivative of the implicit function $e(\rho)$ for $\rho \in \{m, C, r, \delta\}$ is given by $\dfrac{\partial e}{\partial \rho} = -\dfrac{\partial h/\partial \rho}{\partial h/\partial e}$. Since $s_{ee}(e, m, C) < 0$, we have $\partial h/\partial e < 0$ and therefore, $\text{sign}\left\{\dfrac{\partial e^*}{\partial \rho}\right\} = \text{sign}\{h_\rho\}$.

Putting these together, we can derive relevant comparative statics. For our purpose, we are interested in understanding the responsiveness of effort by an opportunistic incumbent on specifically two factors: the extent of monitoring m; and the amount of public resources C. We find that $\partial e^*/\partial m > 0$ follows from our assumption that $s_{em}(e, m, C) > 0$. Similarly, given $s_{ec}(e, m, C) > 0$, it implies that $\partial e^*/\partial C > 0$.

Overall, the model outlines how politician effort maps into electoral outcomes, when citizens use actions of the politician to infer about unobserved politician quality. In particular, the model shows how electoral incentives induce *opportunistic* politicians to put effort, in order to distinguish themselves from the *selfish* type among the voters. Moreover, they are willing to put more effort when their actions are visible to the voters. In contexts where their actions are less visible to voters, the model predictions underlie the failures of accountability in the electoral process. On the other hand, these predictions illustrate how increasing public resources or organizing campaigns to disseminate information from monitoring can be used to increase effort put by *opportunistic* politicians, if these interventions increase the electoral payoff of their effort.

3   Context

In 1992, the 73rd amendment to the Indian Constitution transferred responsibility for the delivery of several public goods and services to a three-tier local government, collectively called the

Panchayati Raj Institutions (PRI). The third and the lowest tier, the Gram Panchayat or the GP, typically covers a group of 5-10 villages.[9] A president, who is elected by all eligible voters within the GP by a popular vote,[10] heads each GP and elections are held every five years with no term limits.[11] While these mandates represented the minimal requirements for the GP system, every Indian state was given a wide degree of leeway in how the GPs would function—leading to considerable variation in the GPs' budgets and functions (Besley and Case, 1995).

In the state of Tamil Nadu, where this study is located, the functions and requirements of the GPs were defined by the Tamil Nadu Village Panchayati Raj Act of 1994. Under this act, the functions devolved to the GP have been to identify target populations for federal and state poverty alleviation and safety net programs; the construction and maintenance of basic public good (village roads, streetlights, drinking water, drains); and the provision of sanitation services.[12] Though Tamil Nadu GPs are typically not sufficiently well-financed to actually deliver public goods and services on their own, they do play a vital role in (a) identifying beneficiaries from the target population for federal and state anti-poverty programs, and (b) implementing the last mile of key service delivery functions related to roads, sanitation and water. For example, the GPs use their own fiscal resources to invest in sanitation; identify areas that need more drinking water; keep track of repair and construction needs; and match these local infrastructure needs with resources allocated to the GP for these functions by the upper tier governments. The current cohort of GP presidents was elected in September 2011, and the next election was scheduled for the last quarter of 2016.[13]

3.1 Pudhu Vaazhvu Project

The Pudhu Vaazhvu Project (PVP) was launched in 2005 in 2300 Gram Panchayats (GPs) drawn from 70 blocks (a sub-district administrative unit that is made up of a cluster of GPs) across 16 districts of Tamil Nadu. In 2012, the project expanded to cover 1661 GPs in 50 blocks in 14 districts. Out of these, 10 districts (with a project coverage of 46 blocks) received the project for the first time in the second phase of PVP.

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[9]The upper tiers of this government were defined at the level of the district (zilla panchayat, or ZP) and the block (taluk panchayat, or TP).

[10]The GP president can be chosen through direct elections (popular vote), or indirect elections. While several states in India including Tamil Nadu have adopted a popular vote based system, some states elect the GP president by holding an indirect election amongst members elected to the village council.

[11]While the GP president has no term limits in principle, the state-specific design of the constitutional policy of mandated representation for SC/ST groups and women could impose de-facto limits.

[12]Particular public goods within the formal jurisdiction of the VP include: construction, repair and maintenance of all village roads; extension of village sites and the regulation of buildings; lighting of public roads and public places in built-up areas; construction of drains; cleaning of streets and improvement of the sanitary condition of the village; construction and maintenance of public latrines; sinking and repairing of wells, the excavation, repair and maintenance of ponds or tanks and the construction and maintenance of water works for the supply of water; maintenance of burial and burning grounds; maintenance of parks and reading rooms; implementation of national and state schemes; such other duties as the Government may, by notification, impose.

[13]These elections are currently scheduled to be held in early 2018. Political uncertainty in the state following the unanticipated death of the sitting Chief Minister of the state in December 2016 led to this change in schedule.

At the time that PVP was launched, a state government-led initiative supported a network of Self Help Groups (SHGs) of Women across the state. However, these networks largely excluded the poor; and the SHGs faced challenges in improving the livelihood portfolios of the poor. PVP was designed to address these challenges. At the village level, it was envisaged that this would be done by making SHGs more inclusive, and by supporting the institutional development of SHGs through a village organization. This village organization—the Village Poverty Reduction Committee (VPRC)—is the core institution through which PVP implements its various interventions. In order to promote synergies with other federal and state programs, and to improve political accountability, the program design also required that the VPRC work with the elected GP in implementing its project activities.

Like other livelihoods focused Community Driven Development (CDD) projects, PVP is a complex and multi-sectoral program; and the target population for the project is chosen through a participatory identification process (like in Alatas et al. (2012)), which is implemented in every GP before the project activities commence. Although its core mandate includes SHG focused credit and livelihoods activities, the VPRC also places significant emphasis on several other activities. First and foremost among these activities is that of making local governance work for the poor. In this role, it facilitates the access of the poor to available safety nets and social services; and actively encourages participation of its SHG members in village meetings held by the GP. The VPRC also implements two other interventions: (i) it facilitates access to skilled employment by organizing the training and placement of the village youth with the private sector, and (ii) it targets differently abled persons, by connecting them to specific federal programs and matching with special SHGs.

To fulfill its central goal of making local governance more pro-poor, the VPRC has a formal partnership with the GP. Formally, the president of the GP serves as the ex-officio president of the VPRC. As a constitutional authority, the president also initiates the process of participatory identification of the target poor; ratifies this list and the selection of VRPC members in the Grama Sabha, or the legislative body of government; and is tasked with ensuring the regular conduct of social audits on the targeting performance of the PVP program. By design, therefore, it was intended that the VPRC and GP would work together in making public programs more pro-poor. For safety nets and other programs targeted to the poor individuals, the VPRC would play an active mediation role by helping them to access and fill in application forms; while the GP would provide political mediation by forwarding the application and providing follow-up assistance for approval with the relevant upper tier government. To improve local access to public goods, the VPRC engaged with the GP, or the executive body of local government to highlight local needs; and participated in the Grama Sabha, where village wide public good needs and allocations of public investments are discussed and debated.

In order to incentivize the GP presidents to work with the VPRC on these project goals, PVP

instituted a program-wide performance-based financial incentive in its first phase of implementation. GP presidents were assessed on a range of indicators that related to their performance on the delivery of public services and targeted safety net programs, and their role in overseeing the activities of the VPRCs. To fulfill their oversight function, GP presidents had to participate regularly in VPRC meetings; review the targeting performance of the VPRC on its main program interventions; check on the functioning of the social audit and sub-committee of the VPRC; and ensure the fulfillment of the information disclosure requirements related to project finances and its beneficiaries. To evaluate performance, objective evaluation criteria that measured these multiple dimensions were developed by the PVP project management team. A team of external evaluators[14], used a combination of project monitoring data, and random field verification visits to implement the evaluations. A pre-determined algorithm was then used to convert these indicators into scores; with a maximum possible score of 100. An absolute score was used to determine the threshold for the performance incentive, with cutoffs of 70 and higher, 69-55, and less than 55 used to assign grades letter A, B, and C grades respectively. In this first phase, GPs with a letter grade A qualified for a financial incentive from the project.

4   Experiment Design

We worked with the State Government of Tamil Nadu in the second phase of PVP to evaluate the effectiveness of providing GP presidents with incentives based on their evaluation grade. In this phase, the project was rolled out in 10 new districts (and 4 blocks in each district), which had not previously received the project in Phase 1. From those 10 districts, we selected block in each district, and randomly selected 25 GPs from each block.[15] For blocks that had less than the target number of GPs, all GPs in the block were selected.[16] This gave us a total sample of 198 GPs across 10 blocks in 10 districts. In each block, we randomly divided the GPs into three groups (two treatment and one control). The GP presidents in the treatment group received one of two incentives—a monetary incentive or information based one.

The monetary incentive rewarded presidents with a one-time cash grant that could be used

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[14]In Phase 1, a team of 5-6 external evaluators, comprised of VPRC members and VP presidents and staff from other districts, were used to maintain the independence of the evaluation process. This team visited the GP for period of 2 days to conduct this evaluation.

[15]In each district, the number of blocks covered by PVP was determined by the available budget, and the PVP-blocks were selected based on their backwardness score. This score comprised of SC/ST share of the block population, share of below poverty line households, and other measures that included poor infrastructure, poor public services, and industrial backwardness. All blocks within each district were ranked according to this score, and the blocks starting from the highest score were chosen first for PVP until the budget ran out. The PVP-blocks chosen for this study comprise of the last block chosen to receive the project in each district. Appendix Table A1 compares the means of block-level demographic and infrastructure characteristics between PVP-blocks in our sample and PVP-blocks not in our sample. Across all outcomes, we do not find any statistically significant pair-wise difference in the means between sample and non-sample PVP blocks. Additionally, we cannot reject that all means are not jointly different between the two groups at conventional level of statistical significance.

[16]Six out of 10 study-sample blocks had all their GPs included in the study sample.

for any public investment or program in the GP, at president's discretion.[17] The presidents who receive an A grade in the evaluation at the end of the second project phase were promised INR 600,000 (about US$ 10,000) in an untied public grant. Presidents who received a B grade were promised INR 300,000(about US$ 5,000). These public grants are significant both relative to the general budget of the GP (typically 240,000 INR or US$3800 per year net of salaries); and the cost of providing local public goods. For instance, construction of a public bore well would cost approximately INR 150,000; while the construction of an internal road would cost in the range of INR 100,000 to 200,000.

The information incentive advertised the achievement of high performing GP presidents to their constituents. For each president who received either an A or a B grade, his/her grade was announced in a special Gram Sabha (village meeting) that was convened for this purpose. In this meeting, the VPRC members acknowledged the president's efforts in implementing the project activities, announced the president's grade, and awarded him/her with a certificate of recognition from the State Government of Tamil Nadu. In addition, in GPs with A grade presidents, an information campaign that highlighted his/her achievements was organized in the GP. As part of the campaign, a large poster—comparable to a large political advertisement board (of size 23.4 by 33.1 inches)— that acknowledged the performance of the president and displayed his/her grade was put up in the main GP square (usually next to the GP office). In addition, 100 smaller posters (11.7 by 16.5 inches) of similar design were provided to the GP president, and these could be put up in the GP or be distributed at president's discretion. A sample of the campaign poster is presented in Appendix Figure A1.

Both incentives were designed to reward high performing presidents by making their effort more visible to their constituents—either through the information campaign, or by providing the president with additional resources to invest in public goods. The political agency model developed in the previous section shows that *opportunistic* GP presidents are willing to increase their effort with factors that improve the visibility of their actions. In this spirit, both our incentives provide private benefits to the presidents through their reelection incentives.

The process of evaluating GP presidents and assigning grades based on their performance was already part of the project in its first phase. While these grades could, in and of themselves, inform voters about politician performance our incentives improve the visibility of this information by embedding it within the evaluation process. In our incentive schemes, information on political effort reaches voters in one of two ways—either through the direct benefits from public investments, or indirectly through an information campaign.

The presidents of treatment GPs were informed of the evaluation process and their incentives through an official communication from the PVP project office in April 2013 (start of Phase 2),

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[17]The financial incentive is remitted to the official bank account of the GP president, and it is announced in a public village meeting. The president needs to convene this meeting, and discuss local investment priorities before the funds can be accessed.

and the written letter with this information was mailed to the GP president soon after.[18] The GP presidents in control areas also received a letter and verbal communication informing them that they would be evaluated. The wording of the letters to the control group was identical to those sent to the treatment GPs (including in the description of the evaluation), except that it had no mention of any incentives. Treatment and control GP presidents were not explicitly informed about the details of the evaluation criteria in order to avoid multitasking problems, where effort allocated towards targeted measures could come at the expense of non-incentivized indicators (Holmstrom and Milgrom, 1991). Instead, all GP presidents were told that they would be assessed on a range of outcomes related to their performance on the delivery of public goods and targeted programs, and their role in facilitating the program interventions under PVP.

The evaluation covered a period 26 months, from the beginning of Phase 2 in January 2013 till July 2015, when the project activities started to wind down for formal closure in September 2016. The evaluation scores and grades were calculated based on the evaluation criteria developed by PVP, and they were similar to the criterion used in the first project phase. The grades were announced to the presidents in May 2016. For eligible treatment presidents, the financial grant was transferred to the official bank account of the VP office on 3 June 2016. Special Gram Sabhas were organized for the formal announcement of grades for A and B grade politicians on 12 June 2016, and posters for the A grade presidents who were assigned to the information incentive were distributed on the same day. These formal announcements took place approximately 3 months prior to the scheduled 2016 GP election. The timeline of the study is presented in Appendix Figure A2.

5 Data

The data that we use in our analysis come from multiple sources. We collected three rounds of independent survey data for the 198 study-sample GPs located across 10 districts of Tamil Nadu. First, prior to the rollout of the second phase of PVP interventions, baseline data was collected between December 2012 and January 2013. During this baseline, the survey team visited each GP, interviewed the GP president to measure his or her demographic and household characteristics, and constructed a public investments map that included all public investments in roads, sanitation, and housing (and their locations) that were made in the GP since the last election in 2011. The public investments map was verified through a village focus group meeting, and the survey team visited two randomly selected investments for an on-site verification. In addition, the survey team collected information on VPRC formation and their various project activities from the official VPRC records.

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[18]Official letters were sent from the state project office to their district units, and these units dispatched the letters to individual presidents.

Second, in October 2013 (6 months after the intervention), the survey team visited the GP offices to collect official minutes from gram sabha meetings held before and after the intervention was announced, along with data on attendance in the VPRC meetings. Lastly, the survey team visited the study-sample GPs to collect data for the evaluation process in July 2015. The evaluation team collected data from VPRC records, GP office records, village focus group meetings, interviews of VPRC members, and made field visits to project sites to verify official records. This included information on VPRC meetings, identification of target households, beneficiary records and processing of new applicants for private transfers, youth skill training programs, and audits of VPRC books and financial records. In addition, the team constructed a GP-level public program maps. These maps were similar to the one collected at baseline, and they also included data on new investments that were implemented after the intervention was announced. This data (collected by our survey team) was used by PVP to construct evaluation scores and grades for GP presidents in our study sample, following criteria that were similar to those used in the first project phase.

We supplement this data with 2011 India Census, and GP election data from the Tamil Nadu State Election Commission that we compiled and digitized. The latter provide detailed information on the number of candidates for each electoral seat, voter turnout, vote share of each candidate, and reservation status of the contested seat for the 2011 GP elections.

5.1 Baseline characteristics and balance test

Columns 1, 2, 3, and 4 of Table 1 report means of GP and GP president characteristic across different groups—the control GPs, GPs with either type of incentives, GPs with monetary incentive, and GPs with information incentive, respectively. Columns 5-8 report the p-value of the t-test of the difference in means between these groups: control vs. any incentive; control vs. monetary; control vs. information; and monetary vs. information respectively. Across all the variables, we cannot reject that the means are equal for any pairwise comparison at conventional level of statistical significance. As indicated by the p-value of F-test at the bottom of Columns 5-8, we again cannot reject that all means are not jointly different between the groups.

GP presidents in our study are on average 42 years old, roughly one-third are female, and slightly more than one-fourth of them belong to scheduled castes (SCs) or scheduled tribes (STs). The average tenure in the elected office is 2.3 years, with only one-fifth of them having served more than one term. More than four-fifth of GP presidents are affiliated with a state or a national political party.

Slightly less than half of them were elected on a reserved seat in the last GP election in 2011. On average, they won with less than 50 percent of the total votes cast, with an average victory margin that was 15 percentage points compared to the nearest rival on the share of votes won. We categorize GPs as *high electoral competition* if the victory margin of the GP

president in the 2011 election was equal to or less than the median margin of victory (i.e. 11.5 percentage points). For our sample, voter turnout in the elections was above 85 percent, with four candidates contesting for the GP president seat on average. Overall, this suggests high electoral competition as well as a high rate of citizen participation in the electoral process in our sample GPs.

GPs have on average 3300 households. Out of them, approximately 330 households were identified in the baseline as PVP target households. The project targets households that are poor and vulnerable, as identified by a participatory process; and disabled individuals. In our context, the poor and vulnerable make up the majority of the target group; and project data suggest that this group is overwhelmingly drawn from households belonging to either ST/SC or MBC (Most Backward Caste) groups.

Each GP in our sample is made up of 8 villages on average, out of which roughly 85 percent of villages have ST/SC or MBC households residing in them. Since the 2011 GP election, 55.0, 34.4, and 66.8 percent of these target villages in each GP have seen public investments on roads, sanitation, and housing respectively.

5.2 Spillover effects on Control GPs

Appendix Table A2 examines spillover effects on the control GPs in and around the time when monetary and information incentives were announced in the treatment GPs. Any potential information spillover from the treatment to control could affect the effort exerted by control GP presidents (positively or negatively), possibly due to discouragement and/or intrinsic competition between presidents. Moreover, the spillover effect on the president effort is likely to occur immediately following the announcement, and it will likely be reflected on outcomes that are fluid, under the direct control of the GP president, and rely solely on his/her effort.

To test change in president effort in control GPs, we compare the quality of quarterly Gram Sabha (GS) meetings and monthly VPRC meetings organized by the president in control GPs immediately before and after the announcement. Columns 1 and 2 of Appendix Table A2 show the outcome means before and after the announcement respectively, while Column 3 presents the difference in the before and after means and Column 4 calculates the p-value of the paired two-sided t-test of this difference. In Panel A, we find that the difference in means before and after the announcement in GS attendance and in female share of GS attendees is small in magnitude— 1.82 and 2.42 percent change compared to the pre-announcement levels respectively. Both the differences are also not statistically significant at conventional levels (p-values of 0.435 and 0.162). Likewise, in Panel B we find that the changes in GP president's and VPRC members' attendance in monthly VPRC meetings are also small, and the pre- and post-announcement means of the two outcomes are also not different at conventional levels of statistical significance (p-values of 0.940 and 0.286 respectively). Overall, we do not find evidence of a change in

14

president effort in control GPs following the announcement of incentives. This suggests that the causal effects of the incentives estimated in the next section are not likely to be biased by the spillover effects on control GPs.

6   Results

We estimate the effect of the incentive on GP president's evaluation score, which was used to determine the eligibility for incentives. We also estimate the incentive effects on four key sets of outcomes related to the project's goals: implementing a youth training and employment program, targeting of social benefits, private transfers, and public investments. These project goals-related outcomes also provide us with direct measures of citizen wellbeing. Results for the four sets of outcome variables are presented in Tables 3, 4, 5, and 6 respectively, while Table 2 presents the results for evaluation score. For each set of outcome variables in Tables 2-6, we compare control GPs and incentivized GPs in Panel A; and we estimate the incentive effects separately for monetary and information incentives in Panel B.

6.1   Evaluation score

Table 2 estimates the incentive effect on the program evaluation scores received by GP presidents. Column 1 presents the impact on the total points (out of 100) received by the GP president, and Columns 2, 3, and 4 show the results on the three dependent dummy variables, each indicating whether the GP president received grades A, B, or C respectively. The results in Panel A show that the presidents of incentivized GPs received 2.60 points higher on their evaluation, and that they were 10.1 percentage points more likely to receive grade A compared to the control group. Both estimates are statistically significant at the 5 percent level. The size of these estimates implies that the incentive increased the evaluation score by 4.44 percent compared to the control mean (58.54 points), and it doubled the fraction of grade A presidents compared to that in the control GPs (9.4 percent).

Additionally, the incentivized GP presidents are 5.6 percentage points less likely to receive grade B, and 4.53 percentage points less likely to receive grade C compared to the presidents in control GPs. Both estimates are however not statistically significant at conventional levels.

In Panel B, we find that GP presidents with a monetary incentive got a score 3.44 points higher, and that they are 13.5 percentage points more likely to receive an A grade compared to the control group. The estimates are statistically significant at the 1 and 5 percent levels respectively. In comparison, the effects of information incentive are also positive, but slightly muted. GP presidents with the information incentive increased their evaluation score by 1.73 points and the likelihood of receiving grade A is 6.6 percentage points higher compared to the control. Both estimates are not statistically significant at conventional levels.

15

The p-values of the F-tests (also presented in Table 2) indicate that the estimated effects on the total points and the likelihood of receiving grade A for the incentivized GP presidents are not statistically significantly different between monetary and information incentives. On these two outcomes, we can also reject at conventional levels of statistical significance that the estimated effects of the two types of incentives are not jointly different from zero (P-values of 0.014 and 0.054).

6.2 Youth training and employment

Table 3 examines the effects of the incentives on the training and employment program for target youth. In Columns 1 and 2, we find that incentive increases the number of target youths who receive skill training by 7.17, and those who are employed (after receiving this training) by 7.30. Both estimates are statistically significant at the 5 percent level, and amount to a 20-25 percent increase compared to their respective means in the control GPs.

Youth programs in incentivized GPs also show higher employment rates among their trained youth. In Column 3, we find that incentive increases the fraction of trained youths who are employed by 6.2 percentage points (statistically significant at the 5 percent level). Similarly, youth programs in incentivized GPs are 14.9 percentage points more likely to have full employment among their trained youths compared to similar programs in control GPs (Column 4). The estimate is statistically significant at the 5 percent level; and the size of the estimate is also large, amounting to a 43 percent increase compared to the control mean.

The results in Panel B show that the effects on these four outcomes related to youth training and employment are almost identical in size and not statistically significantly different between the monetary and information incentives. For instance, GPs with a monetary incentive have 6.67 additional target youths who receive training and 7.04 more target youth are employed compared to control GPs. The two estimates are statistically significant at the 10 and 5 percent levels respectively. In comparison, the information inventive raises the number of target youths trained and employed by 7.69 and 7.59 respectively, and both estimates are statistically significant at the 5 percent level. Additionally, the p-values of F-test in Columns 1 and 2 indicate that we can reject that the effects of the monetary and information incentives are not jointly different from zero at the 10 percent level of statistical significance.

6.3 Targeting

Table 4 examines the impact of the incentives on the identification of beneficiaries for social programs and on access to credit for the poor and disabled through SHG membership. In Panel A, we find that the incentive increases the number of program-eligible households that are identified by the GP by 1.19, the number of poor households connected to the state-wide

network of SHGs by 17.5, and the number of disabled individuals connected to special SHGs by 2.96 compared to control. The former estimate is statistically significant at the 5 percent level, while the latter two are not statistically significantly different from zero at conventional levels.

The results in Panel B show that the effects are positive for both types of incentives. While the effects on beneficiary identification, SHG membership of disabled, and special SHG membership of disabled are slightly larger in magnitude for monetary compared to the information incentives, the p-values of the F-test in Columns 1, 3, and 4 indicate that the estimated effects of the two incentives are not statistically significantly different from each other at conventional levels for all three outcomes. The estimated effects of the monetary incentive on these three outcomes are however statistically significantly different from zero at the 10 percent level.

6.4 Private transfers

Table 5 presents the results on access to recurring private transfers. Columns 1, 2, and 3 present outcomes on transfers related to disability, which is one of the main target groups of PVP; Columns 4, 5, and 6 show results on all other transfers that include pension programs for senior citizens and widows.

Improving the application rate for these programs involves facilitation from the VPRC along the following dimensions: identification of eligible individuals who do not have access to these programs, providing assistance in filling out application forms, and forwarding these to the GP president. The GP president then forwards these applications to the concerned authority and provides political mediation services during the processing of these applications. In Columns 1 and 2 of Panel A, we find that the incentive increases the number of applications for disability benefits that are received and processed by the GP for disability by 4.26 and 1.37 respectively. The estimates are small in size, amounting to only 5.9 and 2.1 percent improvement over the means in the control group. They are also not statistically significantly different from zero at conventional levels. In Columns 4 and 5, the results for other private transfers on the number of applications received and processed by the GP show a similar pattern.

The results in Columns 3 and 6, on the other hand, suggest that the incentives had a positive impact on the processing rate of applications received by the GP. Incentives increased the likelihood that all the applications received by the GP for disability benefits are processed by 6.7-percentage point (Column 3). The size of this effect is not trivial and amounts to a 14.5 percent improvement in the processing rate compared to the control mean (45.3 percent). Moreover, the results in Panel B show that this effect is mostly concentrated on GPs that received a monetary incentive, among which the likelihood increased by 16.4 percentage points. This estimate is statistically significant at the 5 percent level.

Similarly, in Column 6 we find that the incentive increased the fraction of GPs that processed all the applications (all other benefits except disability) that they received by 9.3 percentage

17

points (24.8 percent improvement compared to the control mean). The estimate however is not statistically significant at conventional levels. The results in Panel B show that the effect for GPs with information incentive on the processing rate of applications for other benefits is positive, large in magnitude (42.4 percent improvement compared to the control mean), and statistically significantly different from zero at the 10 percent level. It is not different from the estimated effect among GPs that received monetary incentive at conventional levels of statistical significance (though it is different at the 15 percent level).

This impact on processing rates is perhaps not surprising. GP presidents are directly responsible for forwarding the new applications that are received to higher authorities at the block level; and these block officials are ultimately responsible for approving the applications. These results are also in line with (Gupta, 2017), who finds that the lack of political mediation often poses a serious hindrance in improving access to such programs. Local politicians also typically use this power to engage in clientelism, and therefore restrict their mediation efforts to their supporters (Bardhan and Mookherjee, 2012). In this context, our results on private transfers suggest that the incentives could have, at best, improved, albeit on a small scale, access to private transfers; or at worst, they did not worsen the clientelistic behavior of incentivized GP presidents.

6.5   Public investments

Table 6 estimates the impacts of the incentive on public investments across three key public infrastructure programs that are delivered by GPs—roads, sanitation, and housing in Columns 1, 2, and 3 respectively. The results in Panel A show that the incentives had positive impacts on all three types of public infrastructures. They increased the fraction of target villages in the GP that received new investments in roads, sanitation, and housing by 6.4 percentage points, 5.9 percentage points, and 7.0 percentage points respectively compared to the control group. These estimates are statistically significant at the 10 percent, 5 percent, and 1 percent levels respectively. Moreover, the magnitude of these estimates is also not trivial in size, amounting to 7.38, 10.1, and 7.82 percent improvements in public investments compared to their respective means in the control.

In Panel B, we find that the effects on all three types of public infrastructure are positive and large in magnitude for both monetary and information incentives, and that the effects of the two incentives are not statistically significantly different from each other. For instance, in Column 2, GPs with monetary incentive increased the fraction of target villages that received investments in sanitation by 6.2 percentage points, and those with information incentive increased this by 5.6 percentage points compared to the controls. The estimates are statistically significant at the 5 and 10 percent levels respectively, and both amount to a 10 percent improvement in sanitation infrastructure relative to the control mean. We can also reject at the 5 percent level that the

estimated effects of monetary and information incentives on sanitation infrastructure are not jointly different from zero.

Table 7 examines the incentive effects on the spatial distribution of new public infrastructure programs within GPs using the village-program level data. In Column 1, we estimate the effects on public investments separately for president and non-president villages (based on the residential location of GP presidents in GPs). The main incentive variables in Panels A and B represent the incentive effect in non-president villages, while the interaction terms show the difference in the incentive effect between non-president villages (compared to president villages). We also present the P-value of the F-test that the incentive effect in president villages is statistically significantly different from zero.

We find that both monetary and information incentives increased public investments in non-president villages by 10.0 and 7.4 percentage points respectively. The two estimates are statistically significant at the 1 percent and 10 percent levels. In contrast, these effects for president villages are smaller in magnitude, and also not statistically significantly different from zero (p-values of 0.472 and 0.842). The interaction term coefficients for monetary and information incentives are negative and large in magnitude (-7.4 and -5.3 percentage points respectively); and the former is also statistically significant at the 10 percent level.

The results in Column 1 show differential effects of the incentive in public investments across villages, which suggests a sizable distributional impact on the allocation of public goods within each incentivized GP. In Column 2 of Table 7, we include GP fixed effect and estimate the difference in new public investments between president and non-president villages within the GP, across incentivized and control GPs. In line with previous studies including Besley et al. (2012), we find that the president's village receives more public investments than other villages in the GP. Among control GPs, this difference in public investments is 11.2 percentage points (statistically significant at the 1 percent level). The incentive however reduces this investment gap between president and non-president villages by more than one-third. The interaction term coefficients for monetary and information incentives are -0.040 and -0.046 respectively, but they are not statistically significant at conventional levels.

Similarly, the results in Columns 3 and 4 show that the public investment gap decreases with improved geographic proximity to the president's village, with villages in the GP that are farther from the president's village receiving fewer investments. In Column 4, we use the median distance to the president's village in each GP to divide its villages into two subgroups: villages that are in a close proximity to the president's village (including the president's village) and villages that are farther out. The difference in public investments between the two types of villages is 5.9 percentage points in control GPs (Column 4). The estimate is statistically significant at the 5 percent level. In contrast, in incentivized GPs we do not find a difference in investments between two village-types, both in terms of magnitude as well as in statistical

significance (p-value of 0.423). The coefficient on the interaction term suggests that the incentive closed the investment gap between the two types of villages by 7.1 percentage points (120 percent reduction compared to the average investment gap in the control GPs). The estimate is statistically significant at the 5 percent level.

6.6   Correlation between evaluation score and performance

Table 7 shows the correlation between the evaluation score and the outcome variables related to the four project goals—youth training and employment, targeting, private transfers, and public investments in Panels A, B, C, and D respectively. Across all four goals, the scale and the direction of the correlation between the outcome variable and the evaluation score is mixed. Out of 18 outcome variables, 8 outcomes have a negative correlation coefficient value, and 10 outcomes have a positive value. Among the 10 outcomes that are positively correlated with the evaluation score, the size of the correlation coefficients is small (and 8 are statistically significantly different from zero). For instance, the outcome variable *number of disability benefits received* in Panel B has the largest positive correlation coefficient of 0.265. Overall, the results show a low correlation between the evaluation score and GP president's performance on key outcomes. This suggests that the evaluation score might have constituted a rather noisy signal of president effort, and an imperfect measure of president performance.

At the bottom of Table 7, we construct three summary indices that aggregate information over multiple outcomes. The first index incorporates outcomes related to all four goals; the second index includes only private transfers and public investments, while the third includes only public investments. The indices are constructed by taking a weighted mean across the standard distribution of the outcome variables. We find that the correlations between the evaluation score and the three indices are also positive but weak: 0.183, 0.210, and 0.146 respectively.

Table 8 estimates the effect of the incentive on GP president's performance on these indices. Estimating the impacts on the indices help account for the problem of multiple hypotheses testing, given that the outcome variables across the four project goals in Tables 3-6 are likely to be correlated. In addition, these results allow us to estimate the responsiveness of GP presidents' performance related to improvements in citizen wellbeing more accurately (relative to using the evaluation score). Column 1 presents the results on the overall index that includes all four components of the project goals; Column 2 on the index that incorporates private transfers and public investments, and Column 3 on the public investment index. The results from Panel A show that the incentivized GP presidents performed 0.202, 0.200, 0.321 standard deviations better on the three indices than the control. The three estimates are statistically significant at the 1 percent level.

In Panel B, we find that GP presidents with the monetary incentive improved their performance on the overall index by 0.227, the private and public index by 0.228, and the public

investment index by 0.341 compared to the control. Likewise, the information incentive improved performance of GP presidents on these three indices by 0.176, 0.171, and 0.300 respectively. All estimates are statistically significant at the 1 or 5 percent levels; and on these three indices, the effects are not statistically significantly different between monetary and information incentives. We can reject however at the 5 percent level that the effects of two incentives are not jointly different from zero.

6.7 Differential effect by electoral competition

To shed light on possible mechanisms and provide further insights, we examine the incentive effects in subsamples that are divided by the level of electoral competition faced by GP presidents. Examining the incentive effects by electoral competition can point to whether the incentive operates via the electoral process as the theoretical model suggests.

Our finding so far—that incentives positively affect GP presidents' performance—is perhaps not surprising given the context of our experiment. In our sample GPs, voter turnout is high and the incumbency reelection rate is low (see Table 1), suggesting a competitive electoral environment where the marginal impact of increased visibility is likely to be strong in affecting electoral outcomes. Additional evidence in favor of the electoral process being the operative channel would be findings that point to greater responsiveness of the GP presidents' performance to incentives with increased electoral competition. We define electoral competition based on the 2011 GP election results (before the incentive was announced). We categorize GPs as high electoral competition (as in Table 1) if the GP president's margin of victory (difference in the share of vote won by the GP president and the nearest rival) is equal to or less than the median value (11.5 percentage points).

Table 9 shows the correlation between electoral competition and GP and GP president characteristics. Potential correlations between the victory margin and specific president characteristics could affect the subgroup analysis proposed above. First, higher ability GP presidents might win with a larger victory margin. If the incentive effects are non-linear on president ability, then this potential correlation could confound the subgroup analysis. Second, the reservation status of the elected seat could have affected the victory margin in the 2011 GP election by restricting the candidate pool, and directly influencing the gender and caste characteristics of the candidates. Given this, the differential response across high and low victory margin GPs might, in part, capture the difference in the electoral incentives of a GP president elected on a reserved seat versus the electoral incentives of a career politician.

Columns 1 and 2 of Table 9 report the means in the high and low electoral competition subgroups, while Column 3 reports the p-value of the t-test of the difference in means between the two subgroups. Column 4 presents coefficients of correlation between the margin of victory and GP and GP president's characteristics.

Across key characteristics like baseline performance and education that proxy president ability, as well as his/her gender, caste, and reservation status, we do not find any difference in means (both in terms of statistical significance as well as in magnitude) between high and low electoral competition GPs. In addition, the p-value of F-test at the bottom of Column 3 indicates that we cannot reject that all means are not jointly different between the two subgroups. Moreover, the correlation coefficients presented at the bottom of Column 4 show that the margin of victory outcome is strongly correlated with voter turnout, number of candidates for president in the GP election, and the share of votes won by the GP president, which are also common alternate measures used to identify electoral competition.

Table 10 presents the differential results by high and low electoral competition on the three indices (defined previously in Table 8). To address the potential confounding factors discussed above, we control for GP president's baseline performance on the public investment index, education, reservation status, gender and caste and their interactions with the incentive variables. In Panels A and B, the estimated coefficients on the main *incentive* variables represent the incentive effect for GP presidents in low electoral competition. The coefficients on the interaction terms represent the difference in the incentive effect for those in high competition (compared with those in low competition). We also report the p-value of the F-test that the incentive effect for those in high electoral competition (the sum of the coefficient on the incentive main effect and the coefficient on the interaction term) is statistically significantly different from zero.

The results in Panel A indicate that impacts on the performance of GP presidents are larger among those in a high electoral competition. For all three indices, the main effect (impact of incentive in a low electoral competition) is close to zero and not statistically significant at conventional levels, while the interaction term coefficients are all positive and relatively large in magnitude. They are also statistically significant at the 5 and 10 percent levels. The p-values of the F-tests show that the incentive effects (on all three indices) among GP presidents in a high electoral competition are positive and statistically significant at the 5 percent level. For instance, on the public investment index in Column 3, incentivized GP presidents in a low electoral competition improved public infrastructure by 0.097 standard deviations compared to controls (not statistically significant), while incentivized presidents in high competition improved public infrastructure by 0.517 standard deviations (the sum of the incentive main effect and interaction term coefficients) and statistically significant at the 1 percent level.

This pattern of heterogeneity in incentive effects reemerges in Panel B. For each performance index, the monetary and information incentive effects for GP presidents facing high electoral competition are positive and statistically significant at the 5 percent level; while the effects of monetary or information incentives for presidents in a low electoral competition (the coefficient on the main incentive effect) are not statistically significantly different from zero for any performance index. On all three indices, the differences in the response to incentive between low

and high electoral competition are statistically significant (at the 10 percent level) for the information incentive. Overall, these results provide highly suggestive evidence that the incentives operate, at least in part, through the electoral incentives of GP presidents. The differential results are also consistent with the theoretical predictions of the model in which factors such as information campaign and public resources that increase the visibility of president effort (and thereby influence how effort maps into electoral outcome), can induce greater effort from GP presidents facing future electoral incentives.

7 Conclusion

The move to decentralize power to local governments, with the hope that improved local accountability would deliver efficiency gains in the delivery of public programs, has largely not materialized. Despite information advantages for both citizens and politicians in local governments, they continue to have poor record on implementing their core public mandates; local investments tend to be captured by elites; and the incentives to deliver public goods tend to be weak in the presence of clientelistic practices of buying political support through targeted transfers or explicit vote buying at the time of elections (Bardhan and Mookerjee, 2012; Khemani, 2015). Perhaps, the problems of political accountability—when the citizens are unable to perfectly observe political effort and to use elections to hold politicians accountable—continue to drive government failures in performance.

In this context, we show that a performance-based incentive for politicians that is designed to address this failure by making actions of better performing politicians more visible to voters, can be used to elicit greater political effort. The incentive scheme rewarded political performance either through public grant or public recognition. Both types of incentives improved politician performance on the objective measure of their citizens' wellbeing. The positive effects of the incentives on the provision of local public goods and services are particularly striking within a status quo that is characterized by clientelism through selective exclusion in private transfers, and weak political incentives to deliver non-excludable public goods. Moreover, the incentive effects are stronger for politicians who face tighter electoral competition, suggesting that the incentive operate, in part, through the political incentives. These results, taken together, suggest that incentives that hold the potential to provide private benefits to politicians through their reelections incentives, can be used to address the underlying problems of political accountability, and thereby improve policy outcomes.

References

Aker, Jenny C., Paul Collier, and Pedro C. Vicente. 2017. "Is Information Power? Using Mobile Phones and Free Newspapers during an Election in Mozambique." *Review of Economics and Statistics* 99(2): 185-200.

Ashraf, Nava, Oriana Bandiera, and B. Kelsey Jack. 2014. "No Margin, No Mission? A Field Experiment on Incentives for Public Service Delivery." *Journal of Public Economics* 120: 1-17.

Alatas, Vivi, Abhijit Banerjee, Rema Hanna, Benjamin A. Olken, and Julia Tobias. 2012. "Targeting the Poor: Evidence from a Field Experiment in Indonesia." *American Economic Review* 102(4): 1206-1240.

Avis, Eric, Claudio Ferraz, and Frederico Finan. forthcoming. "Do Government Audits Reduce Corruption? Estimating the Impacts of Exposing Corrupt Politicians." *Journal of Political Economy*.

Baicker, Katherine and Mireille Jacobson. 2007. "Finders Keepers: Forfeiture Laws, Policing Incentives, and Local Budgets." *Journal of Public Economics* 91: 2113-2136.

Ban, Radu and Vijayendra Rao. 2008. "Tokenism or Agency? The Impact of Women's Reservations on Village Democracies in South India. *Economic Development and Cultural Change* 56(3):501-530.

Banerjee, Abhijit V., Raghabendra Chattopadhyay, Esther Duflo, Daniel Keniston, and Nina Singh. 2014. "Can Institutions be Reformed from Within? Evidence from a Randomized Experiment with the Rajasthan Police." NBER Working Paper 17912.

Banerjee, Abhijit V., Rema Hanna, Jordan Kyle, Benjamin Olken, and Sudarno Sumarto. 2015. "The Power of Transparency: Information, Identification Cards and Food Subsidy Programs in Indonesia." NBER Working Paper No. 20923.

Banerjee, Abhijit V., Rukmini Banerji, Esther Duflo, Rachel Glennerster, and Stuti Khemani. 2010. "Pitfalls of Participatory Programs: Evidence from a Randomized Evaluation in Education in India." *American Economic Journal: Economic Policy* 2 (1): 1-30.

Banerjee, Abhijit V., Selvan Kumar, Rohini Pande, and Felix Su. 2011. "Do Informed Voters Make Better Choices? Experimental Evidence from Urban India." Working paper.

Bardhan, Pranab. 2002. "Decentralization of Governance and Development." *Journal of Economic Perspectives* 16(4): 185-205.

Bardhan, Pranab and Dilip Mookherjee. 2005. *Decentralization and Local Governments in Developing Countries: A Comparative Perspective*. MIT Press, Cambridge, MA.

Bardhan, Pranab and Dilip Mookherjee. 2012. "Political Clientelism and Capture Theory and Evidence from West Bengal, India." WIDER Working Paper 97/2012.

Bardhan, Pranab, Dilip Mookherjee, and Monica Parra Torrado. 2005. "Impact of Reservations of Panchayat Presidents on Targeting in West Bengal." BREAD Working Paper No. 104.

Besley, Timothy. 2007. *Principled Agents? The Political Economy of Good Government*. Oxford University Press, Oxford, New York.

Besley, Timothy and Anne Case. 1995. "Does Electoral Accountability Affect Economic Policy Concerns? Evidence from Gubernatorial Term Limits." *Quarterly Journal of Economics* 110(3): 769-798.

Besley, Timothy, Rohini Pande, and Vijayendra Rao. 2012. "Just Rewards? Local Politics and Public Resource Allocation in South India." *World Bank Economic Review* 26(2): 191-216.

Besley, Timothy and Robin Burgess. 2002. "The Political Economy of Government Responsiveness: Theory and Evidence from India." *Quarterly Journal of Economics* 117(4): 1415-1451.

Bó, Ernesto Dal, Frederico Finan, and Martin A. Rossi. 2013. "Strengthening State Capabilities: The Role of Financial Incentives in the Call to Public Service." *Quarterly Journal of Economics* 128(3): 1169-1218.

Bobonis, Gustavo J., Luis R. Camara Fuertes, and Rainer Schwabe. 2016. "Monitoring Corruptible Politicians." *American Economic Review* 1063(8): 2371-2405.

Chattopadhyay, Raghabendra and Esther Duflo. 2004. "Women as Policy Makers: Evidence from a Randomized Policy Experiment in India." *Econometrica* 72(5): 1409-1443.

Clots-Figueras, Irma. 2005. "Women in politics: Evidence from the Indian States." *Journal of Public Economics* 95: 664-690.

de Janvry, Alain, Frederico Finan, and Elisabeth Sadoulet. 2012. "Local Electoral Accountability and Decentralized Program Performance." *Review of Economics and Statistics* 94(3): 672-685.

Deserranno, Erika. 2016. "Financial Incentives as Signals: Experimental Evidence from the Recruitment of Village Promoters in Uganda." Working paper.

Duflo, Esther, Rema Hanna, and Stephen P. Ryan. 2012. "Incentives Work: Getting Teachers to Come to School." *American Economic Review* 102(4): 1241-1278.

Ferraz, Claudio and Frederico Finan. 2008. "Exposing Corrupt Politicians: The Effect of Brazil's Publicly Released Audits on Electoral Outcomes." *Quarterly Journal of Economics* 123(2): 703-745.

Ferraz, Claudio and Frederico Finan. 2009. "Motivating Politicians: The Impacts of Monetary Incentives on Quality and Performance." NBER Working Paper No. 14906.

Ferraz, Claudio and Frederico Finan. 2011. "Electoral Accountability and Corruption in Local Governments: Evidence from Audit Reports." *American Economic Review* 101: 1274-1311.

Finan, Frederico, Benjamin Olken, and Rohini Pande. 2017. "The Personnel Economics of the Developing State." *Handbook of Field Experiments* 2: 467-514.

Giné, Xavier, Ghazala Mansuri, and Slesh A. Shrestha. 2017. "Mission and the Bottom Line: Performance Incentives in a Multi-goal Organization." Working paper.

Gupta, Sarika. 2017. "Perils of the Paperwork: The Impact of Information and Application Assistance on Welfare Program Take-Up in India." Working paper.

Holmstrom, Bengt and Paul Milgrom. 1991. "Multitask Principal-Agent Analyses: Incentive Contracts, Asset Ownership, and Job Design. *Journal of Law, Economics, Organization* 7: 24-52.

Khan, Adnan Q., Asim I. Khwaja, Benjamin A. Olken. 2015. "Tax Farming Redux: Experimental Evidence on Performance Pay for Tax Collectors." *Quarterly Journal of Economics* 131(1): 219-271.

Khemani, Stuti. 2015. "Buying Votes versus Supplying Public Services: Political Incentives to Under-invest in Pro-poor Policies." *Journal of Development Economics* 117: 84-93.

Lavy, Victor. 2002. "Evaluating the Effect of Teachers' Group Performance Incentives on Pupil Achievement." *Journal of Political Economy* 110: 1286-1317.

Lavy, Victor. 2009. "Performance Pay and Teachers' Effort, Productivity, and Grading Ethics." *American Economic Review* 99: 1979-2011.

Mani, Anandi and Sharun Mukand. 2007. "Democracy, Visibility and Public Good Provision." *Journal of Development Economics* 83: 506-529.

Mansuri, Ghazala and Vijayendra Rao. 2013. *Localizing Development: Does Participation Work?* Policy Research Report. World Bank, Washington, DC.

Miller, Grant, Renfu Luo, Linxiu Zhang, Sean Sylvia, Yaojiang Shi, Patricia Foo, Qiran Zhao, Reynaldo Martorell, Alexis Medina, and Scott Rozelle. 2012. "Effectiveness of Provider Incentives for Anaemia Reduction in Rural China: A Cluster Randomized Trial." *BMJ* 345: e4809.

Mookherjee, Dilip. 2015. "Political Decentralization." *Annual Review of Economics* 7: 231-249.

Mullen, Kathleen J., Richard G. Frank, and Meredith B. Rosenthal. 2010. "Can You Get What You Pay For? Pay-for-Performance and the Quality of Healthcare Providers." *RAND Journal of Economics* 41(1): 64-91.

Muralidharan, Karthik and Venkatesh Sundararaman. 2011. "Teacher Performance Pay: Experimental Evidence from India." *Journal of Political Economy* 119(1): 39-77.

Olken, Benjamin. 2007. "Monitoring Corruption: Evidence from a Field Experiment in Indonesia." *Journal of Political Economy* 115(2): 200-249.

Olken, Benjamin A., Junko Onishi, and Susan Wong. 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.

Pradhan, Menno, Daniel Suryadarma, Amanda Beatty, Maisy Wong, Arya Gaduh, Armida Alisjahbana, Rima Prama Artha. 2014. "Improving Educational Quality through Enhancing Community Participation: Results from a Randomized Field Experiment in Indonesia." *American Economic Journal: Applied Economics* 6 (2): 105-126.

World Bank. 2016. *Making Politics Work for Development: Harnessing Transparency and Citizen Engagement.* Policy Research Report. World Bank, Washington, DC.

Table 1: Summary statistics and balance tests

	Control GPs	Incentivized GPs			P-value			
		Any	Mon-etary	Infor-mation	(1)=(2)	(1)=(3)	(1)=(4)	(3)=(4)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Gram Panchayat president characteristics								
Female	0.344	0.388	0.388	0.388	0.549	0.603	0.603	1.000
Age	42.00	43.83	43.10	44.56	0.218	0.517	0.135	0.389
SC/ST caste	0.281	0.284	0.269	0.299	0.973	0.874	0.828	0.704
Graduate/diploma degree	0.219	0.216	0.224	0.209	0.970	0.944	0.893	0.835
Served multiple terms	0.190	0.238	0.258	0.219	0.455	0.364	0.704	0.598
Tenure as GP president (years)	2.349	2.462	2.364	2.562	0.823	0.980	0.714	0.729
Member of a political party	0.825	0.846	0.833	0.859	0.714	0.903	0.605	0.689
Panel B: Gram Panchayat characteristics								
Total population	3303	3294	3293	3295	0.978	0.979	0.984	0.995
% SC/ST caste	0.242	0.251	0.259	0.244	0.697	0.546	0.943	0.590
Literacy rate	0.694	0.679	0.681	0.677	0.228	0.369	0.233	0.765
% of households w/ latrines	0.147	0.130	0.136	0.124	0.300	0.567	0.220	0.509
Number of villages	8.000	8.134	8.075	8.194	0.896	0.950	0.870	0.919
% target villages	0.856	0.858	0.855	0.862	0.925	0.974	0.845	0.818
Number of PVP target households	328.3	331.4	340.3	322.6	0.912	0.716	0.863	0.587
Number of disabled	41.36	41.07	42.06	40.07	0.938	0.871	0.766	0.642
Number of poor in SHGs	253.2	180.5	181.9	179.2	0.112	0.176	0.160	0.958
Number of disabled in SHGs	15.62	16.96	17.15	16.78	0.676	0.679	0.755	0.918
Public investments (% target villages)								
Road	0.550	0.540	0.541	0.539	0.869	0.900	0.873	0.972
Sanitation	0.344	0.368	0.353	0.383	0.635	0.872	0.505	0.608
Housing	0.668	0.681	0.702	0.659	0.818	0.603	0.897	0.514
Panel C: Political participation in Gram Panchayat								
Attendance in Gram Sabha (GS)	132.3	135.4	138.5	132.3	0.716	0.524	0.999	0.518
% female attendee in GS	0.541	0.523	0.530	0.516	0.238	0.542	0.152	0.406
Voter turnout in 2011 GP election	0.870	0.849	0.836	0.862	0.262	0.113	0.711	0.217
Reserved seat (female)	0.297	0.336	0.328	0.343	0.586	0.702	0.574	0.855
Reserved seat (SC/ST caste)	0.156	0.142	0.179	0.104	0.789	0.713	0.405	0.225
Number of candidates	3.953	3.649	3.642	3.657	0.267	0.324	0.348	0.962
Share of votes won	47.65	46.65	46.28	47.01	0.587	0.521	0.763	0.730
Margin of victory	16.51	13.47	13.51	13.43	0.130	0.196	0.183	0.971
High electoral competition[a]	0.438	0.515	0.507	0.522	0.310	0.427	0.335	0.864
Number of Gram Panchayats (GPs)	64	134	67	67	-	-	-	-
P-value for joint test of significance	-	-	-	-	0.904	0.936	0.943	0.992

Notes: The observations include 198 Gram Panchayats (GPs) and their elected presidents from 10 districts in Tamil Nadu. GP population characteristics are constructed from 2011 India Census; GP election data comes from the Tamil Nadu State Election Commission; and GP president and village data is collected as part of the baseline survey for the study. [a]High electoral competition is a dummy variable that equals one if the victory margin of the GP president in the 2011 GP election was equal or less than the median victory margin in the sample (median value is 11.5 percentage points).

Table 2: Impact of incentive on evaluation score

	Total points	Dummy indicating GP presidents who received		
		Grade A	Grade B	Grade C
	(1)	(2)	(3)	(4)
Panel A:				
Incentive	2.408**	0.101**	-0.056	-0.033
	(1.0180)	(0.0484)	(0.0669)	(0.0524)
R-squared	0.577	0.249	0.246	0.412
Panel B:				
Monetary incentive	3.439***	0.135**	-0.051	-0.073
	(1.1610)	(0.0553)	(0.0772)	(0.0602)
Information incentive	1.729	0.066	-0.062	0.007
	(1.1740)	(0.0559)	(0.0772)	(0.0602)
P-value of F-test:				
Mon.=Info.	0.140	0.209	0.882	0.183
Mon.=Info.=0	0.014	0.054	0.696	0.336
R-squared	0.579	0.252	0.246	0.418
Observations	198	198	198	198
Mean dep. var., control	58.54	0.094	0.625	0.719
Overall score	100.00	-	-	-

Notes: All specifications control for block dummies and GP president characteristics. The standard errors are reported in parentheses; *p<0.1, **p<0.05, ***p<0.01.

Table 3: Impact of incentive on youth training and employment

	No. of target youths		Employment rate *(employed/ trained)*	Dummy indicating 100% employment
	Trained	Employed		
	(1)	(2)	(3)	(4)
Panel A:				
Incentive	7.169**	7.299**	0.0616**	0.149**
	(3.209)	(2.962)	(0.0286)	(0.0740)
R-squared	0.101	0.114	0.054	0.064
Panel B:				
Monetary incentive	6.671*	7.041**	0.0522	0.153*
	(3.681)	(3.399)	(0.0328)	(0.0849)
Information incentive	7.689**	7.569**	0.0715**	0.146*
	(3.722)	(3.436)	(0.0332)	(0.0858)
P-value of F-test:				
Mon.=Info.	0.781	0.876	0.554	0.937
Mon.=Info.=0	0.083	0.051	0.086	0.134
R-squared	0.096	0.109	0.050	0.058
Observations	198	198	198	198
Mean dep. var., control	32.28	27.41	0.832	0.344

Notes: All specifications control for block dummies and GP president characteristics. The standard errors are reported in parentheses; *p<0.1, **p<0.05, ***p<0.01.

Table 4: Impact of incentive on identification of beneficiaries and SHG membership

	No. of target households identified (1)	No. of poor connected to SHGs (2)	No. of disabled connected to SHGs (3)	No. of disabled connected to special SHGs (4)
Panel A:				
Incentive	1.194**	17.54	3.570	2.963
	(0.574)	(21.11)	(2.452)	(1.907)
R-squared	0.999	0.328	0.537	0.559
Panel B:				
Monetary incentive	1.550**	14.89	5.356*	4.241*
	(0.657)	(24.18)	(2.784)	(2.179)
Information incentive	0.822	20.31	1.646	1.624
	(0.664)	(24.45)	(2.834)	(2.204)
P-value of F-test:				
Mon.=Info.	0.267	0.821	0.180	0.229
Mon.=Info.=0	0.065	0.692	0.143	0.147
R-squared	0.999	0.324	0.540	0.560
Observations	198	198	198	198
Mean dep. var., control	327.5	250.2	28.12	25.03

Notes: All specifications control for block dummies, GP president characteristics, and the baseline value of the dependent variable. The standard errors are reported in parentheses; *p<0.1, **p<0.05, ***p<0.01.

Table 5: Impact of incentive on private transfers

	Disability benefits			Other benefits		
	No. of applications		Dummy indicating 100% processing	No. of applications		Dummy indicating 100% processing
	Received	Processed		Received	Processed	
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A:						
Incentive	4.26	1.37	0.067	3.63	0.072	0.093
	(7.164)	(6.105)	(0.0734)	(9.615)	(5.177)	(0.0704)
R-squared	0.338	0.392	0.090	0.094	0.131	0.140
Panel B:						
Monetary incentive	3.50	1.64	0.164**	10.64	1.80	0.030
	(8.220)	(7.006)	(0.0829)	(10.98)	(5.934)	(0.0802)
Information incentive	5.05	1.09	-0.035	-3.70	-1.73	0.159*
	(8.311)	(7.083)	(0.0838)	(11.10)	(6.000)	(0.0811)
P-value of F-test:						
Mon.=Info.	0.850	0.937	0.016	0.191	0.551	0.106
Mon.=Info.=0	0.824	0.972	0.037	0.395	0.837	0.113
R-squared	0.334	0.389	0.113	0.097	0.128	0.147
Observations	198	198	198	198	198	198
Mean dep. var., control	71.33	64.83	0.453	40.19	27.50	0.375

Notes: All specifications control for block dummies and GP president characteristics. The standard errors are reported in parentheses; *p<0.1, **p<0.05, ***p<0.01.

Table 6: Impact of incentive on public investments

| | % of target villages with new public investments | | |
| | Road | Sanitation | Housing |
	(1)	(2)	(3)
Panel A:			
Incentive	0.064*	0.059**	0.070***
	(0.0349)	(0.0273)	(0.0245)
R-squared	0.073	0.362	0.118
Panel B:			
Monetary incentive	0.082**	0.062**	0.064**
	(0.0399)	(0.0312)	(0.0281)
Information incentive	0.046	0.056*	0.077***
	(0.0405)	(0.0318)	(0.0285)
P-value of F-test:			
Mon.=Info.	0.366	0.832	0.650
Mon.=Info.=0	0.125	0.097	0.017
R-squared	0.073	0.358	0.114
Observations	198	198	198
Mean dep. var., control	0.867	0.586	0.895

Notes: All specifications control for block dummies, GP president characteristics, and the baseline value of the dependent variable. The standard errors are reported in parentheses; $*p<0.1$, $**p<0.05$, $***p<0.01$.

Table 7: Impact of incentive on public investments (Village-by-program level)

Village characteristics:	Dummy indicating GP president village		Distance to GP president village	
			Linear	$\geq$Median
	(1)	(2)	(3)	(4)
Panel A:				
Incentive	0.081**	-	-	-
	(0.0329)			
Incentive x Village characteristics	-0.063	-0.043	0.023**	0.071**
	(0.0413)	(0.0435)	(0.0099)	(0.0308)
Village characteristics (V)	0.148***	0.112***	-0.020**	-0.059**
	(0.0369)	(0.0383)	(0.0099)	(0.0243)
P-value of F-test:				
Incentive + Incentive*V = 0	0.131	-	-	-
V + Incentive*V = 0	-	0.001	-	0.423
R-squared	0.511	0.581	0.503	0.507
Panel B:				
Monetary incentive	0.100***	-	-	-
	(0.0327)			
Information incentive	0.062*	-	-	-
	(0.0371)			
Monetary incentive x V	-0.074*	-0.040	0.027**	0.089***
	(0.0427)	(0.0463)	(0.0105)	(0.0323)
Information incentive x V	-0.053	-0.046	0.020*	0.055
	(0.0473)	(0.0497)	(0.0101)	(0.0337)
Village characteristics (V)	0.149***	0.112***	-0.020**	-0.059**
	(0.0370)	(0.0383)	(0.0100)	(0.0243)
P-value of F-test:				
Mon. + Mon.*V = 0	0.472	-	-	
Info. + Info.*V = 0	0.842	-	-	
V + Mon.*V = 0	-	0.006	-	0.161
V + Info.*V = 0	-	0.036	-	0.796
R-squared	0.512	0.581	0.504	0.503
Control: GP Fixed Effect	No	Yes	Yes	Yes
Observations	3,999	3,999	3,999	3,999
Mean dep. var., control	0.677	0.677	0.677	0.677

Notes: Sample includes village-by-program level observations for all target villages in the study sample across three public infrastructure programs (road, sanitation, and housing). The dependent variable is a dummy that equals one if a new investment was made in the public program in the village since the start of the study. All specifications control for block dummies, program dummies, and the baseline value of the dependent variable. Columns 2-4 also control for GP dummies. The standard errors are clustered at the GP level, and are reported in parentheses; *p<0.1, **p<0.05, ***p<0.01.

Table 8: Correlation between evaluation score and outcome variables

	Corr w/ evaluation score (1)	P-value (2)
Panel A: Youth training and employment		
No. of target youths trained	0.169**	0.017
No. of target youths employed	0.156**	0.028
Employment rate (*employed/trained*)	-0.024	0.733
Dummy indicating 100% employment rate	-0.062	0.383
Panel B: Targeting		
No. of target households identified	-0.083	0.243
No. of poor connected to SHGs	-0.063	0.379
No. of disabled connected to SHGs	-0.019	0.788
No. of disabled connected to special SHGs	0.158**	0.026
Panel C: Private transfers		
No. of applications received: Disability benefits	0.265***	0.000
No. of applications processed: Disability benefits	0.242***	0.001
Dummy indicating 100% processing: Disability benefits	-0.114	0.110
No. of applications received: Other benefits	0.106	0.138
No. of applications processed: Other benefits	0.126*	0.076
Dummy indicating 100% processing: Other benefits	-0.041	0.564
Panel D: Public investments		
% of target villages with new investment: Road	0.143**	0.044
% of target villages with new investment: Sanitation	0.237***	0.001
% of target villages with new investment: Housing	-0.032	0.653
Performance index[a] [$Youth + Targeting + Private\ transf. + Public\ inv.$]	0.183***	0.010
Performance index[b] [$Private\ transf. + Public\ inv.$]	0.210***	0.003
Performance index[c] [$Public\ inv.$]	0.146**	0.040

Notes: Evaluation score is the total points (out of 100) received by the GP president in the evaluation. [a]Performance index [*Youth+Targeting+Private transf.+Public inv.*] is constructed by taking a weighted mean of the standard distributions of all outcome variables, where the outcome variables within each panel are equally weighted, and the weights across the four Panels A, B, C, and D are 0.2, 0.2, 0.3, and 0.3 respectively. [b]Performance index [*Private transf.+Public inv.*] is constructed by taking a weighted mean of the standard distributions of outcome variables in Panels C and D, where the outcome variables within each panel are equally weighted, and the weights across Panels C and D are 0.5 and 0.5 respectively. [c]Performance index [*Public inv.*] is constructed by taking an equally weighted mean of the standard distributions of all three public investment variables in Panel D; *p<0.1, **p<0.05, ***p<0.01.

Table 9: Impact of incentive on performance of GP president

	Performance index		
	[Youth + Targeting + Private transf. + Public inv.]	[Private transf. + Public inv.]	[Public inv.]
	(1)	(2)	(3)
Panel A:			
Incentive	0.202***	0.200***	0.321***
	(0.0553)	(0.0646)	(0.110)
R-squared	0.397	0.364	0.243
Panel B:			
Monetary incentive	0.227***	0.228***	0.341***
	(0.0633)	(0.0740)	(0.127)
Information incentive	0.176***	0.171**	0.300**
	(0.0640)	(0.0748)	(0.128)
P-value of F-test:			
Mon.=Info.	0.424	0.438	0.740
Mon.=Info.=0	0.001	0.007	0.016
R-squared	0.399	0.367	0.244
Observations	198	198	198
Mean dep. var., control	-0.075	-0.031	-0.218

Notes: All specifications control for block dummies and GP president characteristics. The standard errors are reported in parentheses; *p<0.1, **p<0.05, ***p<0.01.

Table 10: Correlation between margin of electoral victory and GP characteristics

| | Margin of victory in 2011 GP election[a] | | P-value (1)=(2) | Corr w/ victory margin |
| | > Median [Low electoral competition] | ≤ Median [High electoral competition] | | |
	(1)	(2)	(3)	(4)
Panel A: GP president characteristics				
Female	0.424	0.323	0.155	0.098
Age	41.01	45.48	0.002	-0.128*
SC/ST caste	0.303	0.263	0.656	0.012
Graduate/diploma degree	0.253	0.182	0.129	0.061
Served multiple terms	0.202	0.232	0.701	-0.048
Tenure as GP president (years)	2.263	2.515	0.603	-0.070
Member of a political party	0.828	0.859	0.613	-0.079
Elected on a reserved seat (Female)	0.364	0.283	0.260	0.073
Elected on a reserved seat (SC/ST caste)	0.152	0.141	0.973	0.002
Panel B: GP president baseline performance				
% of target villages with investment: Road	0.577	0.509	0.286	0.081
% of target villages with investment: Sanitation	0.382	0.384	0.962	-0.015
% of target villages with investment: Housing	0.664	0.689	0.395	0.037
Performance index [*Public inv.*]	0.014	-0.017	0.962	0.043
Panel C: GP characteristics				
Total population	2994	3588	0.197	-0.075
% SC/ST caste	0.256	0.239	0.723	-0.013
Literacy rate	0.686	0.682	0.968	0.046
% of households w/ private latrines	0.139	0.132	0.566	0.009
Number of villages	8.000	8.182	0.843	-0.021
% target villages	0.852	0.863	0.713	0.023
Number of Gram Panchayats	99	99	-	-
P-value for joint test of significance	-	-	0.649	-
Voter turnout in 2011 GP election	0.839	0.872	0.220	-0.575***
Number of candidates[b]	3.192	4.303	0.000	-0.361***
Share of votes won	54.20	39.76	0.000	0.571***
Margin of victory	27.42	4.947	0.000	-

Notes: [a]Margin of victory is the the difference in the share of vote won between the GP president and the nearest challenger. The median value of the margin of victory in the sample is 11.5 percentage points. [b]Number of candidates is the total number of individuals in the GP president election ballot in 2011 GP election. *p<0.1, **p<0.05, ***p<0.01.

Table 11: Differential impact of incentive (by electoral competition)

	Performance index		
	[Youth + Targeting + Private transf. + Public inv.]	[Private transf. + Public inv.]	[Public inv.]
	(1)	(2)	(3)
Panel A:			
Incentive	0.0504	-0.0107	0.0967
	(0.106)	(0.124)	(0.204)
Incentive x High electoral competition	0.211*	0.276**	0.420*
	(0.116)	(0.136)	(0.223)
High electoral competition (H)	-0.0384	-0.105	-0.175
	(0.0939)	(0.110)	(0.181)
P-value of F-test:			
*Incentive + Incentive*H = 0*	0.0121	0.0299	0.0101
R-squared	0.430	0.396	0.337
Panel B:			
Monetary incentive	0.123	0.0350	0.186
	(0.120)	(0.145)	(0.238)
Information incentive	0.00268	-0.0374	-0.00261
	(0.131)	(0.158)	(0.259)
Monetary incentive x H	0.179	0.251	0.365
	(0.131)	(0.158)	(0.259)
Information incentive x H	0.227*	0.281*	0.477*
	(0.131)	(0.158)	(0.259)
High electoral competition (H)	-0.0358	-0.104	-0.173
	(0.0920)	(0.111)	(0.182)
P-value of F-test:			
*Mon. + Mon.*H = 0*	0.010	0.042	0.017
*Info. + Info.*H = 0*	0.060	0.010	0.049
R-squared	0.478	0.411	0.358
Observations	198	198	198
Mean dep. var., control	-0.075	-0.031	-0.218

Notes: All specifications control for block dummies, GP president characteristics, and the following variables and their interactions with incentive dummy (or monetary and information incentive dummies in Panel B): baseline performance in performance index (public inv.), education, gender, caste, and reservation status. The standard errors are reported in parentheses; *p<0.1, **p<0.05, ***p<0.01.

Table A1: Selection of PVP blocks into the study sample

	All PVP blocks (1)	PVP blocks In study sample (2)	PVP blocks Not in study sample (3)	P-value (2)=(3) (4)
Panel A: Demographic characteristics				
Total population	97311	88992	99622	0.337
% SC/ST caste	0.235	0.243	0.233	0.696
Panel B: Public infrastructure				
% of GPs with public facilities				
Education	0.923	0.926	0.922	0.894
Medical	0.774	0.764	0.777	0.839
Bank	0.206	0.202	0.207	0.909
Bus stop	0.904	0.909	0.903	0.858
Number of blocks	46	10	36	-
P-value for joint test of significance	-	-	-	0.989

Notes: The observations include 46 blocks in 10 districts that received PVP for the first time in the second phase of the project. In each district, the number of blocks that would be covered by PVP was defined by the available budget, and the eligible-blocks were selected based on a backwardness score, which comprised of ST/SC share of the population, share of below poverty line households, and other measures that included poor infrastructure, poor public services, and industrial backwardness. Blocks within each district were ranked based on their backwardness score, and they were selected starting from the highest score until the PVP budget was exhausted. The blocks in our study sample comprise of the last block selected in each district.The block-level data on block-level demographics and public infrastructure comes from the 2001 India Census.

Table A2: Spillover effects on control GPs

	Announcement of incentives[a] Before (1)	Announcement of incentives[a] After (2)	Diff. (3)	P-value[b] (4)
Panel A: Gram Sabha (GS) meetings[c]				
Attendance in GS meetings	132.3	129.9	-2.417	0.435
% female attendee	0.537	0.524	-0.013	0.162
Panel B: VPRC meetings[d]				
GP president attendance	0.859	0.856	-0.003	0.940
VPRC member attendance	10.24	10.67	0.432	0.286

Notes: The observations include 64 control GPs. [a]The incentive was announced in treatment GPs on April 2013. [b]The p-values in Column 4 are calculated using the paired two-sided t-tests. [c]Gram Sabha (GS) meetings held on 15 August 2012, 2 October 2012, and 26 January 2013 (the last three mandatory meetings held before April 2013) are used to calculate before announcement means; and mandatory GS meetings held on 1 May 2013, 15 Aug 2013, and 2 October 2013 are used to calculate after announcement means. [d]Monthly VPRC meetings between Dec 2012 and March 2013 (8 months prior to announcement) and meetings between April 2013 and July 2013 (8 months after announcement) are used to calculate before and after means respectively.

Figure A1: Sample of an information poster for A grade GP presidents

English translation of the main script: President of [District Name] [Block Name] [Panchayat Name] is commended for excellent performance in her/his functions related to the PVP program, and in facilitating access to the program benefits for the poor, vulnerable and others in the village.

Figure A2: Timeline of the study