Turnover, Morale, and Performance in Bureaucracies: Evidence from Indonesian Villages*

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Abstract

We study how leader changes triggered by elections affect bureaucratic performance at the local level. Villages in Indonesia democratically elect a new leader every six years. Combining detailed personnel surveys with a regression discontinuity design (RDD), we show that electoral defeats of the incumbent village head increase turnover in the village bureaucracy and reduce nepotism. Bureaucrats led by new leaders are more enthusiastic about their work, more ambitious, more highly paid, and less likely to be connected to past or present village government members. They interact substantially more with village citizens and have a better understanding of their preferences. This leads to higher levels of public service provision, measured in both administrative data and surveys conducted with citizens. In spite of this, citizens' trust in their village government remains unaffected in the short run. Our findings shed new light on the positive effects of leader turnover on bureaucratic morale and performance.

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1 Introduction

Democracy allows citizens to periodically replace their local and national leaders through competitive elections. New leaders, in turn, can alter the course of policy by attempting to improve the performance of the bureaucracy or by changing its composition. Effective bureaucracies are an essential ingredient of state capacity and a key driver of economic development (Finan et al., 2017; Besley et al., 2022).

Recent work highlights the trade-offs between merit-based and discretionary appointments in bureaucracies (Xu, 2018; Colonnelli et al., 2020; Moreira and Pérez, 2021). Others have explored the disruptions associated with bureaucratic turnover caused by elections (Akhtari et al., 2022). This prior work suggests that turnover causes instability, distorts incentives, and undermines bureaucratic performance. At the same time, overly rigid bureaucracies might develop a "business as usual" culture, face organizational inertia, and struggle to attract new talent. If leadership changes foster improvements in governance, turnover could increase staff motivation and enhance incentives to perform. There is much evidence that leadership and management matter for performance, not only in the private sector (Bloom and Van Reenen, 2010) but also in bureaucracies (Rasul and Rogger, 2018; Best et al., 2023).

In this paper, we study how electoral turnover affects staff morale, accountability, and performance in local bureaucracies. We examine these relationships in the context of village governments in Indonesia, where local leaders (village heads) are elected every six years. At such a local level, little is known about the impacts of new leadership on bureaucratic turnover and performance. Most bureaucrats have tenured positions, but appointments are often made at the discretion of local leaders. Beyond staff turnover, the momentum brought about by new leaders may trickle down the bureaucracy and boost the morale of local bureaucrats. Elected local governments provide an ideal setting to study these mechanisms, as bureaucrats in these contexts face strong top-down and bottom-up accountability pressure: their tenure is highly contingent on local leadership, and, as frontline providers, they are regularly in direct contact with citizens.

Our analysis relies on data from a large-scale survey of village heads, bureaucrats, and citizens that we conducted in 2022. The survey spanned 852 villages across 17 provinces of Indonesia. In total, we spoke with more than five thousand village officials and fourteen thousand citizens residing in the same villages. We designed this survey to collect rich data on bureaucrats' morale and citizens' attitudes, and to understand how the preferences and policy priorities of village officials aligned with those of the citizens they serve. We combine this survey data with administrative data on public goods provision coming from a triennal census of villages known as *Podes*, which was last conducted in 2021. Together, these data sources allow us to jointly study what citizens want, what bureaucrats do, and how citizens perceive the performance of their village government. To our knowlege, our paper is among the first to study bureaucratic performance from the dual perspective of citizens and the bureaucrats themselves.

Using this data, we implement a regression discontinuity design (RDD) leveraging variation from close village elections in which the incumbent candidate narrowly won or lost. Across the 852 villages we surveyed, 512 conducted an election featuring an incumbent candidate between 2015 and 2022. Incumbents won a slight majority (52%) of these elections, giving us ample scope to identify the effects of electoral turnovers on village-level and individual outcomes. We additionally exploit variation from the

staggered timing of village elections across Indonesia. We use the suite of non-parametric RDD methods from Calonico et al. (2014) for estimation and inference. In support of our identification strategy, we show that there is no systematic evidence of manipulation of election results by incumbents, and that electoral turnovers are uncorrelated with a wide range of pre-determined village characteristics.

Conceptually, at least two types of mechanisms could affect the relationship between turnover in village elections and the performance of village bureaucracies. First, newly elected village leaders could change the composition of the village government staff. The resulting loss of experience could adversely affect performance, but the net effect of bureaucratic turnover also depends on whether the characteristics of new employees are conducive to better performance. Second, holding bureaucratic composition constant, new leaders could reshape the functioning of the bureaucracy, implement new management methods, and improve governance, broadly defined. If bureaucrats serving under a new government face different career prospects, this could also affect bureaucratic performance.

We first quantify the extent of bureaucratic turnover caused by electoral turnover. An incumbent loss in the most recent village election increases the magnitude of bureaucratic turnover since the last election. While the village officials appointed by newly elected leaders are not markedly different along observable dimensions, there is some suggestive evidence that new leaders appoint younger bureaucrats, and are more likely to appoint frontline employees (neighborhood heads) than high-ranking bureaucrats (members of the village secretariat). Furthermore, new leaders are less likely to report having relatives employed by the village, and bureaucrats in these villages are less likely to have a parent who served in the village government. These results suggest that nepotism decreases in the aftermath of turnovers.

We then explore how leadership changes induced by elections shape bureaucrats' morale and effort. Bureaucrats serving in villages that recently experienced a turnover report substantially greater enthusiasm and motivation about their work. These bureaucrats' ambitions also differ, as those serving a new leader are more likely to report that their mission has a national dimension—serving the nation, or making government work better. We show that high-ranking bureaucrats in the village government earn higher salaries after a turnover, which may be contributing to these higher motivation levels.

Perhaps as a consequence of these forces—efficiency wages and staff morale—turnovers increase one important measure of effort and accountability: the frequency of interactions with citizens. Bureaucrats serving new leaders are more likely to interact daily with their citizens, report a greater frequency of interactions with citizens overall, and have a better understanding of citizens' preferences. Indeed, the same bureaucrats are more likely to report receiving complaints about public services that citizens surveyed in the same villages considered priorities for future development projects, and to correctly identify the public services which citizens perceive to be of lower quality in their village.

Consistent with greater effort and higher morale in the bureaucracy, turnover in village elections improves the quality of public service provision as measured in administrative data. Restricting to villages that held their election before 2021 (the year the most recent wave of *Podes* was conducted), we find a large increase in a standardized index of service provision of around 0.5 standard deviations at the RD threshold. This effect is primarily driven by local services that fall under the purview of the village government, such as garbage collection and street lighting. Furthermore, this effect is larger among villages

that held their last election several years prior (between 2015-2017), relative to villages that held their election more recently (between 2018-2020). This suggests that the beneficial effects of leader turnover take some time to materialize, perhaps because these effects must offset some of the short-run disruptions engendered by turnover (as in Akhtari et al., 2022). Consistent with these results, the citizens we surveyed also report improved perceptions of service access and public service quality in their village. However, they do not report higher levels of satisfaction with or trust in their village government in the aftermath of a turnover. These null effects on attitudes suggest that improvements in bureaucratic performance caused by turnovers may not be immediately observable by citizens or could be mis-attributed to other forces (Cruz and Schneider, 2017; Guiteras and Mobarak, 2015; Khan et al., 2021).

Our paper provides novel evidence on the potentially beneficial impacts of turnover on bureaucratic performance. The seminal study by Akhtari et al. (2022) shows negative effects of bureaucratic turnover in the education sector in Brazil. In the same setting, Toral (2023) shows how lame-duck municipal governments make bureaucratic appointments that distort performance. We highlight some of the forces that may induce a positive relationship between turnover and bureaucratic performance: nepotistic appointments become less prevalent, morale and effort increase, and this higher effort is rewarded in the form of higher salaries. One specific contribution of our paper is to study the impacts of turnover on morale in public organizations. There is evidence from the private sector that motivation (Oswald et al., 2015; Segal, 2012) and management (Bender et al., 2018; Bloom et al., 2012) are important determinants of productivity, but evidence from bureaucracies is comparatively lacking (Muñoz and Prem, 2021).

In the political economy literature, our findings on morale and effort are consistent with Bertrand et al. (2019), who document the superior performance of bureaucrats with greater career prospects in India, and Dal Bó and Rossi (2011) who show that politicians with a longer time horizon exert greater effort in Argentina. In related work, Riaño (2023) highlights the pervasiveness and the adverse consequences of bureaucratic nepotism in the Colombian civil service. The mechanisms we identify may be important in explaining why electoral turnover improves economic outcomes and performance in a global sample of national elections (Marx et al., 2022). They additionally speak to recent work on democratic backsliding (Guriev and Papaioannou, 2022). Across a variety of settings, support for democracy nationally could be bolstered by positive experiences with local democracy, which is the main focus of our study.

We also contribute to a growing literature on bureaucracies in developing countries. We highlight the essential role played by small village bureaucracies, which are ubiquitous in much of the developing world, in linking citizen demands with frontline politicians and service providers. A handful of papers have studied empirically the role of local elites, often in the context of targeting policies (Alatas et al., 2012; Basurto et al., 2020). A broader literature explores ways to enhance political accountability in comparable settings (see Dunning et al., 2019, for a review). This literature highlights the key role played by non-elected bureaucrats (Brierley, 2021; Gulzar and Pasquale, 2017; Rasul and Rogger, 2018), but there is less evidence on the impact of personnel changes at the lowest levels of government. Our results on the importance of bureaucrat-citizen interactions are consistent with Liaqat (2020), who studies the role of information about citizens' preferences as a driver of policy performance.

Finally, our paper speaks to previous work on bureaucratic appointments. A large literature shows

the benefits of meritocracy relative to patronage appointments, which have been largely phased out of bureaucracies in high-income countries since the 19th century (Besley et al., 2022; Moreira and Pérez, 2021). Nonetheless, merit-based appointments limit the extent to which newly elected political leaders can reshape bureaucratic performance and chart a new course for the organization they oversee (Spenkuch et al., 2023). This trade-off has led to a contemporary debate about the extent to which bureaucratic appointments should be made at the discretion of leaders of the executive branch of government. Our analysis shows that newly elected local leaders can affect public goods provision by inducing higher morale and effort inside the bureaucracy.

The rest of the paper proceeds as follows. Section 2 provides background on village governance in Indonesia. Section 3 presents our data, empirical strategy, and identification checks. Section 4 discusses our main results together with evidence on mechanisms. Section 5 concludes.

2 Background

Indonesia's system of democratic and decentralized governance provides a uniquely rich context for studying the impacts of turnover in local governments. This section provides background on key institutional features in these local village laboratories of democracy.

Local Democracy in Indonesia. Since 1999, village heads in Indonesia are elected through a popular vote every six years. The regulatory framework for village elections is provided by the Village Law of 2014 (UU Desa 6/2014), under which village heads can serve at most three consecutive or non-consecutive terms. Elections are staggered across districts, and village elections are held at the same time within each district. In our data collected in 2022, roughly 40% of elections were held in 2018 or before, 30% were conducted in 2019 or early 2020, and the remaining third was conducted from 2021 onwards, after the apex of the Covid-19 pandemic.

Under Indonesia's Village Law, significant resources and responsibilities are devolved to village governments. These small bureaucracies manage relatively large budgets by international standards, amounting to 3% of government spending nationally. Between 2015 and 2018, the government transferred approximately US$14 billion to more than 75,000 villages across Indonesia, and transfers to villages increased nearly five-fold between 2013 and 2018 (World Bank, 2020). In our data, village heads report village budgets averaging 1.26 billion IDR (approximately USD 83,000). Budgets must be agreed upon by the village head and the village consultative body (*Badan Perwakilan Desa* or BPD), and are subsequently submitted to the approval of the district government.

The vast majority (95%) of village heads in our data are male. The average respondent is 48 years old and has completed 13.2 years of education. 96% of village heads were selected through an election as mandated by law, while the remainder were directly appointed—our analysis accounts for this imperfect compliance. The average village head in our sample reported having served for 5.2 years.

Composition of Village Governments. Village heads appoint village governments, which consist of four high-ranking positions—a village secretary and three members of the so-called village secretariat,

respectively responsible for general affairs, financial affairs, and planning affairs—in addition to appointed heads of neighborhood/hamlets known as *dusun* in Indonesian (see Appendix Figure B.1 for an illustration of the composition of village governments). Members of the village government are appointed by the village head among the village residents after consultation with the subdistrict head, and theoretically can only leave their post upon specific circumstances specified by law, including death, resignation, retirement, and criminal convictions. Members of the village secretariat in our sample are 38.5 years old on average, have served in the village bureaucracy for 5.4 years, and have completed 13.6 years of education. 76% report having permanent tenure. Finally, family connections appear to be an important determinant of bureaucratic appointments: 22% of high-ranking officials (and 44% of all non-elected village officials) reported having a parent who served in the village government, and 5% (resp. 3%) a parent who served as village head.

The other main category of bureaucrats consists of local leaders of hamlets or neighborhoods (*dusun*), who tend to be slightly older (43 years old) and have completed fewer years of education than other village officials (11.9 years on average). 72% of these bureaucrats report having permanent tenure. Hamlets are the lowest level of government administration in Indonesia, and the median number of hamlets per village in our sample is four. In our analysis, we often distinguish between these frontline bureaucrats and the higher-ranking bureaucrats (village secretariat members) described above. In addition to these officials, village governments also include the chairperson of village representative bodies (BPD) and BPD members. We do not include these officials in our analyses, as these positions are won through elections on which data is not available.

3 Empirical Framework

This section describes the survey and administrative data we use, develops our empirical strategy, and validates the key assumptions underlying the regression discontinuity design.

3.1 Data

We describe here the numerous sources of primary and secondary data on village governance, elections, and bureaucracies that underpin our empirical design.

Survey of Village Officials and Citizens. We conducted a large-scale survey of local village officials and citizens in Indonesia between March and August 2022. The survey took place in 852 villages, spread across 23 districts in 17 provinces spanning the vast archipelago; our sampling strategy targeted districts with relatively high internet coverage and aimed to achieve broad national representativeness among this subset of districts (Appendix B provides additional details). The primary targets in this survey were active village officials. These include elected village heads, other non-elected village government members, and BPD chairpersons and representatives. In addition, we simultaneously surveyed 8 to 12 adult citizens residing in each village. The survey aimed to inform the design of a future bureaucrat training

intervention, to gain a better understanding of village governance, and to provide a new window into the level of village development as perceived by both officials and citizens.

Given the restrictions associated with the Covid-19 pandemic, we conducted all surveys over the phone. We sampled citizens using a snowball procedure in which initial respondents (typically a member of the village government) were asked to provide three contact persons whose name began with a randomly drawn letter of the alphabet. This procedure continued until we reached the target sample size in each village. This implies that citizens in our sample are likely to be more connected to the village government than the average citizen. However, the extent of these connections should not vary discontinuously at the RD threshold and therefore do not represent a threat for our empirical strategy.

Our sample size reached a total of 5,125 village officials, including 732 village heads, 850 BPD chairpersons, 3,541 other village officials, and 14,378 citizens. Restricting these figures to the 512 villages in which an incumbent candidate competed in the last election (see below), our final sample includes 443 village heads, 2,138 other village officials, and 8,880 citizens. Appendix B provides additional details on our survey design.

Electoral data. As part of our survey, we collected official voting tallies for all candidates running in the last village head election held in each village. We obtained complete electoral data for 799 among the 852 villages in our sample (94%). Under the Village Law, village heads are elected every six years via first-past-the-post voting, and local elections are staggered across districts, with all village elections occurring in the same year within a district. Thus, elections were held in different years across villages in our sample: less than 1% were held before 2016, 11% were held in 2016, 13% in 2017, 16% in 2018, 28% in 2019, 2% in 2020, 27% in 2021, and 1% in 2022. On average, 3.6 candidates competed in these elections with a turnout of 82% (calculated as votes cast divided by the number of registered voters in each village). A small fraction (4%) of elections in our sample featured turnout greater than 100%. We later use this as a measure of data quality and show that this is uncorrelated with the occurrence of an electoral turnover. We report various checks on the electoral data in Section 3.3 (see also Appendix Table A.1 and Appendix Figures A.1–A.2).

We also collected data on which candidate was the incumbent at the time of the last election. We identify the incumbent in 512 village elections; these villages constitute the main sample for our empirical analysis. Women comprised only 5% of incumbent candidates, and 6% of candidates overall. Figure 1, top panel plots the density of the difference between the vote share received by the highest-ranking challenger candidate and the incumbent's vote share. We use this difference as the running variable in our regression discontinuity (RD) design, described in Section 3.2. In the bottom panel of Figure 1, we find no evidence of bunching of the running variable at the RD cutoff, suggesting that incumbents do not manipulate election results in our setting.

Administrative Data. To measure bureaucratic performance, in addition to outcomes observed in our survey, we use data from the 2014, 2018, and 2021 rounds of *Podes*, a village-level triennial census of villages, which we match to our survey sample. When studying administrative outcomes, we restrict the sample to villages that conducted their last election before 2021, the year of the most recent wave

of *Podes*; we use the remaining villages in our sample to conduct placebo checks. We also use pre-determined geographic and socioeconomic characteristics of villages observed in *Podes* to run balance checks and test the validity of our empirical design.

3.2 Empirical Strategy

Our analysis aims to measure changes in bureaucratic composition, morale, and performance caused by turnovers in the most recent village election. We estimate the effects of an electoral defeat of the incumbent with the following RD equation, where treatment is defined at the village level:

$$y_{ijt} = \alpha + \beta_1 X_{jt} + \beta_2 X_{jt} T_{jt} + \gamma T_{jt} + \delta_t + \varepsilon_{ijt}, \tag{1}$$

where y_{ijt} is an outcome for respondent i (village head, bureaucrat, or citizen) residing in village j that held its last election in year t. X_{jt}, the running variable, is the victory margin of the highest-ranked challenger candidate in the election conducted in village j at time t. $T_{jt} = \mathbb{1}(X_{jt} > 0)$, and δ_t are election year fixed effects, to account for the fact that villages hold their elections in different years.[1] When examining the effects of turnovers on administrative outcomes, we estimate equation (1) at the level of village j; in this case, the regression has exactly N=512 observations, the number of villages in which an incumbent competed in the most recent village election.

We estimate equation (1) using the non-parametric method of Calonico et al. (2014), and we cluster standard errors by village. Using this approach, we report the standard RD point estimate γ and the cluster-robust standard error as well as the p-value associated with the robust confidence interval for γ. We also report RD plots separately for our main outcomes of interest.

Finally, to account for imperfect compliance,[2] we also report estimates of τ obtained via a fuzzy RD specification, where we use T_{jt} as an instrument for the occurrence of a leadership change since the election conducted at time t. In this case, the endogenous regressor is a dummy equal to 1 if the village head in our survey sample is a different individual from the incumbent candidate who competed in the most recent village election. Thus, the sample size for this fuzzy RDD estimation is restricted to the N=443 villages in which we were able to survey the current village head. Figure 2, panel (a) illustrates the first-stage of this fuzzy RD strategy.

3.3 Identification checks

We describe here key tests that support a causal interpretation of the RD estimate, γ, in equation (1).

Density test. Incumbent village heads may be able to manipulate local election results in a way that

[1] In all specifications where we look at bureaucrat outcomes, we also control for a treatment dummy indicator associated with a survey experiment embedded in our survey. This experiment provided a messaging intervention designed to estimate the magnitude of social desirability bias. The randomization was conducted at the village level and treatment assignment in this experiment is uncorrelated with the treatment in equation (1): the RD point estimate is τ=-0.095 (robust SE 0.128, p=0.356).

[2] Imperfect compliance in our setting likely comes from village heads stepping down before the end of their term and being replaced by a village head designated by district authorities. 3% of the village heads we surveyed reported having been designated rather than elected.

would systematically distort the electoral outcome in their favor. If this occurred, we would observe a discontinuous drop in the density of our running variable (the victory margin of the best-ranked challenger) across the threshold (McCrary, 2008). We address this concern in Figure 1, bottom panel, which implements the local polynomial density test from Cattaneo et al. (2018). There is no evidence of manipulation or sorting at the threshold: the p-value from this test is 0.856.

Balance checks. We then report a range of balance tests to bolster confidence in the validity of our RD strategy. First, in Appendix Table A.1, we report balance checks on various pre-determined village characteristics observed in the survey and the electoral data. This includes the number of neighborhoods or hamlets (column 1), the log number of households in the village (column 2), separate dummies for the village being located in each of Indonesia's major islands (columns 3-7), the number of registered voters in each village (column 8), and the number of candidates competing in the most recent election (column 9). Only one of these variables (the likelihood that the village is located in NTB-Bali) is significantly correlated with the treatment, at the 10% level. Second, in Appendix Table A.2, we report additional balance checks on ten predetermined village characteristics from the administrative *Podes* data: latitude, longitude, altitude, coastal location, forest location, a dummy indicating that agriculture is the main economic activity in the village, and four separate dummies indicating the dominant agricultural activity (rice, corn, rubber, or palm oil). Only one out of these ten geographic/agricultural characteristics (the probability of cultivating corn) is significantly correlated with the treatment.

Electoral data checks. Furthermore, we report several checks on the validity of the electoral data. Appendix Figure A.1 plots the raw turnout data and turnout winsorized at 100%[3] against the vote share of the incumbent (panels a and b) and against our running variable, the margin of victory of the highest-ranked challenger (panel c and d). There is no systematic evidence of turnout manipulation in favor of incumbents, as the few instances of excessive turnout are located on both sides of the RD threshold. We confirm this in Appendix Table A.1, where we estimate again equation (1), using voter turnout and a dummy for turnout being greater than 100% as dependent variables. There is no evidence that turnovers are associated with higher (or lower) turnout at the threshold (column 10), nor that they are associated with suspiciously high (or low) turnout (column 11). The treatment also has a null effect on an alternative measure of electoral competition, a Herfindahl index of vote shares (column 12).

Finally, we implement a test inspired by Benford's law to detect electoral manipulation in villages won by the incumbent (see Mebane, 2006, 2008). In Appendix Figure A.2, we plot the distribution of the first, second, third, and last digits of candidate vote tallies separately for villages won and villages lost by the incumbent. Using a Kolmogorov-Smirnov test, we cannot reject the null of equality of distributions across the two types of villages for any of the four digit distributions—the p-values from these tests are reported at the bottom of each panel. Nonetheless, panels (c) and (d) of Appendix Figure A.2 show significant heaping of candidate vote tallies at zero, plausibly as a result of rounding. Thus, in Appendix Table A.1, we also show that the number of candidate vote tallies with a trailing zero is not significantly associated with the treatment (column 13). Overall, we find no evidence of manipulation of village

[3]Recall that 4% of villages in our sample, i.e. 21 out of 512 villages report turnout over 100%.

election results across this large battery of tests.

In line with these data checks, Aspinall and Rohman (2017) provide rich qualitative evidence and case studies illustrating various dimensions of electoral competition in Indonesia's village elections. This includes consistent evidence that elections are highly competitive and that the electoral playing field is not systematically tilted in favor of incumbents. Even prior to the advent of the Village Law era, the country's democratic transition in 1998 opened new opportunities for individuals outside traditional village elites to access leadership positions at the village level: *"The breakdown of centralised mechanisms of control has opened space for sometimes unruly political contestation in the villages ... established elites have lost their former monopoly on village power"* (Aspinall and Rohman, 2017, p.32).

4 Results

We now present our estimates of the effects of leader turnovers triggered by village elections. We discuss, in turn, effects on the composition of village bureaucracies, nepotism, and salaries (Section 4.1), staff morale (Section 4.2), and bureaucrat effort, proxied by the frequency of interactions with citizens (Section 4.3). We then report effects of leader turnovers on public service provision, as measured in administrative data and our own survey of citizens (Section 4.4). Finally, we discuss downstream effects on citizens' attitudes (Section 4.5) and potential interpretations of our findings (Section 4.6).

4.1 Effects on Bureaucratic Composition

In Table 1 and Figure 2, we quantify the extent of bureaucratic turnover engendered by elections. First, we confirm that a defeat of the incumbent candidate in the most recent village election increases the probability that the village head in our survey sample is a new leader, i.e., a different individual from the incumbent candidate who competed in the most recent village election. The RD point estimate is 0.84 p.p., significant at the 1% level (see Table 1, column 1, and Figure 2, panel a). Throughout the analysis, we report both sharp RD estimates of the effect of turnovers (γ in equation 1), as well as fuzzy RD estimates where we use T_{jt} as an instrument for village head turnover—the dependent variable in column 1 of Table 1—to account for this imperfect compliance. In column 2 of Table 1 and panel (b) of Figure 2, we additionally estimate the effect of a turnover on the tenure of the village head, measured in years. The RD point estimate is roughly five years, slightly less than the *de jure* term of six years.

Bureaucratic Turnover. Although the majority of village officials theoretically have tenured positions,[4] village head turnovers might generate an increase in bureaucratic turnover, if bureaucrats appointed by previous leaders become more likely to step down or retire under the new leadership. We measure bureaucratic turnover as the fraction of village bureaucrats (excluding the village head) appointed to their current position since the last village election. This fraction is 22% in the control group (i.e., villages within the RD bandwidth on the left-hand side of the RD cutoff, in which the incumbent village head

[4] 76% of top bureaucrats and 72% of hamlet heads report having permanent tenure, or report their planned retirement date as the scheduled end of their tenure.

narrowly lost the election). It increases by 13 p.p. at the RD cutoff, a 41% effect size (Table 1, column 3); panel (c) of Figure 2 provides corroborating visual evidence. The point estimate is slightly smaller in magnitude and falls short of statistical significance in the fuzzy RD estimation (column 4).[5] Thus, while newly elected village heads are more likely to change the composition of the village bureaucracy, the majority of bureaucrats remain in government even after a village head turnover.

Village heads who reshuffle the composition of the village government may opt for bureaucrats with certain demographic characteristics. Appendix Table A.3 looks at the effect of turnovers on bureaucrats' age, education, and gender. While bureaucrats appointed following a turnover are slightly younger (by 1.2 years, column 2), this estimate is noisy, and there is little evidence overall that bureaucrats appointed after a turnover differ along these observable characteristics. Appendix Table A.4 looks at the types of bureaucratic appointments made by new village heads. There is no clear evidence that the latter prioritize certain types of appointments over others. If anything, high-ranking bureaucrats (members of the village secretariat; columns 3-4) are less likely to have been appointed by the current village head in the wake of a turnover, while frontline bureaucrats (neighborhood leaders known as *dusun* heads) are more likely to have been appointed by the current village head (columns 5-6).

Nepotism. Finally, columns 5 and 6 of Table 1 consider the probability that relatives of the village head are employed in the village government, as reported by the village heads themselves. On average, 43% of reelected incumbents report having a relative in the village bureaucracy, and we estimate a statistically significant 38 p.p. reduction in this outcome at the RD cutoff. Some of this effect could come from the fact that current members of the village bureaucracy were relatives of the previous village head (i.e., the incumbent who was defeated in the last election) and remained in their position under the new leadership. The estimates in columns 5 and 6 of Table 1 imply that new leaders do not systematically replace these previous nepotistic appointees with relatives of their own in the short run.

Appendix Table A.5 presents additional evidence on nepotistic appointments. There, we look at the probability that bureaucrats had a parent who served as village head (columns 1-4) or a parent who served in the village government (columns 4-8), separately for all non-elected bureaucrats and for top bureaucrats. Overall, a large fraction of bureaucrats (44%) had a parent who served in the village government. We find that fewer individuals with such family connections serve under newly elected leaders. This effect is mainly driven by high-ranking bureaucrats (columns 3-4 and 7-8). This could be driven by both a lower probability of making nepotistic appointments and a higher probability of a staff shakeup, i.e., removing bureaucrats with family connections. Figure 2, panel (d) reports the RD plot corresponding to the estimates in columns 7-8 of Appendix Table A.5.

4.2 Staff Morale

Table 2 studies impacts on bureaucrats' morale in the aftermath of a village head turnover. In this and subsequent tables, we first look at each outcome among all village employees except the village head,

[5] This effect may capture higher replacement rates holding size and/or composition constant, since the composition of village governments is constant and set by law, as described in Appendix Figure B.1.

and then restrict the analysis to the top executive bureaucrats in the village government: i.e., village secretaries and heads of affairs for general, financial, and planning matters (Appendix Figure B.1 illustrates the composition of village governments).

We first examine effects on self-reported enthusiasm. Bureaucrats were asked to report their level of enthusiasm about the work they do on a 5-point Likert scale. There is strong evidence that turnovers improve job enthusiasm across the board; these effects hold both when looking across all bureaucrats (columns 1-2), and when focusing on the highest-ranking bureaucrats (columns 3-4). Effect sizes range from 0.2-0.5 standard deviations (s.d.) in the sharp RD and from 0.5-0.7 s.d. in the fuzzy RD. Figure 3 provides graphical evidence of these effects (panels a and b).

In columns 5-8 of Table 2, we look at a continuous measure of self-reported motivation, anchored to the baseline motivation bureaucrats reported having at the time they joined the village government. Our survey asked: *"Imagine that your motivation was 100 when you started. What number would you say your motivation is now relative to that?"* Respondents were allowed to provide answers greater than 100, and the average motivation among bureaucrats based on this metric was 105.6 (100.5 in the control group) with a standard deviation of 62.6. We estimate a large positive effect of turnovers on motivation, but this effect is noisily estimated and the RD coefficient falls short of conventional significance levels (see Figure 3, panels c and d, for RD plots).

Finally, columns 9-12 of Table 2 examine a measure of bureaucrats' perceptions of their mission duty. Our survey questionnaire asked: *"I would like you to think about how you see your mission in the civil service. Which of these statements most closely characterizes your mission?"* The most common answers provided among non-elected bureaucrats were: following regulations (26%), make the government work better (25%), providing public services to the nation (23%), be a good co-worker (13%), and providing public services to the community (11%). To capture national ambitions, which may indicate a higher salience of career concerns (e.g., promotion incentives at higher levels of the government bureaucracy), we look at a dummy equal to 1 if the bureaucrat reports "serving the nation" or "making the government work better" as their main mission. There is evidence that bureaucrats surveyed after a turnover report greater ambition along this dimension: these effects range from 0.1 s.d. in the sharp RD estimation to 0.3 s.d. in the fuzzy RD estimation when considering all non-elected bureaucrats.[6,7]

Salaries. The increase in morale outcomes we observe could result from improved working conditions or higher salaries. Appendix Table A.6 examines the impacts of turnovers on salary for all personnel categories. Salaries among the staff members we surveyed represent 14% of village budgets on average. Bureaucrats surveyed after a turnover report relatively *higher* salaries, indicating any losses of experience induced by bureaucratic reshuffling do not translate into lower salaries. This effect is driven by top bureaucrats who have been appointed since the leadership change: salaries are approximately 15-20% higher for these individuals (column 3-4), while there is no effect on the salaries of frontline bureaucrats, i.e., neighborhood or hamlet heads (columns 5-6). Appendix Figure A.3 provides supporting evidence.

[6] In results not reported, we find that turnovers slightly reduced the probability that bureaucrats report "serving the community" as their main mission. Thus, national ambitions seem to partly come at the expense of local public service motivation.

[7] Overall, many of the morale effects reported in Table 2 seem driven by high-ranking bureaucrats: Appendix Table A.8 shows mixed evidence on morale for neighborhood/hamlet heads.

Appendix Figure A.4 provides additional background on the scope for salary changes after turnovers. We plot the distribution of salaries separately for all non-elected bureaucrats (panel a), all high-ranking bureaucrats (panel b), and all neighborhood heads (panel c). We observe some bunching of bureaucrat salaries at 2 million IDR, but there is substantial variation in salary levels, which suggests scope for village leaders to set salaries in a discretionary manner, and possibly to reward performance via higher salaries. Appendix Table A.7 shows that salaries are positively correlated with experience (years spent working in the village government), holding a high-ranking position, and our measures of morale and effort described below in Section 4.3. There is no significant correlation between nepotistic appointments and salary levels.

Bureaucratic Knowledge. Morale could also affect the acquisition of relevant knowledge inside the bureaucracy. Appendix Table A.9 reports effects on various measures of knowledge. We look at whether bureaucrats received any training in the past 12 months, whether they correctly answer a policy-relevant question about a recent Village Law regulation (an "objective" measure of knowledge), and a standardized index of self-reported knowledge across five categories: development management and accountability, financial management, village regulations, drafting development plans, and the Village Law. There are few significant differences between bureaucrats surveyed after a turnover and others. These bureaucrats, however, report being more confident about their own knowledge (column 6).

4.3 Effort and Accountability

Our findings thus far suggest that morale improves among bureaucrats serving under newly elected village heads. Table 3 shows that these effects are accompanied by a greater frequency of interactions with citizens. We interpret interactions with citizens as a measure of effort levels exerted by village officials, and an indicator of bottom-up accountability.[8] Bureaucrats in villages that experienced a recent turnover are more likely to interact daily with citizens; this effect holds across the full sample of bureaucrats (columns 1-2) and the highest-ranking bureaucrats (columns 3-4). We obtain similar results when looking at the frequency of interactions with citizens measured on 1-5 scale; the magnitude of these effects are especially large among top bureaucrats (columns 7-8). Panels (a) and (b) of Figure 4 provide visual evidence. Perhaps as a result of improved morale within the staff, bureaucrats serving a newly elected leader are more likely to seek direct contact with their constituents. These interactions appear to take place outside formal venues; we find no evidence that bureaucrats are more likely to attend village assemblies (*Badan Permusyawaratan Desa* or BPD) after a turnover. Figure 4 provides visual evidence of RD effects on the outcomes examined in Table 3.

These frequent interactions between citizens and bureaucrats, in turn, improve the bureaucrats' understanding of citizens' preferences. Tables 4 and 5 examine whether turnovers result in bureaucrats gaining a better understanding of what citizens want. Our survey separately asked bureaucrats and citi-

[8]One might be concerned that the sample of citizens, drawn from a snowball process with village officials, may be more favorably inclined towards the government. However, this bias would naturally arise on both sides of the RD cutoff, and should not jump discontinuously at this cutoff.

zens which services they considered to be priorities for future development spending in the village,[9] and how they perceived the quality of ten types of local services: garbage collection, water access, electricity provision, roads, cell phone coverage, healthcare, kindergartens, primary schools, disability services, and security services. In Table 4, we look at a dummy equal to 1 if bureaucrats and citizens agree about which services should be considered investment priorities (columns 1-4) and a dummy equal to 1 if bureaucrats correctly name as an investment priority one of the (top-3) services which citizens consider to be of worst quality (columns 5-8). We find evidence of increased alignment between bureaucrats and citizens based on the latter measure only; this result implies that bureaucrats in turnover villages correctly identify needs for improvements in terms of local service provision. Figure 5, panels (a) and (b) report RD plots corresponding to the outcome examined in columns 5-8 of Table 4, separately for all bureaucrats and top bureaucrats.

Our survey then asked bureaucrats to name the services for which they received complaints from constituents. In Table 5, we look at indicators for bureaucrats mentioning complaints about services which the majority of village citizens identify as a top-3 priority, as well as complaints about services which the majority of citizens believed is a bottom-3 quality public service. We find robust evidence that bureaucrats in turnover villages were more likely to receive complaints about services identified as priorities by citizens (Table 5, columns 1-4). Figure 5, panels (a) and (b) report RD plots corresponding to the outcome examined in columns 1-3 of Table 5, separately for all bureaucrats and top bureaucrats.

Robustness Checks. Appendix Tables A.10–A.13 report robustness checks on the bureaucrat-level outcomes explored in Tables 2, 3, 4, and 5. First, recall that our baseline equation (1) controls for election year dummies and a treatment indicator for our survey experiment treatment. In Appendix Table A.10, we report estimates without these controls. In Appendix Table A.11, instead of the local linear regression used in our baseline, we use a third degree polynomial in the running variable to construct the RD point estimate. Finally, we vary the RD bandwidth to be two times smaller than the MSE-optimal bandwidth from Calonico et al. (2014) (Appendix Table A.12) and two times larger than this optimal bandwidth (Appendix Table A.13). Overall, these robustness checks leave our main takeaways unchanged.

4.4 Bureaucratic Performance: Local Service Provision

The results presented thus far show that bureaucrats serving newly elected village heads are more enthusiastic about their job and mission, and exert higher effort in the form of more frequent interactions with citizens. In doing so, they gain a better understanding of citizens' preferences in terms of development spending priorities. We now study whether turnover also translates into changes in the quality of local public service provision in the village. To do this, we rely on administrative data from a triennal census of villages known as the Village Potential or *Podes* survey. We then examine whether objective changes in service provision are positively perceived by citizens.

Service Provision in Administrative Data. Consistent with the effects we find on bureaucrat-level

[9] Village officials and bureaucrats were asked: "For the remaining funds that are not earmarked for direct cash assistance, in your opinion, what should be the top 3 services prioritized for improvements?"

outcomes, turnover in village elections improves the quality of public service provision in administrative *Podes* data. When conducting this analysis, we restrict the sample to villages that conducted their last election before 2021 (378 out of 512 villages), i.e., the year in which the most recent wave of *Podes* was conducted. Using this data, we construct a standardized index of service quality composed of all public goods under the purview of village governments: drinking water, sewage, garbage collection, street lighting, kindergartens, primary schools, village maternities (*polindes*), community health centers (*puskesmas*), paved roads, and public transit. We find a large (0.50 s.d.) increase in this index of service provision at the RD cutoff (Table 6, column 1). Panel (a) of Figure 6 illustrates the positive effect of turnovers on service provision in administrative data. This effect is larger in the fuzzy estimation (column 2) and primarily driven by garbage collection, street lighting (columns 5-6), and to a lesser extent, drinking water and public transit. Appendix Table A.14 reports balance checks with the same measures of service provision collected during the 2014 round of *Podes*, with the exception of garbage collection and village maternities which were not enumerated in 2014. Overall, service provision was 0.06 s.d. lower (non-significant) in treatment villages before the most recent village head turnover.

Dynamic Effects. In Table 7, we exploit variation from the staggered timing of elections across our sample to explore the dynamic effects of turnovers on local public service provision. Specifically, we exploit heterogeneity across villages in the timing of the most recent election: we split our sample between villages that held their last election between 2015-17 (122 villages) and those that held it between 2018-20 (256 villages). Finally, we also look at villages that held their election in 2021 or 2022, namely after data collection for the 2021 *Podes* survey (134 villages). This last set of regressions can be interpreted as a placebo check, since public goods provision should not have been affected by turnovers that occurred after data collection. The estimates in Table 7 provide further evidence that turnovers improve service provision, and also suggest that these improvements take some time to materialize, perhaps because these effects must offset some of the short-run disruptions engendered by turnover. Effect sizes are almost twice as large for villages that held their election between 2015-2017 (columns 1-2) relative to villages that held their election more recently (columns 3-4).

Robustness Checks. Our main Table 6 reports sharp RD estimates of the effects of turnovers on service provision measured in the administrative data. Appendix Table A.16 reports the corresponding fuzzy RD estimates, which deliver similar insights with slightly larger magnitudes. Appendix Tables A.17–A.20 report additional robustness checks on Table 6: removing election year dummies (Table A.17); using a third degree polynomial instead of local linear regression (Table A.18); using a bandwidth two times smaller than the MSE-optimal bandwidth (Table A.19), or a bandwidth two times larger than the MSE-optimal bandwidth (Table A.20). The smaller sample size in the administrative data (N=378 villages that held their last election before 2021) means we have less statistical power to obtain precise estimates across all of these specifications, but the estimated effect of turnovers on service provision remains consistently positive and large in magnitude. In column 1 of these tables, the effect of turnovers on the service provision index ranges from 0.28 s.d. in (Table A.18) to 0.68 s.d. (Table A.20).

Perceived Access and Quality. The citizens we surveyed also reported improved perceptions of service

access and quality in their village. Using our survey data, we examine citizens' perceptions of access and service quality for the public goods that most closely correspond to those enumerated in *Podes*, namely garbage collection, electricity (for street lighting), kindergartens, primary schools, local healthcare delivery, water access, and roads. In this data, we look at service provision along both the extensive margin (is the service accessible in the village?) and the intensive margin (reported service quality). Table 8 reports this set of results and Figure 7 the corresponding RD plots. We find an increase in terms of both reported access (columns 1-2) and perceived quality (columns 3-4). Appendix Table A.15 reports effects on the individual components of the two indices of service access and service quality; the positive effects of turnovers appear driven by garbage collection (columns 1-2) and roads (columns 13-14).

4.5 Downstream Effects on Citizen Attitudes

Despite the improvements in service provision we observe in both the administrative and the survey data, Table 9 shows that citizens are no more satisfied and do not trust their village government more in the aftermath of a village head turnover. This is despite the fact that, consistent with bureaucrats' answers (Table 3), citizens report more frequent interactions with bureaucrats after a turnover, though this estimate is imprecise (columns 1-2). Across the board, citizen attitudes seem largely driven by the time elapsed since the last election. Appendix Figure A.5 plots satisfaction with the village government (panel a) and trust in the village government (panel b) against the number of years since the last election. Both outcomes display a sharp increase shortly after the election, and are significantly negatively correlated with years elapsed since the last election.

Overall, these null effects on attitudes suggest that improvements in bureaucratic performance caused by turnovers are not instantly observable by citizens, and they do not increase satisfaction with government in the short run. This could be the case because improvements in service provision are mis-attributed to other forces, such as other levels of government or foreign donors (Cruz and Schneider, 2017; Guiteras and Mobarak, 2015). Alternatively, citizens' attitudes towards their local government may be sticky and may not respond rapidly to new signals about government performance (Khan et al., 2021). There may also be an over-exuberance that comes with turnovers that is then gradually reduced over time in a way that does not happen with status quo maintenance by re-elected incumbents.

4.6 Interpretation

Our results show that turnover in village head elections leads to some staff replacements and a decrease in nepotistic appointments inside the village bureaucracy. Bureaucrats working under newly elected leaders report greater enthusiasm about their job, earn higher salaries, and they are more ambitious about their public service mission—they aspire to serve their nation or make government work better. The large magnitude of these effects suggests that they are likely not only driven by new appointees, but trickle down to the rest of the bureaucracy, potentially including long-serving staff members. More importantly, these positive effects on morale lead to an increase in effort exerted by bureaucrats, who interact more frequently with citizens and gain a better understanding of their preferences as a result.

Finally, the combination of effects on bureaucratic turnover, nepotism, morale, and effort leads to improvements in local service provision, which we observe in both administrative survey and in survey data on perceptions of service access and quality collected from the citizens themselves.

In this section, we discuss potential alternative interpretations of our results. We focus on three such interpretations: lame-duck village heads driving down bureaucratic morale, patronage appointments by newly elected leaders, and social desirability bias in survey data collected from bureaucrats.

Lame-duck Village Heads. Under Indonesia's Village Law, village heads are allowed to serve a maximum of three consecutive or non-consecutive terms. Our empirical strategy, which consists of comparing outcomes in villages where the incumbent barely won or lost the most recent election, naturally raises questions pertaining to the role of these *de jure* term limits: lame-duck village leads serving their third and final term might face poorer incentives to perform, and this could, in turn, undermine bureaucratic morale and performance. A large literature has documented the negative effects of term limits on policy performance (e.g., Ferraz and Finan, 2011; Fouirnaies and Hall, 2021).

However, across the 512 villages in our sample, only 35 village heads (7%) are serving their third term. This small number is consistent with the low rate at which incumbents seek and obtain reelection: out of a total of 852 villages in our survey sample (which also include villages in which an incumbent did not compete), only 265 villages (31%) experienced an incumbent victory in the most recent election. Thus, these term-limited incumbents only account for a small fraction of villages, and our results are robust to excluding these villages from the analysis.

Patronage Appointments. The increase in bureaucrat enthusiasm and interactions with citizens could come from patronage appointments of political activists in the village government. For example, individuals who campaigned for the newly elected village head may be more likely to be appointed after the election. These individuals, in turn, might be more excited about working for their village head than counterfactual bureaucrats serving under a reelected incumbent, and they might be better informed about citizens' preferences as a result of their recent campaigning efforts.

However, three pieces of evidence show that this mechanism is unlikely to be driving our results. First, top bureaucrats (village secretariat members) earn higher salaries, experience the largest increase in enthusiasm, and report more frequent interactions with citizens (Tables 2 and 3), but these bureaucrats are actually less likely to have been appointed by the new village head (Appendix Table A.4). By contrast, frontline bureaucrats such as neighborhood heads—who are more likely to have been appointed by new village heads—do not report differentially higher salaries or enthusiasm (Appendix Table A.8). Second, the extent of bureaucratic turnover is limited in absolute terms, while the increase in enthusiasm is very large in magnitude and likely comes from a larger segment of the bureaucracy. Finally, the positive effects of turnover on public service provision measured in administrative data (Table 6) are unlikely to be driven by patronage appointments.

Social Desirability. Several of the outcomes we look at are reported by the bureaucrats themselves. While this is, to some extent, a strength of our empirical setting (we collected measures of morale directly

from the bureaucrats themselves, measures which are typically unavailable in administrative data), this also raises concerns about social desirability bias if such bias is correlated with village head turnovers.

Fortunately, our instrument also included a survey experiment designed to quantify experimenter demand effects in the responses of village officials. This experiment provided a randomized priming treatment which made more salient the ongoing data collection effort; the message emphasized either (i) that data collection was part of a research collaboration with the Indonesian Ministry of Home Affairs or (ii) that data collection was simultaneously ongoing with citizens residing in the same village. The randomization was conducted at the village level. Treatment assignment in this survey experiment is uncorrelated with turnover in equation (1): the RD point estimate is τ=-0.095 (robust SE: 0.128, p=0.356). Nonetheless, we control for this treatment assignment in all our specifications. We report the takeaways from this survey experiment in a companion paper; in general, we find limited effects of our priming intervention on a wide range of bureaucrat-level outcomes and attitudes.

5 Conclusion

This paper studies Indonesian villages spread across 17 of the country's provinces as laboratories of local democracy. We use electoral turnovers, namely instances in which an incumbent leader failed to secure reelection in the most recent village election, as natural experiments that disrupt the status quo in these village governments. Turnovers typically bring to power new local leaders with a mandate to improve village governance and development outcomes. Village bureaucracies are a key instrument at the disposal of these local leaders, as they provide the crucial link between frontline service delivery and citizens' preferences.

Turnover in local elections affects the composition of the bureaucracy, most notably by reducing the importance of nepotistic appointments. In turn, village bureaucrats who serve under new leaders report greater enthusiasm and ambitions, and earn higher salaries. These improvements in morale and material work conditions lead to an uptick in effort, as village officials interact more often with citizens and gain a better understanding of their priorities in terms of public goods provision in the local community. We show that these positive effects on morale and effort exerted by the village bureaucracy have downstream impacts on local service provision, measured in both administrative and survey data.

Our findings highlight the importance of local mechanisms of accountability in making democracy work. Democracy is under threat across a variety of settings, partly as a result of widespread popular discontent with what democratic systems have delivered. Our paper shows that even at the lowest level of government, elections that allow for regular power transitions induce improvements in bureaucratic performance and public goods provision. In light of our findings, ensuring that regular, free and fair elections fulfill one of their key functions—allowing political power to change hands in a peaceful way, even at highly localized levels—appears crucial for democracy to work as a whole.

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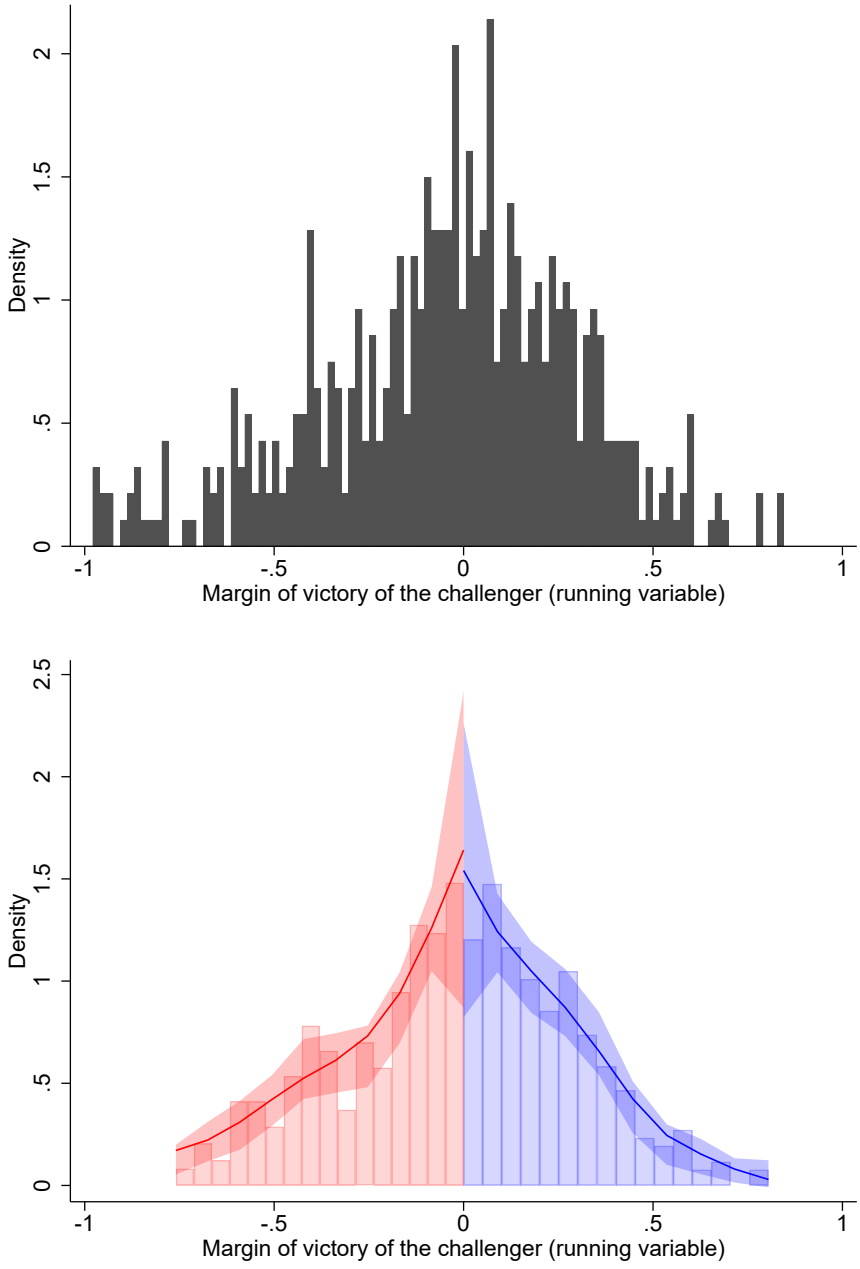
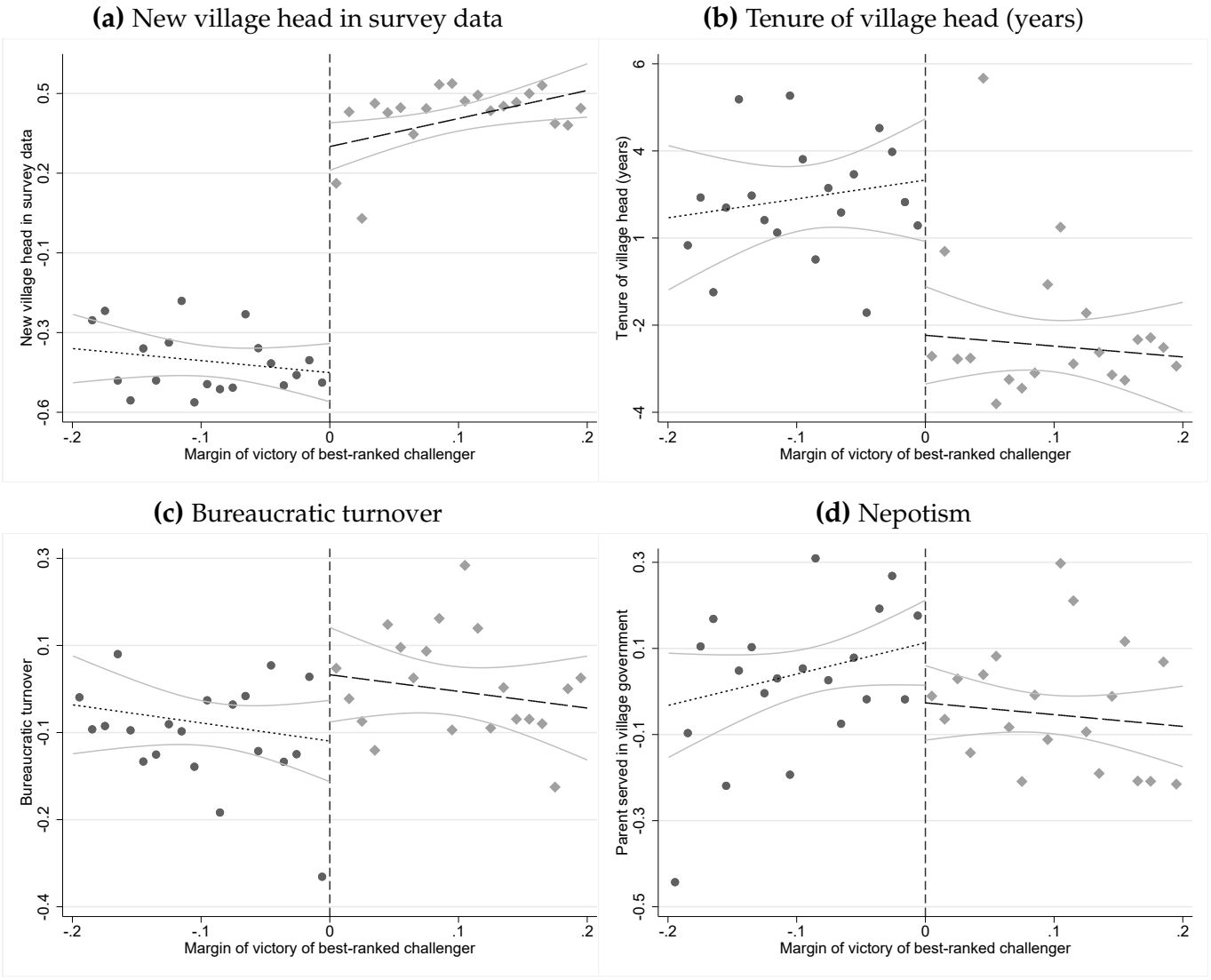
Figures

Figure 1: Density Test



Notes: The top panel plots the density of the running variable in our RD estimation, defined as the difference between the vote share received by highest-ranked challenger and the incumbent's vote share in the most recent village election. In the bottom panel, we implement the density test from Cattaneo et al. (2018) using the margin of victory of the challenger as the running variable. The p-value from this test is p=0.856.

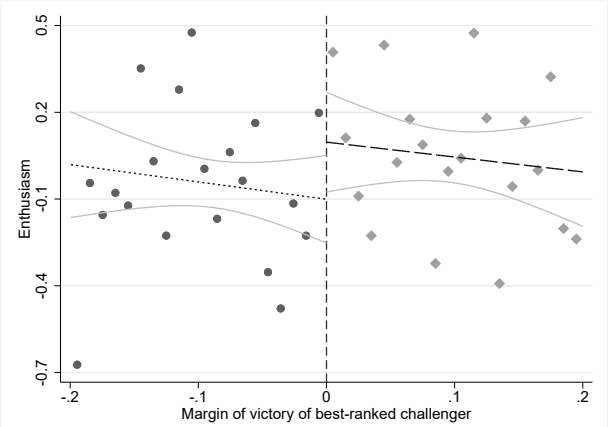
Figure 2: Electoral and Bureaucratic Turnover



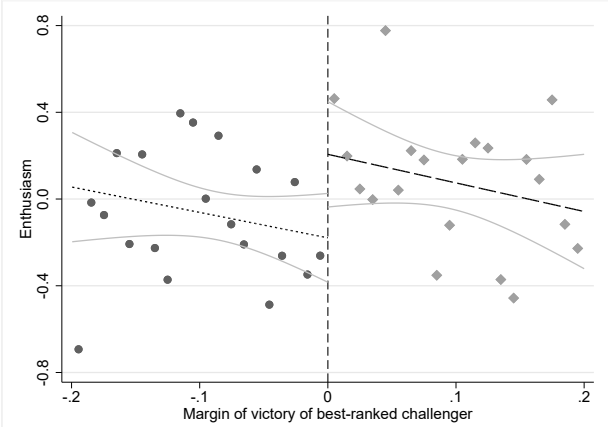
Notes: Panel (a) looks at the probability that the village head in our survey sample is a different individual from the incumbent candidate competing in the most recent village election. Panel (b) looks at the number of years in office of the village head. Panel (c) looks at the village-level fraction of bureaucrats (excluding the village head) who began in their current position since the last election. Panel (d) looks at the probability that high-ranking bureaucrats have a parent who served in the village government.

Figure 3: Bureaucratic Morale

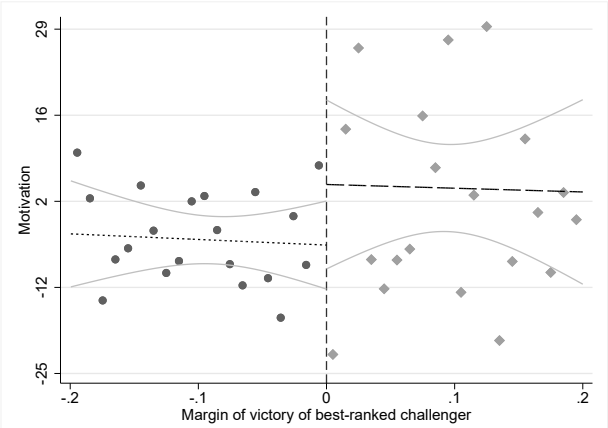
(a) Enthusiasm: All bureaucrats



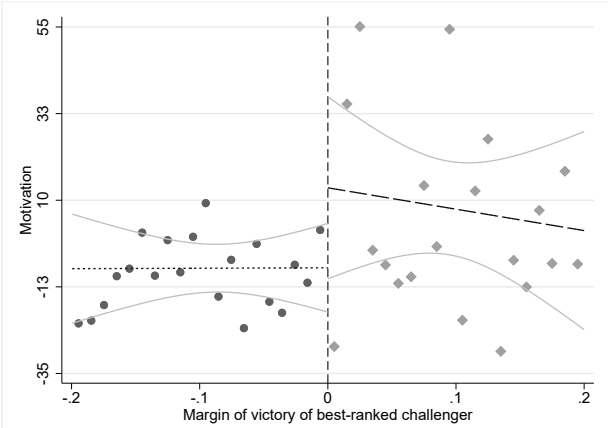
(b) Enthusiasm: Top bureaucrats



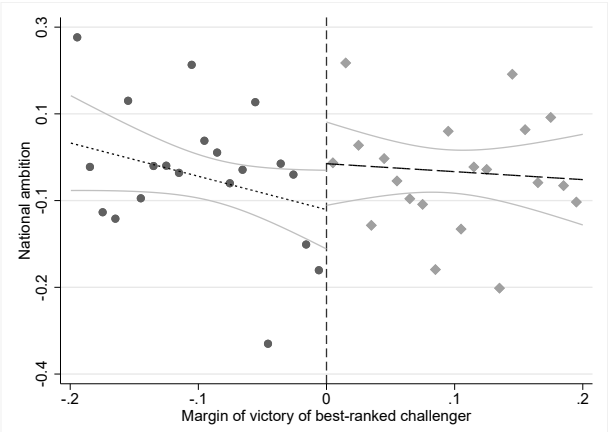
(c) Motivation: All bureaucrats



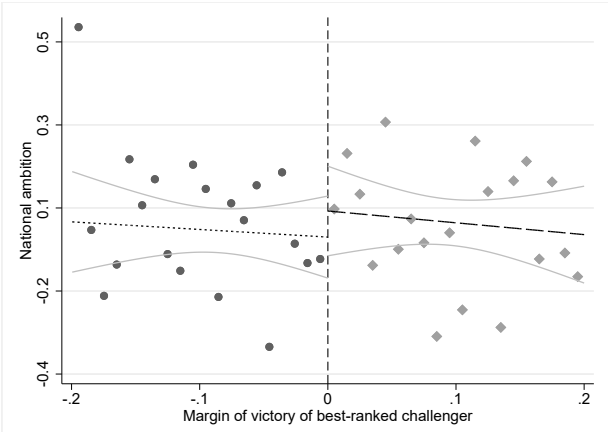
(d) Motivation: Top bureaucrats



(e) Ambition: All bureaucrats



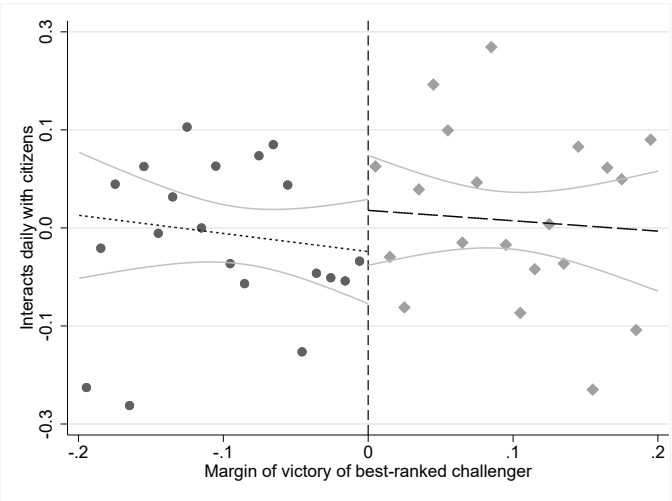
(f) Ambition: Top bureaucrats



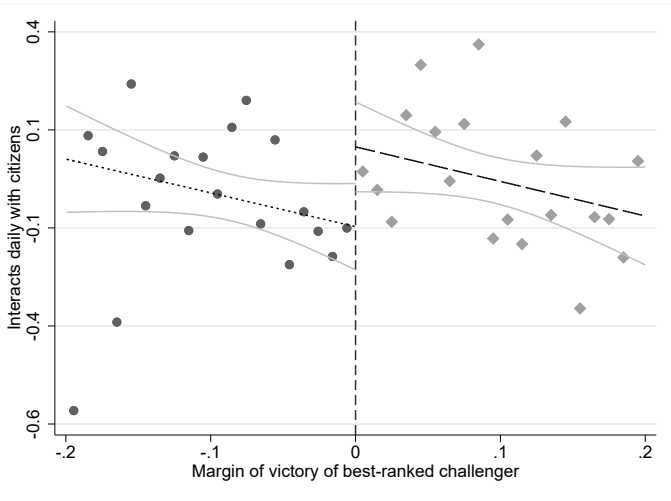
Notes: Panels (a) and (b) look at a standardized z-score of self-reported enthusiasm. Panels (c) and (d) look at a continuous measure of motivation anchored at a baseline of 100. Panels (e) and (f) look at a dummy equal to 1 if the bureaucrat reports "serving the nation" or "making the government work better" as their main mission. The sample includes: in panels (a), (c), and (e), all village bureaucrats excluding the village head; in panels (b), (d), and (f), all top village bureaucrats (members of the village secretariat).

Figure 4: Interactions Between Bureaucrats and Citizens

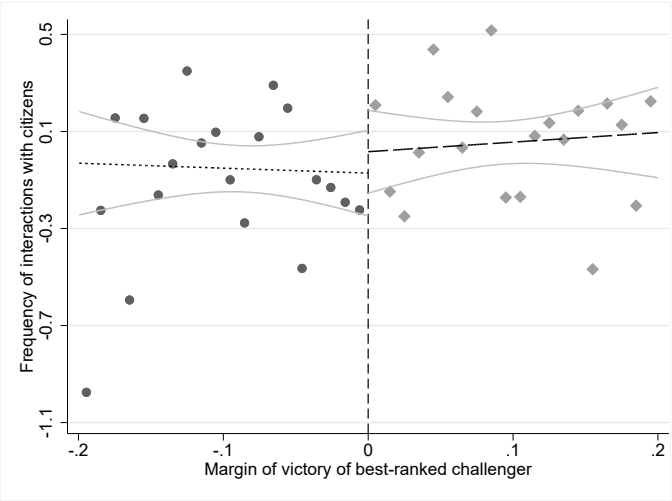
(a) Interacts daily with citizens: All bureaucrats



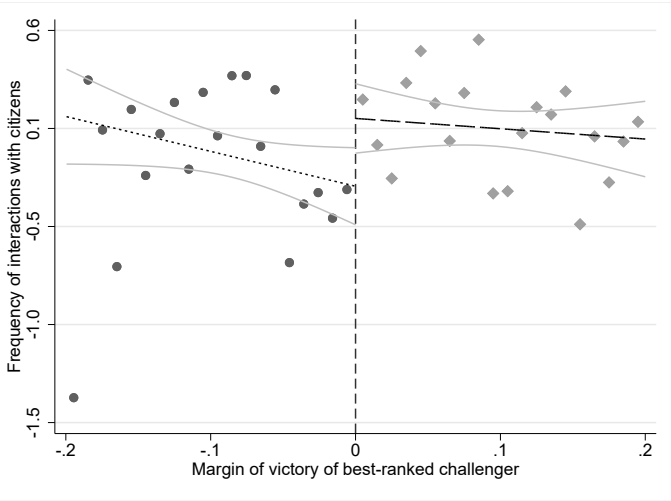
(b) Interacts daily with citizens: Top bureaucrats



(c) Frequency of interactions: All bureaucrats



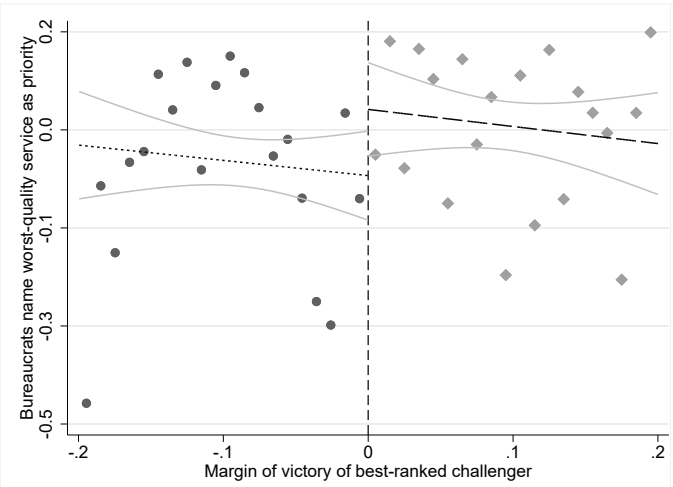
(d) Frequency of interactions: Top bureaucrats



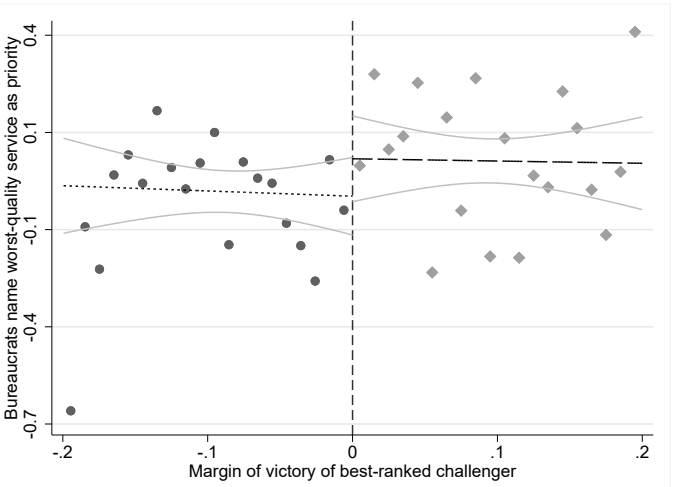
Notes: The top two figures look at a dummy equal to 1 if the bureaucrat reports interacting with village citizens on a daily basis. The bottom two figures look at the frequency of citizen interactions measured on a 1-5 scale. The sample includes: in panels (a) and (c), all village bureaucrats excluding the village head; in panels (b) and (d), all top village bureaucrats.

Figure 5: Understanding of Citizen Preferences

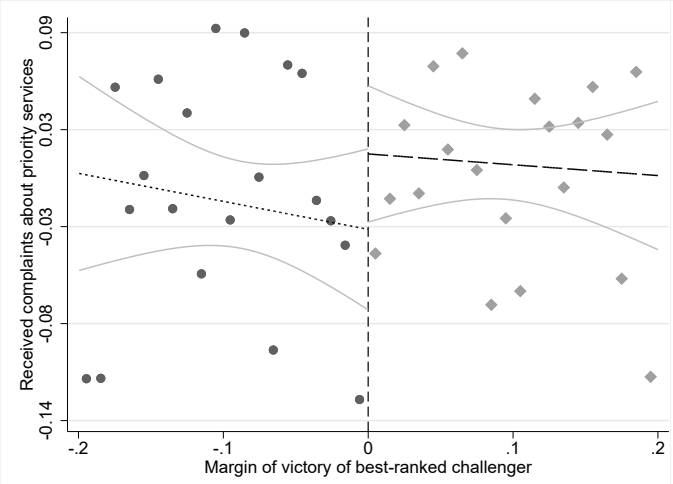
(a) Priority services: All bureaucrats



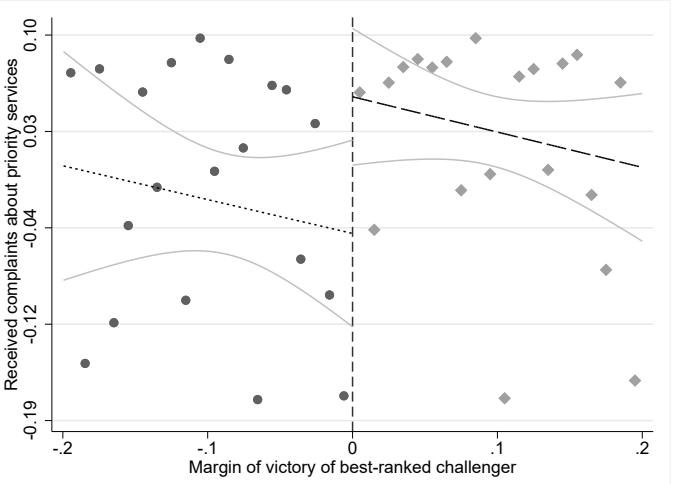
(b) Priority services: Top bureaucrats



(c) Received complaints: All bureaucrats



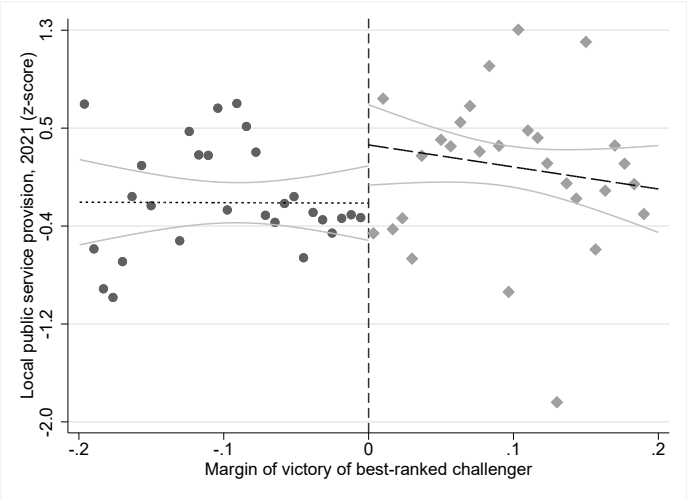
(d) Received complaints: Top bureaucrats



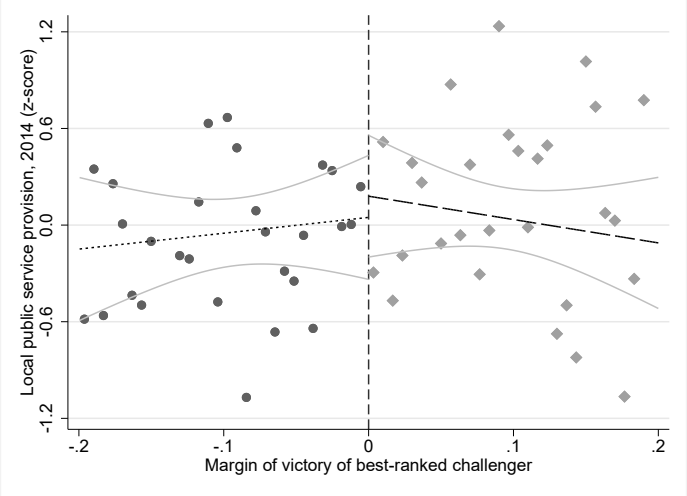
Notes: The top two figures look at an indicator equal to 1 if the bureaucrat names as priority for future development spending a service which citizens rank as a bottom-3 quality public service. The bottom two figures look at an indicator equal to 1 if the bureaucrat reports receiving complaints about at least one public service the majority of village citizens identify as a top 3 priority. The sample includes: in panels (a) and (c), all village bureaucrats excluding the village head; in panels (b) and (d), all top village bureaucrats.

Figure 6: Effects on Public Goods Provision (Administrative Data)

(a) Administrative data, 2021



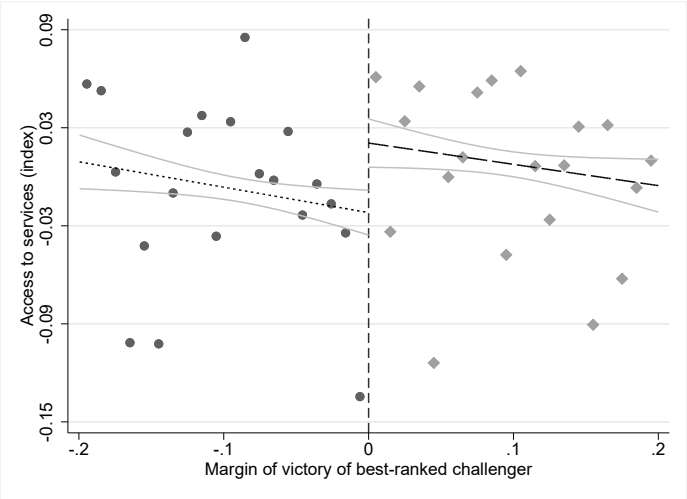
(b) Administrative data, 2014 (balance)



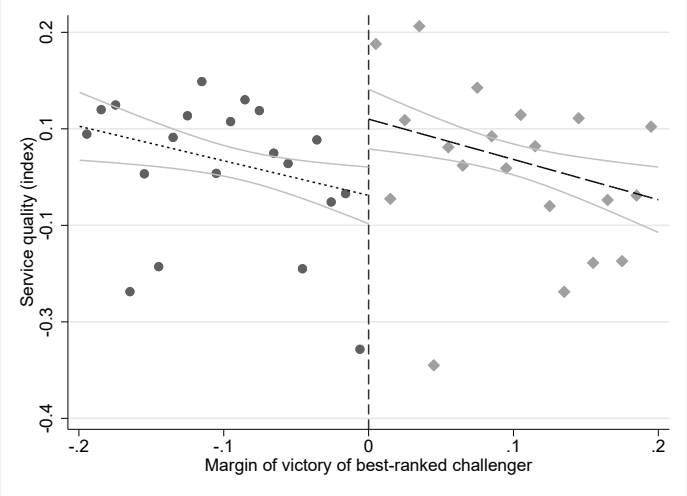
Notes: In panel (a), the dependent variable is a standardized index of local service provision constructed using the 2021 *Podes* survey. The index has the following 10 components: drinking water, sewage, garbage collection, street lighting, kindergartens, primary schools, village maternities (*polindes*), community health centers (*puskesmas*), paved roads, and public transit. We first standardize each individual component before taking the village-level average of all components. The sample includes all villages in our sample that conducted their last election before 2021. In panel (b), the dependent variable is a standardized index of local service provision constructed using the 2014 *Podes* survey. The 2014 index has the same components except garbage collection and village maternities, which were not collected in 2014.

Figure 7: Effects on Public Goods Provision (Citizens' Perceptions)

(a) Access to services



(b) Service quality



Notes: In panel (a), the dependent variable is a standardized index of access to local services constructed using our survey data. In panel (b), the dependent variable is a standardized index of service quality. The index has the following components: garbage collection, electricity, kindergartens, primary schools, community healthcare, water access, and paved roads. We first standardize each individual component before taking the village-level average of all components.

Tables

Table 1: Electoral and Bureaucratic Turnover

	New village head	Tenure (years)	Bureaucratic turnover		Nepotism	
	(1)	(2)	(3)	(4)	(5)	(6)
New village head	0.837***	-5.038***	0.134**	0.084	-0.384**	-0.188*
	(0.100)	(1.649)	(0.059)	(0.078)	(0.187)	(0.174)
Specification	Sharp	Sharp	Sharp	Fuzzy	Sharp	Fuzzy
Observations	442	443	512	442	442	441
Control mean	0.034	7.88	0.32	0.32	0.36	0.36
Robust p-value	2.1e-16	0.0023	0.010	0.21	0.011	0.090
Bandwidth size (%)	16.3	27.6	24.2	18.9	12.7	20.6

Notes: This table reports RD estimates of γ in equation (1) obtained via the non-parametric method from Calonico et al. (2014). Units of observations are village heads in columns 1-2 and villages in column 3-6. The dependent variable is: in column 1, a dummy equal to 1 if the village head in our survey data is a different individual from the incumbent competing in the most recent village election; in column 2, the number of years spent in office by the current village head; in columns 3-4, the rate of bureaucratic turnover at the village level since the last election, defined as the fraction of new bureaucrats appointed to their current position since the last election; in columns 5-6, a dummy variable equal to 1 if relatives of the village head are employed in the village government.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table 2: Bureaucratic Morale

	Enthusiasm				Motivation				Ambition			
Bureaucrats:	All		Top		All		Top		All		Top	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
New village head	0.193	0.542***	0.488***	0.710***	10.705	14.023	28.613	49.182	0.114*	0.308***	0.117	0.244
	(0.132)	(0.208)	(0.165)	(0.235)	(10.538)	(15.321)	(23.940)	(34.166)	(0.070)	(0.139)	(0.105)	(0.163)
Specification	Sharp	Fuzzy	Sharp	Fuzzy	Sharp	Fuzzy	Sharp	Fuzzy	Sharp	Fuzzy	Sharp	Fuzzy
Observations	2123	1773	1065	878	2115	1766	1063	876	2138	1788	1068	881
Control mean	-0.085	-0.085	-0.057	-0.057	100.4	100.4	102.1	102.1	0.31	0.31	0.45	0.45
Robust p-value	0.11	0.0028	0.0011	0.00067	0.37	0.37	0.18	0.12	0.054	0.0084	0.22	0.11
Bandwidth size (%)	28.8	15.0	20.7	17.0	29.5	21.2	23.1	17.9	25.8	14.6	21.9	16.8

Notes: This table reports RD estimates of γ in equation (1) obtained via the non-parametric method from Calonico et al. (2014). The sample includes: in columns 1-2, 5-6 and 9-10, all village bureaucrats excluding the village head; in columns 3-4, 7-8, and 11-12, all top-level village bureaucrats (village secretariat members). The dependent variable is: in columns 1-4, a standardized z-score of self-reported enthusiasm; in columns 5-8, a continuous measure of motivation anchored at 100 at baseline; in columns 9-12, a dummy equal to 1 if the bureaucrat reports "serving the nation" or "making the government work better" as their main mission. See Section 4 for details.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table 3: Effects on Frequency of Interactions with Citizens

Bureaucrats:	Interacts daily with citizens				Frequency of interactions			
	All		Top		All		Top	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
New village head	0.099	0.152*	0.197**	0.228*	0.149	0.333*	0.424**	0.628***
	(0.077)	(0.097)	(0.103)	(0.141)	(0.154)	(0.222)	(0.191)	(0.269)
Specification	Sharp	Fuzzy	Sharp	Fuzzy	Sharp	Fuzzy	Sharp	Fuzzy
Observations	2122	1772	1065	878	2122	1772	1065	878
Control mean	0.46	0.46	0.57	0.57	4.00	4.00	4.31	4.31
Robust p-value	0.11	0.079	0.031	0.073	0.27	0.089	0.012	0.0097
Bandwidth size (%)	15.7	16.2	18.0	16.9	20.4	15.6	17.8	17.0

Notes: This table reports RD estimates of γ in equation (1) obtained via the non-parametric method from Calonico et al. (2014). The sample includes: in columns 1-2 and 5-6, all village bureaucrats excluding the village head; in columns 3-4 and 7-8, all top-level village bureaucrats. The dependent variable is: in columns 1-4, a dummy variable equal to 1 if the bureaucrat reports interacting with citizens on a daily basis; in columns 5-8, the frequency of bureaucrat-citizen interactions measured on a 1-5 scale. See Section 4 for details.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table 4: Alignment with Citizens' Preferences

Officials/citizens agree on:	Investment priorities				Worst-quality services			
Bureaucrats:	All		Top		All		Top	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
New village head	0.060	0.112	0.023	-0.073	0.261***	0.403***	0.313***	0.311**
	(0.088)	(0.111)	(0.099)	(0.129)	(0.089)	(0.124)	(0.135)	(0.153)
Specification	Sharp	Fuzzy	Sharp	Fuzzy	Sharp	Fuzzy	Sharp	Fuzzy
Observations	2138	1788	1068	881	2138	1788	1068	881
Control mean	0.53	0.53	0.83	0.83	0.35	0.35	0.49	0.49
Robust p-value	0.35	0.18	0.54	0.71	0.00076	0.00021	0.0071	0.019
Bandwidth size (%)	16.9	16.9	20.3	17.3	15.5	16.0	14.2	17.7

Notes: This table reports RD estimates of γ in equation (1) obtained via the non-parametric method from Calonico et al. (2014). The sample includes: in columns 1-2 and 5-6, all village bureaucrats excluding the village head; in columns 3-4 and 7-8, all top-level village bureaucrats. In columns 1-4, the dependent variable is an indicator equal to 1 if the bureaucrat names as priority for future development spending a public service which village citizens identify as a top-3 priority. In columns 5-8, the dependent variable is an indicator equal to 1 if the bureaucrat names as priority for future development spending a service which citizens rank as a bottom-3 quality public service. See Section 4 for details.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table 5: Complaints Received from Citizens

Complaints received about:	Priority services				Worst-quality services			
Bureaucrats:	All		Top		All		Top	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
New village head	0.052	0.104*	0.111**	0.155**	0.107*	0.136	0.098	0.116
	(0.046)	(0.067)	(0.052)	(0.072)	(0.069)	(0.094)	(0.069)	(0.097)
Specification	Sharp	Fuzzy	Sharp	Fuzzy	Sharp	Fuzzy	Sharp	Fuzzy
Observations	2138	1788	1068	881	2138	1788	1068	881
Control mean	0.60	0.60	0.89	0.89	0.55	0.55	0.81	0.81
Robust p-value	0.17	0.077	0.014	0.014	0.077	0.11	0.14	0.20
Bandwidth size (%)	22.2	15.6	20.2	18.1	22.1	18.5	24.7	18.2

Notes: This table reports RD estimates of γ in equation (1) obtained via the non-parametric method from Calonico et al. (2014). The sample includes: in columns 1-2 and 5-6, all village bureaucrats excluding the village head; in columns 3-4 and 7-8, all top-level village bureaucrats. In columns 1-4, the dependent variable is an indicator equal to 1 if the bureaucrat reports receiving complaints about at least one public service the majority of village citizens identify as a top 3 priority. In columns 5-8, the dependent variable is an indicator equal to 1 if the bureaucrat reports receiving complaints about at least one public service the majority of village citizens believe is a bottom 3 quality public service. See Section 4 for details.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table 6: Effects on Public Goods Provision (2021 Administrative Data)

	Index		Water	Sewage	Garbage	Lighting	Kinderg.	Prim. Sch.	Polindes	Puskesmas	Paved road	P. transit
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
New village head	0.503*	0.688**	0.212	0.064	0.825*	0.472**	0.194	-0.159	-0.025	0.044	0.059	0.328
	(0.263)	(0.320)	(0.357)	(0.392)	(0.404)	(0.256)	(0.332)	(0.304)	(0.354)	(0.289)	(0.127)	(0.331)
Specification	Sharp	Fuzzy	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp
Observations	378	325	378	378	378	378	378	378	378	378	375	378
Control mean	0.23	0.23	0.15	0.14	-0.083	0.17	0.062	0.11	-0.099	-0.17	0.42	0.26
Robust p-value	0.053	0.027	0.45	1.00	0.079	0.046	0.41	0.53	0.70	0.96	0.59	0.23
Bandwidth size (%)	18.7	17.5	22.5	21.9	16.6	20.8	20.2	18.5	15.3	25.0	23.1	18.6

Notes: This table reports RD estimates of γ in equation (1) obtained via the non-parametric method from Calonico et al. (2014). In columns 1-2, the dependent variable is a standardized index of local service provision constructed using the 2021 *Podes* survey. We report sharp RD estimates in column 1 and fuzzy RD estimates in column 2. All remaining columns report sharp RD estimates on the individual index components. The index has the following 10 components: drinking water, sewage, garbage collection, street lighting, kindergartens, primary schools, village maternities (*polindes*), community health centers (*puskesmas*), paved roads, and public transit. We first standardize each individual component before taking the village-level average of all components. The sample includes all villages in our sample that conducted their last election before 2021.

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table 7: Dynamic Effects on Public Goods Provision

	2015-2017		**2018-2020**		2021-22 (placebo)	
	(1)	(2)	(3)	(4)	(5)	(6)
New village head	1.087**	0.967**	0.629*	0.904**	-0.379	-0.145
	(0.538)	(0.527)	(0.359)	(0.486)	(0.550)	(0.601)
Specification	Sharp	Fuzzy	Sharp	Fuzzy	Sharp	Fuzzy
Observations	122	110	256	215	134	117
Control mean	0.33	0.33	0.21	0.21	0.45	0.45
Robust p-value	0.028	0.038	0.054	0.032	0.58	0.89
Bandwidth size (%)	18.1	22.2	20.2	20.3	22.4	20.1

Notes: This table reports sharp RD estimates of γ in equation (1) in odd-numbered columns and fuzzy RD estimates in even-numbered columns. The dependent variable is the index of local public service provision constructed using the 2021 Podes data, identical to the one used in Table 6, column 1. We restrict the sample to villages that conducted their most recent election between 2015 and 2017 (columns 1-2) or between 2018 and 2020 (columns 3-4). In columns 5-6, we restrict the sample to villages that conducted their most recent election in 2021 or 2022, namely after data collection for the 2021 Podes survey. Thus, these regressions can be interpreted as placebo checks.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table 8: Effects on Public Goods Provision (Citizens' Perceptions)

	Access		**Quality**	
	(1)	(2)	(3)	(4)
New village head	0.074**	0.108**	0.208**	0.281***
	(0.043)	(0.050)	(0.102)	(0.119)
Specification	Sharp	Fuzzy	Sharp	Fuzzy
Observations	8848	7695	8846	7693
Control mean	0.79	0.79	-0.028	-0.028
Robust p-value	0.038	0.013	0.014	0.0058
Bandwidth size (%)	14.9	15.1	14.9	16.8

Notes: This table reports RD estimates of γ in equation (1) obtained via the non-parametric method from Calonico et al. (2014). In columns 1-2, the dependent variable is a standardized index of access to local services constructed using our survey data. In columns 3-4, the dependent variable is a standardized index of service quality. We report sharp RD estimates in odd-numbered columns and fuzzy RD estimates in even-numbered columns. The index has the following components: garbage collection, electricity, kindergartens, primary schools, community healthcare, water access, and paved roads. We first standardize each individual component before taking the village-level average of all components. * p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table 9: Citizen Attitudes Towards the Village Government

	Interactions with govt		Perceived govt quality		Trust in govt	
	(1)	(2)	(3)	(4)	(5)	(6)
New village head	0.177	0.097	-0.017	-0.017	0.027	0.101
	(0.159)	(0.196)	(0.142)	(0.192)	(0.126)	(0.165)
Specification	Sharp	Fuzzy	Sharp	Fuzzy	Sharp	Fuzzy
Observations	8815	7666	8790	7644	8789	7646
Control mean	-0.12	-0.12	-0.034	-0.034	-0.029	-0.029
Robust p-value	0.22	0.62	0.95	0.96	0.72	0.44
Bandwidth size (%)	17.1	13.9	17.7	13.2	17.5	14.0

Notes: This table reports RD estimates of γ in equation (1) obtained via the non-parametric method from Calonico et al. (2014). The sample includes all village citizens. The dependent variable is: in columns 1-2, a z-score of the frequency of interactions with village officials, as reported by citizens; in columns 3-4, a z-score of self-reported satisfaction with the village government; in columns 5-6, a z-score of self-reported trust in the village government; See Section 4 for details.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Appendix (For Online Publication)

List of Figures

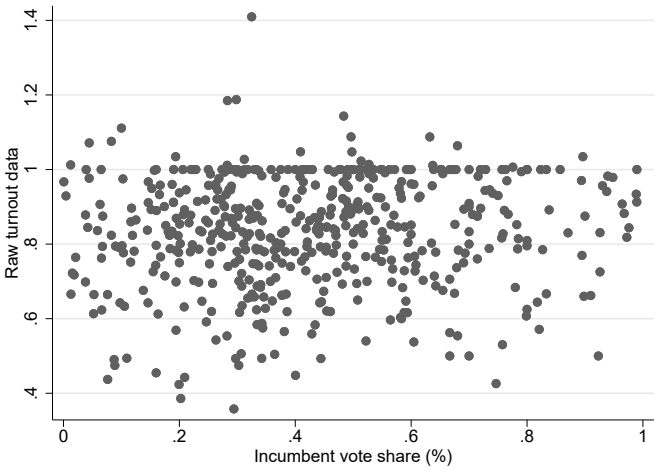
List of Tables

A Additional Results

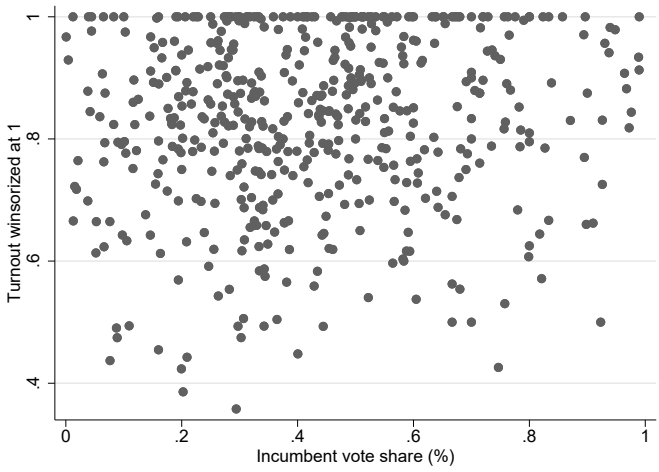
Figures

Figure A.1: Electoral Data Checks: Turnout

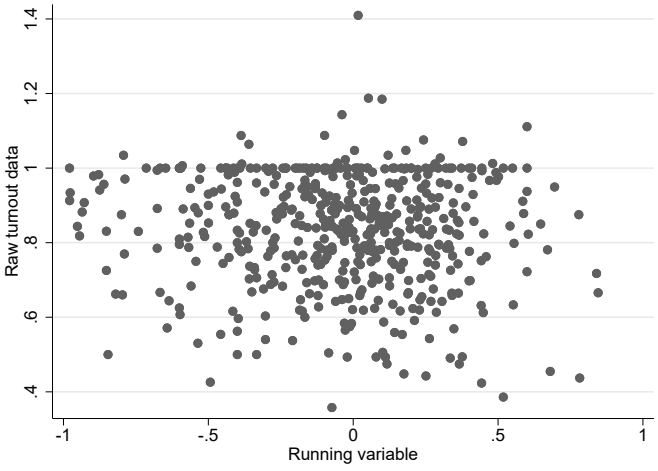
(a) Raw Turnout vs. incumbent vote



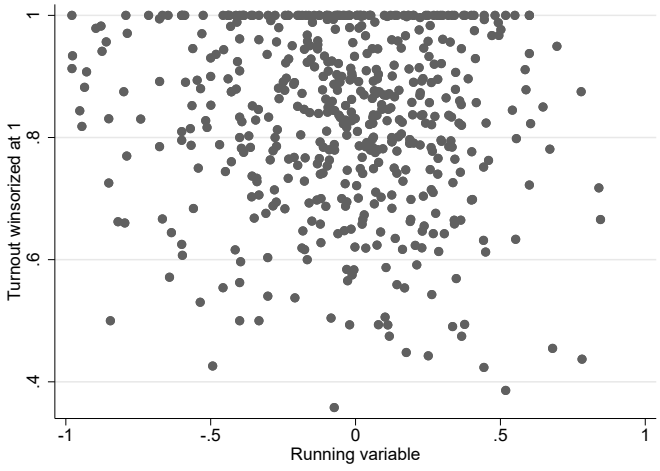
(b) Winsorized Turnout vs. incumbent vote



(c) Raw Turnout vs. running variable

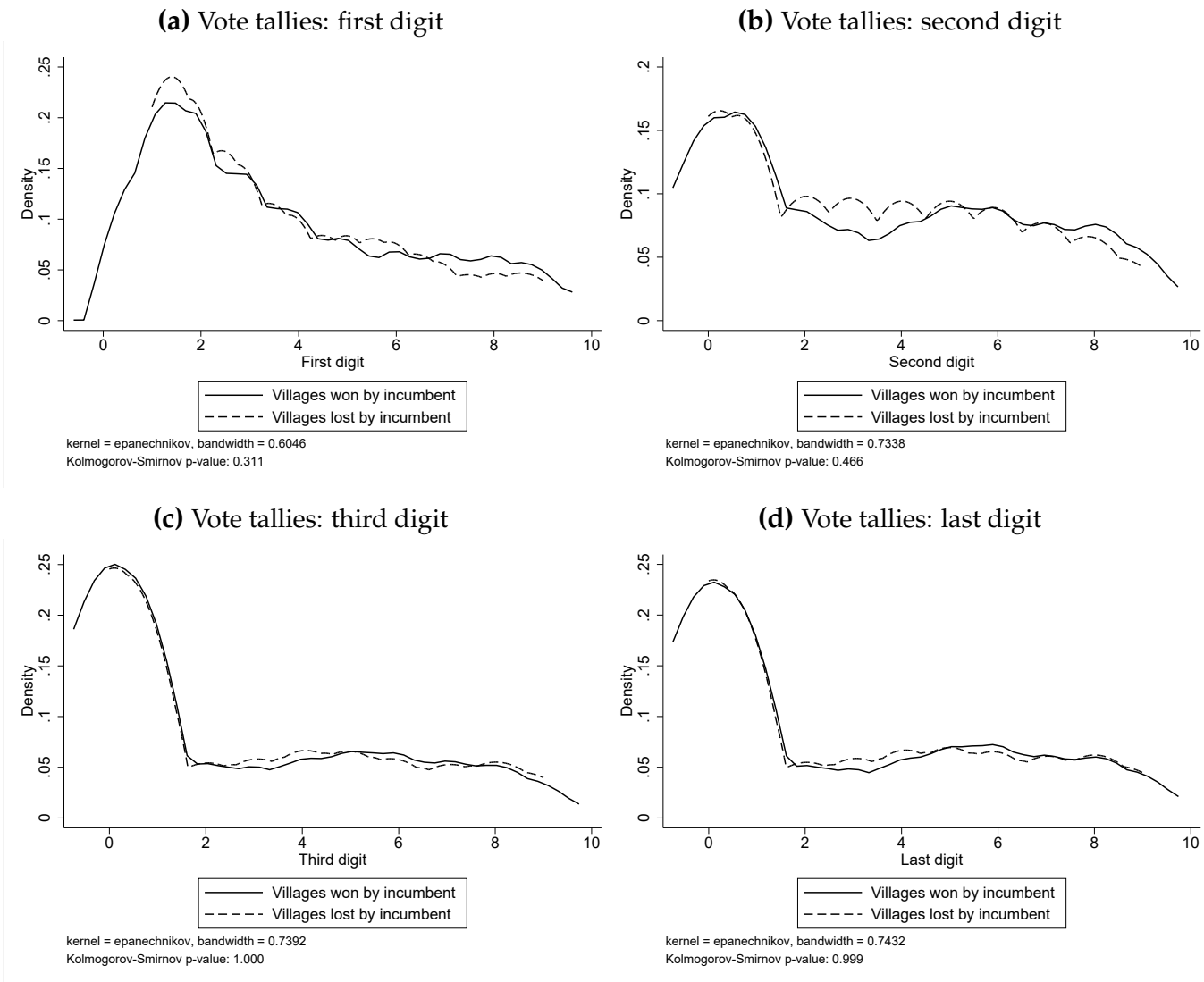


(d) Winsorized Turnout vs. running variable



Notes: Panels (a) and (b) plot raw turnout and turnout winsorized at 100% against the vote share of the incumbent candidate. Panels (c) and (d) plot raw turnout and turnout winsorized at 100% against our running variable in the RD analysis, namely the difference between the vote share of the highest-ranked challenger and the incumbent's vote share.

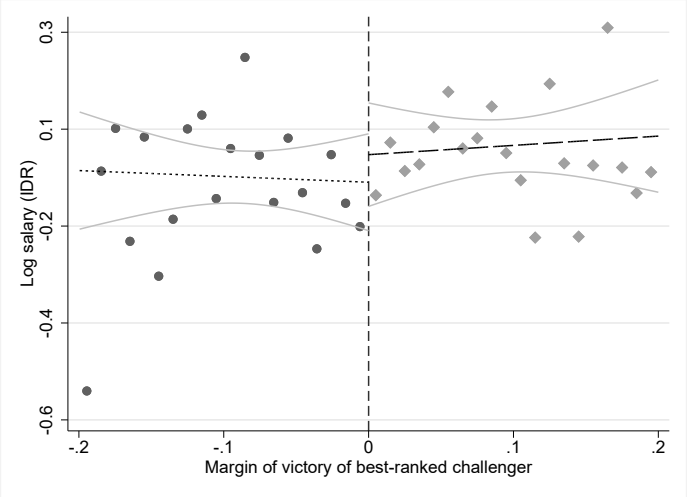
Figure A.2: Electoral Data Checks: Digit Distribution in Vote Tallies



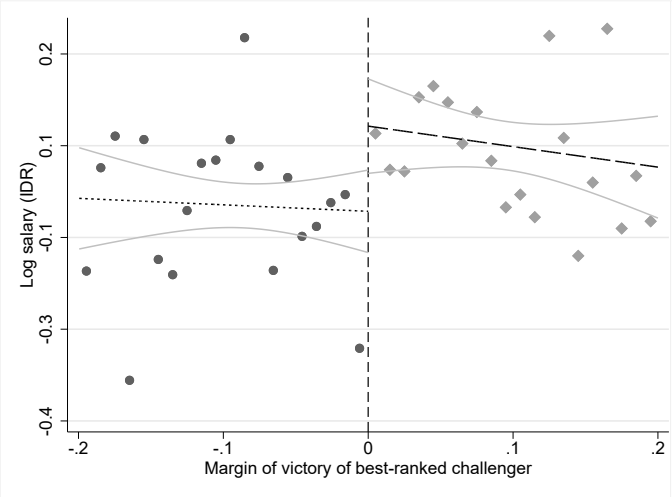
Notes: This figure plots the distribution of the first, second, third, and last digits of candidate vote tallies, separately for villages won and villages lost by the incumbent. At the bottom of each panel, we report the p-value from a Kolmogorov-Smirnov test of equality of distributions across the two types of villages.

Figure A.3: Effects on Salaries

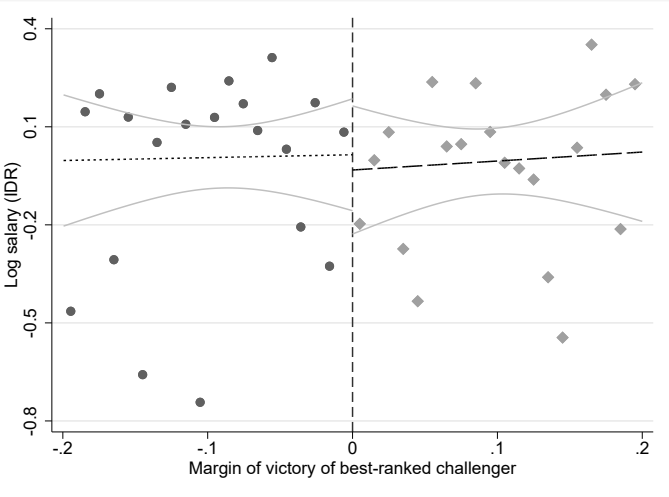
(a) All bureaucrats



(b) Top bureaucrats

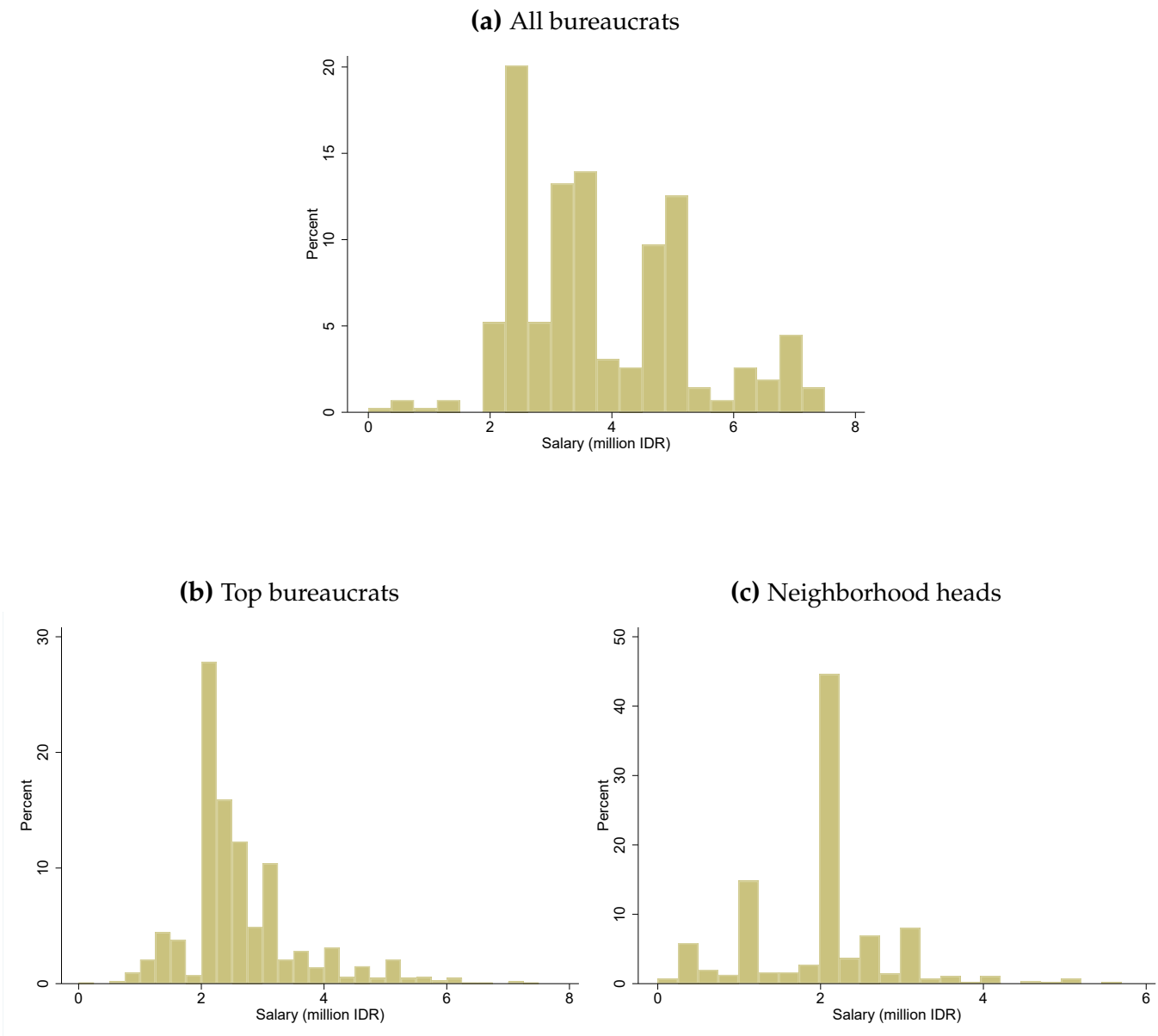


(c) Frontline bureaucrats



Notes: All figures look at log salary in IDR. The sample includes: in panels (a), all village bureaucrats excluding the village head; in panel (b), all top village bureaucrats (village secretaries, heads of affairs, and treasurers); in panel (c), all neighborhood or hamlet heads.

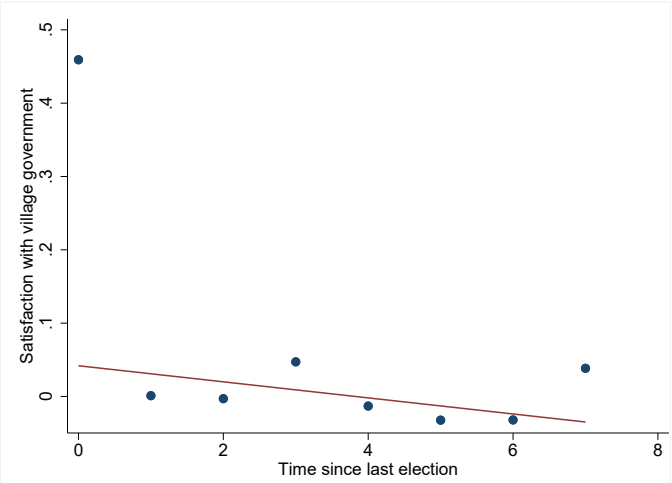
Figure A.4: Distribution of Bureaucrat Salaries



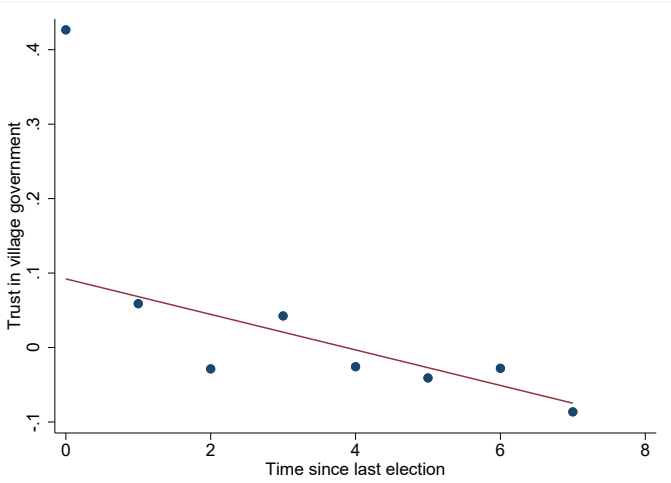
Notes: This figure plots of the distribution of reported salaries in million IDR for all bureaucrats employed in the village government (panel a), top bureaucrats (panel b), and neighborhood heads (panel c).

Figure A.5: Citizen Attitudes and Time Since Last Election

(a) Satisfaction



(b) Trust



Notes: Panel (a) reports a binscatter of citizen satisfaction with the village government as a function of the number of years since the last election. The slope of the regression line is -0.011 (se: 0.006). Panel (b) reports a binscatter of trust in the village government as a function of the number of years since the last election. The slope of the regression line is -0.024 (se: 0.006).

Tables

Table A.1: Balance Checks on Village Characteristics and Electoral Data

	Hamlets	HHs	Sumatra	Java	NTB-Bali	Kalimantan	Sulawesi	Reg. voters	Candidates	Turnout	Turnout≥1	Herfind.	Rounding
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
New village head	-0.631	-0.138	-0.056	-0.005	0.198*	0.059	-0.015	-507.302	-0.209	0.045	-0.002	0.000	-0.238
	(0.670)	(0.271)	(0.142)	(0.104)	(0.110)	(0.079)	(0.102)	(549.501)	(0.331)	(0.050)	(0.061)	(0.030)	(0.403)
Specification	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp
Observations	512	509	512	512	512	512	512	512	512	512	512	512	512
Control mean	4.67	6.47	0.31	0.15	0.16	0.076	0.17	2229.8	3.42	0.84	0.025	0.38	1.63
Robust p-value	0.28	0.60	0.67	0.80	0.053	0.42	0.93	0.37	0.49	0.23	0.93	0.92	0.46
Bandwidth size (%)	19.1	21.6	21.0	27.8	19.7	18.8	22.4	20.6	24.6	20.8	31.6	23.9	18.3

Notes: This table reports RD estimates of γ in equation (1) obtained via the non-parametric method from Calonico et al. (2014). The dependent variable is: in column 1, the number of neighborhoods/hamlets in the village; in column 2, the log number of households residing in the village; in columns 3-7, a dummy equal to 1 if the village is located on the island of Sumatra, Java, Nusa Tenggara Barat/Bali, Kalimantan, and Sulawesi, respectively; in column 8, the number of registered voters in the most recent village election; in column 9, the number of candidates; in column 10, voter turnout (votes cast divided by the number of registered voters); in column 11, a dummy equal to 1 if reported turnout was greater than 100% in the most recent election; in column 12, a Herfindahl index of candidate vote shares; in column 13, the number of candidates with a trailing zero in their vote tally.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.2: Balance Checks on Village Characteristics: Administrative Data

	Latitude	Longitude	Altitude	Coastal	Forest	Agric.	Rice	Corn	Rubber	Palm oil
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
New village head	0.665	0.204	106.126	-0.009	0.012	-0.045	0.149	-0.191**	-0.026	-0.003
	(0.729)	(2.970)	(161.419)	(0.073)	(0.089)	(0.078)	(0.135)	(0.083)	(0.060)	(0.008)
Specification	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp
Observations	512	512	512	512	512	512	512	512	512	512
Control mean	4.76	110.4	179.6	0.093	0.14	0.91	0.56	0.17	0.034	0.012
Robust p-value	0.32	0.96	0.38	0.98	0.95	0.54	0.30	0.015	0.73	0.54
Bandwidth size (%)	22.8	20.0	17.1	22.4	20.7	28.8	25.4	19.3	18.7	11.6

Notes: This table reports RD estimates of γ in equation (1) obtained via the non-parametric method from Calonico et al. (2014). The dependent variable is: in columns 1 through 3, the latitude, longitude, and altitude of the village, respectively; in columns 4 and 5, a dummy variable equal to 1 if the village is located in a coastal area or a forest area, respectively; in column 6, a dummy equal 1 if agriculture is the main economic activity in the village; and in columns 7 though 10, a dummy equal to 1 if rice, corn, rubber, or palm oil, respectively. All dependent variables are measured in the 2021 wave of the Podes survey.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.3: Effects on Bureaucrats' Demographic Characteristics

	Age		Years of education		Gender (female)	
	(1)	(2)	(3)	(4)	(5)	(6)
New village head	0.316	-1.237	-0.032	0.451	-0.064	-0.052
	(1.706)	(2.091)	(0.339)	(0.442)	(0.068)	(0.083)
Specification	Sharp	Fuzzy	Sharp	Fuzzy	Sharp	Fuzzy
Observations	2123	1776	2135	1785	2138	1788
Control mean	41.0	41.0	13.1	13.1	0.20	0.20
Robust p-value	0.62	0.63	0.93	0.17	0.23	0.43
Bandwidth size (%)	15.7	15.3	22.3	15.3	15.0	17.0

Notes: This table reports RD estimates of γ in equation (1) obtained via the non-parametric method from Calonico et al. (2014). The sample includes all village bureaucrats excluding the village head. The dependent variable is: in columns 1-2, the age of bureaucrats in years; in columns 3-4, years of education; in columns 5-6, a dummy equal to one for female bureaucrats. See Section 4 for details.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.4: Types of Bureaucratic Appointments

	All bureaucrats		Top bureaucrats		Neighborhood heads	
	(1)	(2)	(3)	(4)	(5)	(6)
New village head	-0.028	-0.100	-0.135	-0.266**	0.136	0.094
	(0.086)	(0.084)	(0.118)	(0.138)	(0.143)	(0.252)
Specification	Sharp	Fuzzy	Sharp	Fuzzy	Sharp	Fuzzy
Observations	2138	1788	1068	881	555	463
Control mean	0.24	0.24	0.49	0.49	0.32	0.32
Robust p-value	0.82	0.19	0.22	0.023	0.22	0.56
Bandwidth size (%)	17.6	22.3	19.5	18.7	16.5	26.0

Notes: This table reports RD estimates of γ in equation (1) obtained via the non-parametric method from Calonico et al. (2014). The dependent variable is a dummy equal to 1 if the bureaucrat reports having been appointed by the village head. The sample includes: in columns 1-2, all village bureaucrats excluding the village head; in columns 3-4, all top-level village bureaucrats; in columns 5-6, all neighborhood (*dusun*) heads. See Section 4 for details.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.5: Appointing Children of Previous Officials

Bureaucrats:	Parent was village head				Parent served in village govt			
	All		Top		All		Top	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
New village head	-0.018	-0.047	-0.066	-0.087*	-0.062	-0.150*	-0.168**	-0.395***
	(0.026)	(0.034)	(0.051)	(0.062)	(0.067)	(0.091)	(0.083)	(0.129)
Specification	Sharp	Fuzzy	Sharp	Fuzzy	Sharp	Fuzzy	Sharp	Fuzzy
Observations	2132	1782	1068	881	2132	1782	1068	881
Control mean	0.034	0.034	0.054	0.054	0.22	0.22	0.27	0.27
Robust p-value	0.40	0.10	0.11	0.086	0.33	0.075	0.034	0.00087
Bandwidth size (%)	21.2	21.1	17.4	22.5	20.5	16.1	22.2	17.1

Notes: This table reports RD estimates of γ in equation (1) obtained via the non-parametric method from Calonico et al. (2014). The dependent variable is a dummy equal to 1 if the bureaucrat reports having a parent who served as village head (columns 1-4) or a parent who served in the village government (columns 5-8). See Section 4 for details.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.6: Effects on Salaries

	Log salary (IDR)					
	All bureaucrats		Top bureaucrats		Hamlet heads	
	(1)	(2)	(3)	(4)	(5)	(6)
New village head	0.097	0.188*	0.153	0.234**	-0.016	0.082
	(0.099)	(0.112)	(0.117)	(0.106)	(0.175)	(0.355)
Specification	Sharp	Fuzzy	Sharp	Fuzzy	Sharp	Fuzzy
Observations	2112	1764	1061	874	547	457
Control mean	14.2	14.2	14.7	14.7	14.3	14.3
Robust p-value	0.26	0.064	0.14	0.018	0.92	0.68
Bandwidth size (%)	17.3	18.0	11.8	20.1	24.0	22.9

Notes: This table reports RD estimates of γ in equation (1) obtained via the non-parametric method from Calonico et al. (2014). The dependent variable is log salary in IDR. The sample includes: in columns 1-2, all village bureaucrats excluding the village head; in columns 3-4, all top-level village bureaucrats; in columns 5-6, all neighborhood or hamlet heads. See Section 4 for details.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.7: Correlates of Salaries

	Log salary (IDR)	
Bureaucrats:	All	Top
	(1)	(2)
Demographics		
Age	-0.011***	-0.000
	(0.001)	(0.002)
Education	-0.004	0.009
	(0.006)	(0.006)
Gender	0.007	0.025
	(0.028)	(0.025)
Experience	0.020***	0.005**
	(0.003)	(0.002)
Nepotism		
Parent served as head	-0.024	0.077
	(0.066)	(0.082)
Parent served in govt	0.033	0.013
	(0.030)	(0.028)
Attitudes & Effort		
Enthusiasm	0.022*	0.030**
	(0.012)	(0.012)
National ambition	0.042*	-0.001
	(0.023)	(0.023)
Citizen interactions	0.168***	0.075***
	(0.012)	(0.013)
Position		
Secretary	0.814***	
	(0.023)	
Head of affairs	0.578***	
	(0.020)	
Treasurer	0.072	
	(0.090)	
Specification	OLS	OLS
Observations	2086	1051
R-squared	0.462	0.117

Notes: This table reports correlates of bureaucrat salaries (measured log IDR) estimates via OLS. All regressions include election year dummies and standard errors are clustered by village.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.8: Morale of Neighborhood Heads

	Enthusiasm		Motivation		Ambition	
	(1)	(2)	(3)	(4)	(5)	(6)
New village head	-0.261	-0.278	-20.642**	-22.856*	0.170	0.154
	(0.234)	(0.323)	(10.013)	(16.155)	(0.126)	(0.191)
Specification	Sharp	Fuzzy	Sharp	Fuzzy	Sharp	Fuzzy
Observations	551	456	544	450	555	460
Control mean	-0.13	-0.13	103	103	0.47	0.47
Robust p-value	0.22	0.31	0.020	0.091	0.10	0.31
Bandwidth size (%)	24.8	17.4	17.5	16.4	22.2	19.3

Notes: This table reports RD estimates of γ in equation (1) obtained via the non-parametric method from Calonico et al. (2014). The sample includes all neighborhood (*dusun*) heads. The dependent variables are identical to those in Table 2.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.9: Effects on Self-Reported Bureaucratic Knowledge

	Training		Village Law		Knowledge index	
	(1)	(2)	(3)	(4)	(5)	(6)
New village head	0.010	0.047	0.041	0.021	0.108	0.247**
	(0.082)	(0.117)	(0.081)	(0.090)	(0.105)	(0.124)
Specification	Sharp	Fuzzy	Sharp	Fuzzy	Sharp	Fuzzy
Observations	2131	1781	2124	1774	2125	1775
Control mean	0.48	0.48	0.61	0.61	-0.044	-0.044
Robust p-value	0.96	0.65	0.65	0.73	0.19	0.027
Bandwidth size (%)	22.9	16.5	20.9	19.4	21.5	20.8

Notes: This table reports RD estimates of γ in equation (1) obtained via the non-parametric method from Calonico et al. (2014). The sample includes all village bureaucrats excluding the village head. The dependent variable is: in columns 1-2, a dummy equal to 1 if the bureaucrat received any training in the past 12 months; in columns 3-4, a dummy equal to 1 if the bureaucrat reports being informed about Village Law regulations; in columns 5-6, a standardized index of self-reported knowledge across 5 topics: development management & accountability, financial management, village regulations, drafting development plans, and the Village Law. See Section 4 for details.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.10: Robustness Checks on Bureaucrat Outcomes: No Controls

	Enthusiasm		Ambition		Interactions		Complaints (1)		Complaints (2)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
New village head	0.202*	0.343**	0.098*	0.080	0.209	0.434**	0.128**	0.131***	0.153**	0.109*
	(0.134)	(0.155)	(0.058)	(0.109)	(0.167)	(0.211)	(0.065)	(0.053)	(0.069)	(0.069)
Specification	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp
Observations	2123	1065	2986	1068	2122	1065	2986	1068	2986	1068
Control mean	-0.085	-0.085	0.31	0.31	4.00	4.00	0.60	0.60	0.55	0.55
Robust p-value	0.095	0.020	0.051	0.41	0.15	0.023	0.032	0.0054	0.013	0.097
Bandwidth size (%)	28.6	27.4	27.0	21.8	19.3	18.0	27.6	21.8	27.2	26.4

Notes: This table reports sharp RD estimates of γ in equation (1). In these specifications, we remove election year dummies and our control for the survey experiment treatment, which are included in our baseline estimation. The dependent variables are identical to those in Tables 2 through 5.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.11: Robustness Checks on Bureaucrat Outcomes: 3rd-Degree Polynomial

	Enthusiasm		Ambition		Interactions		Complaints (1)		Complaints (2)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
New village head	0.350*	0.706***	0.438***	0.359**	0.296	0.611**	0.064	0.152*	0.113	0.137
	(0.200)	(0.236)	(0.131)	(0.172)	(0.229)	(0.260)	(0.079)	(0.086)	(0.114)	(0.107)
Specification	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp
Observations	2123	1065	2138	1068	2122	1065	2138	1068	2138	1068
Control mean	-0.085	-0.085	0.31	0.31	4.00	4.00	0.60	0.60	0.55	0.55
Robust p-value	0.065	0.0016	0.00044	0.028	0.15	0.016	0.43	0.075	0.30	0.16
Bandwidth size (%)	40.0	34.1	23.6	24.5	28.9	32.2	29.8	28.6	30.1	28.1

Notes: This table reports sharp RD estimates of γ in equation (1) using a 3rd-degree polynomial to construct the point estimator. The dependent variables are identical to those in Tables 2 through 5.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.12: Robustness Checks on Bureaucrat Outcomes: Half the MSE-Optimal Bandwidth

	Enthusiasm		Ambition		Interactions		Complaints (1)		Complaints (2)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
New village head	0.264	0.539**	0.275***	0.291*	0.169	0.495	0.061	0.114	0.099	0.097
	(0.214)	(0.287)	(0.118)	(0.172)	(0.249)	(0.297)	(0.093)	(0.098)	(0.132)	(0.105)
Specification	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp
Observations	2123	1065	2138	1068	2122	1065	2138	1068	2138	1068
Control mean	-0.085	-0.085	0.31	0.31	4.00	4.00	0.60	0.60	0.55	0.55
Robust p-value	0.25	0.016	0.00077	0.064	0.18	0.23	0.40	0.10	0.19	0.21
Bandwidth size (%)	14.4	10.4	12.9	10.9	10.2	8.91	11.1	10.1	11.0	12.4

Notes: This table reports sharp RD estimates of γ in equation (1) using a RD bandwidth twice smaller than the MSE-optimal bandwidth from Calonico et al. (2014). The dependent variables are identical to those in Tables 2 through 5.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.13: Robustness Checks on Bureaucrat Outcomes: Twice the MSE-Optimal Bandwidth

	Enthusiasm		Ambition		Interactions		Complaints (1)		Complaints (2)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
New village head	0.161	0.317***	0.062*	0.075	0.152	0.350***	0.038	0.089***	0.080**	0.111*
	(0.122)	(0.156)	(0.066)	(0.094)	(0.139)	(0.176)	(0.041)	(0.049)	(0.062)	(0.063)
Specification	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp
Observations	2123	1065	2138	1068	2122	1065	2138	1068	2138	1068
Control mean	-0.085	-0.085	0.31	0.31	4.00	4.00	0.60	0.60	0.55	0.55
Robust p-value	0.19	0.0066	0.051	0.33	0.38	0.0086	0.11	0.0081	0.035	0.075
Bandwidth size (%)	57.5	41.5	51.6	43.8	40.8	35.6	44.5	40.4	44.2	49.5

Notes: This table reports sharp RD estimates of γ in equation (1) using a RD bandwidth twice larger than the MSE-optimal bandwidth from Calonico et al. (2014). The dependent variables are identical to those in Tables 2 through 5.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.14: Balance on 2014 Public Goods Provision

	Index		Water	Sewage	Lighting	Kinderg.	Prim. Sch.	Puskesmas	Paved road	Public transit
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
New village head	-0.058	0.015	-0.371	0.509	0.154	-0.298	-0.240	0.275	0.199	-0.448
	(0.419)	(0.712)	(0.388)	(0.439)	(0.320)	(0.232)	(0.528)	(0.360)	(0.313)	(0.380)
Specification	Sharp	Fuzzy	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp
Observations	375	322	375	375	375	375	375	375	373	375
Control mean	0.018	0.018	-0.045	0.014	0.0039	0.18	0.079	-0.079	-0.18	0.12
Robust p-value	0.82	0.97	0.19	0.14	0.60	0.24	0.48	0.38	0.50	0.19
Bandwidth size (%)	19.0	20.2	17.0	18.1	27.1	22.0	17.5	18.3	29.7	18.3

Notes: This table reports balance checks on public services measured in the 2014 wave of *Podes*. All dependent variables are identical to those examined in Table 6, with the exception of garbage collection and *polindes* (village maternities) which were not collected in 2014. * p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.15: Effects on Citizens' Perceptions of Service Provision: Index Components

	Garbage		Electricity		Kindergarten		Schools		Health		Water		Roads	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
New village head	0.192**	0.364**	0.025	0.164	0.008	0.047	0.010	0.037	0.030	0.158	0.036	0.057	0.149**	0.351**
	(0.094)	(0.171)	(0.026)	(0.136)	(0.072)	(0.145)	(0.076)	(0.182)	(0.050)	(0.151)	(0.102)	(0.211)	(0.077)	(0.186)
Specification	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp
Observations	8783	8817	8839	8837	8828	8741	8834	8794	8833	8798	8797	8771	8842	8836
Control mean	0.37	-0.16	0.99	-0.058	0.79	-0.016	0.76	-0.043	0.92	-0.023	0.72	0.027	0.91	0.073
Robust p-value	0.026	0.022	0.25	0.12	0.84	0.63	0.84	0.73	0.38	0.16	0.62	0.63	0.018	0.021
Bandwidth size (%)	25.0	26.5	27.7	23.9	24.7	29.0	24.9	20.6	19.4	18.5	17.4	16.0	12.4	13.3

Notes: This table reports sharp RD estimates on the individual components of the index of service quality used in Table 8. Odd-numbered columns report effects on perceived access and even-numbered columns report effects on perceived quality. * p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.16: Effects on Public Goods Provision: Fuzzy RD Results

	Index	Water	Sewage	Garbage	Lighting	Kindergarten	Prim. Sch.	Polindes	Puskesmas	Asphalt road	Public transit
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
New village head	0.688**	0.211	-0.100	0.703	0.590**	0.306	-0.025	-0.082	0.270	0.187	0.200
	(0.320)	(0.428)	(0.516)	(0.514)	(0.324)	(0.415)	(0.372)	(0.418)	(0.347)	(0.174)	(0.468)
Specification	Fuzzy	Fuzzy	Fuzzy	Fuzzy	Fuzzy	Fuzzy	Fuzzy	Fuzzy	Fuzzy	Fuzzy	Fuzzy
Observations	325	325	325	325	325	325	325	325	325	322	325
Control mean	0.23	0.15	0.14	-0.083	0.17	0.062	0.11	-0.099	-0.17	0.42	0.26
Robust p-value	0.027	0.47	0.67	0.21	0.046	0.31	0.97	0.70	0.46	0.22	0.68
Bandwidth size (%)	17.5	23.3	19.5	15.7	21.4	20.9	19.3	22.7	22.5	22.1	15.9

Notes: This table reports fuzzy RD estimates of γ in equation (1) obtained via the non-parametric method from Calonico et al. (2014). All dependent variables are identical to those examined in Table 6. * p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.17: Robustness Checks on Public Goods Provision: No Controls

	Index	Water	Sewage	Garbage	Lighting	Kindergarten	Prim. Sch.	Polindes	Puskesmas	Asphalt road	Public transit
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
New village head	0.682***	0.423	0.047	0.827**	0.506**	0.268	0.189	-0.008	0.133	0.034	0.233
	(0.276)	(0.380)	(0.404)	(0.385)	(0.266)	(0.285)	(0.324)	(0.346)	(0.278)	(0.132)	(0.334)
Specification	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp
Observations	378	378	378	378	378	378	378	378	378	375	378
Control mean	0.23	0.15	0.14	-0.11	0.14	0.058	0.12	-0.11	-0.20	0.40	0.25
Robust p-value	0.0077	0.17	0.95	0.046	0.031	0.22	0.48	0.74	0.77	0.69	0.39
Bandwidth size (%)	19.9	21.9	21.8	17.8	22.7	26.2	19.6	18.3	27.5	26.2	18.4

Notes: This table reports RD estimates of γ in equation (1) obtained after removing election year dummies. All dependent variables are identical to those examined in Table 6. * p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.18: Robustness Checks on Public Goods Provision: 3rd Degree Polynomial

	Index	Water	Sewage	Garbage	Lighting	Kindergarten	Prim. Sch.	Polindes	Puskesmas	Asphalt road	Public transit
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
New village head	0.282	0.719	-0.405	0.061	0.589*	0.720	-0.254	-0.382	-0.285	0.065	0.211
	(0.407)	(0.572)	(0.652)	(0.587)	(0.343)	(0.599)	(0.472)	(0.418)	(0.505)	(0.116)	(0.487)
Specification	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp
Observations	378	378	378	378	378	378	378	378	378	375	378
Control mean	0.29	0.10	0.22	-0.091	0.21	0.093	0.16	0.051	-0.13	0.42	0.25
Robust p-value	0.57	0.15	0.43	0.95	0.064	0.18	0.51	0.30	0.52	0.54	0.80
Bandwidth size (%)	27.8	30.9	30.7	25.3	39.1	34.7	28.5	35.4	31.8	30.9	31.0

Notes: This table reports RD estimates of γ in equation (1) using a 3rd-degree polynomial to construct the point estimator. All dependent variables are identical to those examined in Table 6. * p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.19: Robustness Checks on Public Goods Provision: Half the MSE-Optimal Bandwidth

	Index	Water	Sewage	Garbage	Lighting	Kindergarten	Prim. Sch.	Polindes	Puskesmas	Asphalt road	Public transit
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
New village head	0.293	0.335	-0.226	0.359	0.610*	0.811	-0.379	-0.272	-0.177	0.038	0.211
	(0.477)	(0.642)	(0.820)	(0.717)	(0.423)	(0.879)	(0.560)	(0.663)	(0.561)	(0.175)	(0.487)
Specification	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp
Observations	378	378	378	378	378	378	378	378	378	375	378
Control mean	0.23	0.15	0.14	-0.083	0.17	0.062	0.11	-0.099	-0.17	0.42	0.25
Robust p-value	0.58	0.66	0.74	0.49	0.060	0.25	0.52	0.15	0.58	0.87	0.80
Bandwidth size (%)	9.37	11.2	11.0	8.30	10.4	10.1	9.26	7.65	12.5	11.6	31.0

Notes: This table reports RD estimates of γ in equation (1) using a RD bandwidth twice smaller than the MSE-optimal bandwidth from Calonico et al. (2014). All dependent variables are identical to those examined in Table 6. * p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.20: Robustness Checks on Public Goods Provision: Twice the MSE-Optimal Bandwidth

	Index	Water	Sewage	Garbage	Lighting	Kindergarten	Prim. Sch.	Polindes	Puskesmas	Asphalt road	Public transit
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
New village head	0.458**	0.100	0.137	0.943**	0.334**	0.009	-0.040	0.171	0.191	-0.018	0.211
	(0.235)	(0.320)	(0.352)	(0.367)	(0.232)	(0.297)	(0.276)	(0.332)	(0.264)	(0.132)	(0.487)
Specification	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp	Sharp
Observations	378	378	378	378	378	378	378	378	378	375	378
Control mean	0.23	0.15	0.14	-0.083	0.17	0.062	0.11	-0.099	-0.17	0.42	0.25
Robust p-value	0.021	0.36	0.79	0.015	0.046	0.39	1.00	0.78	0.73	0.85	0.80
Bandwidth size (%)	37.5	45.0	43.9	33.2	41.6	40.4	37.0	30.6	50.1	46.3	31.0

Notes: This table reports RD estimates of γ in equation (1) using a RD bandwidth twice larger than the MSE-optimal bandwidth from Calonico et al. (2014). All dependent variables are identical to those examined in Table 6. * p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

B Data Appendix: Details on Survey Design

We conducted a survey of village officials and citizens in Indonesia between March and August 2022, in partnership with the Indonesian Ministry of Home Affairs (MoHA) and the World Bank. The survey took place in 852 villages spread across 23 districts in 17 provinces. The primary targets were active village officials as well as 8 to 12 adult citizens residing in the same villages. The survey aimed to gain a better understanding of village governance and to provide a new window into the level of village development as perceived by both officials and citizens. As a result of the restrictions associated with the Covid-19 pandemic, we conducted all surveys over the phone. Below, we describe the sampling procedures we used to select villages, village officials, and citizens.

B.1 Sampling of villages

We constructed a large representative sample of villages spanning each of Indonesia's major islands. Since the survey was designed as the baseline of a future digital training intervention, this sample was restricted to districts with relatively high internet coverage. We first randomly selected districts after stratifying by region, and then randomly selected a fixed proportion of villages within each district.

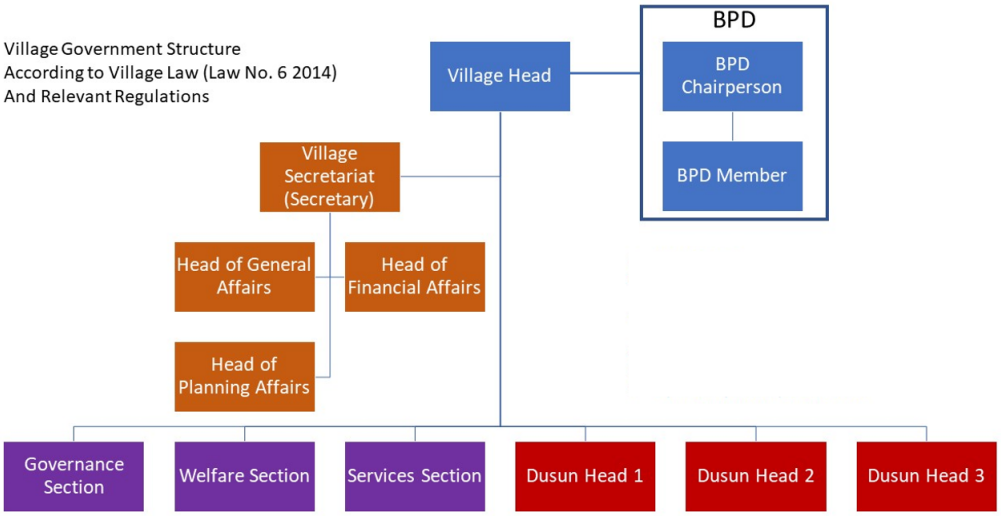
Our initial goal was to recruit a sample of 1,000 villages from a set of eligible villages in 20 districts. Given surveys were conducted over the phone, we expected a low consent rate. We thus sampled from a pool of around 1,700 villages across 20 districts and later added another 3 districts in order to reach a final target sample of 1,000 villages. Among these, we were able to administer the survey in 852 villages spread across the islands of Sumatra, Java, Bali and Nusa Tenggara (NT), Kalimantan, and Sulawesi.

Contact details for village heads and BPD chairpersons were obtained directly from MoHA. We started data collection by conducting a listing process to verify these phone numbers, obtaining village heads' consent. If a village was successfully listed, the survey team would proceed to interviews of village officials. We then marked the village as a "completed listing" once it had been confirmed that the village head phone number could be called and had consented to be interviewed. This listing process resulted in a total of 865 villages the final sample, consisting of 856 completed listing villages, 8 partially completed listing villages, and 1 incomplete listing villages. Of these 865 villages, 852 villages were marked as "completed interviews", meaning we successfully completed the target number of interviews with village officials and citizens.

B.2 Sampling of village officials

In each village, we aimed to conduct interviews with the village head (*kepala desa*), the village secretary (*secretaris desa*), the BPD chairperson (*ketua BPD*), one randomly selected member of the village bureaucracy, one randomly selected neighborhood/hamlet head (*kepala dusun*), and one randomy selected BPD member (*anggota BPD*). Phone numbers of village officials were obtained from the village heads themselves, or alternatively from the BPD chairperson if the village head could not be reached. Our sample size reached a total of 5,125 village officials, including 732 village heads, 850 BPD chairpersons, and 3,541 other village officials.

Figure B.1: Composition of Village Governments



B.3 Sampling of citizens

We sampled citizens using a snowball procedure in which respondents were asked to provide three contact persons whose name began with a randomly drawn letter of the alphabet. This procedure started with the village heads and BPD chairpersons and continued with citizen respondents until we reached the target sample size (8 to 12 citizens) in each village. The random selection of a letter of the alphabet was designed to impose some constraints on the selection of potential respondents by the village officials. The figure below provides the corresponding section of our questionnaire. This processed allowed us to interview 14,378 citizens across the 852 villages in our sample.

Figure B.2: Sampling of Citizens through Randomly Drawn Alphabet Letters

H. PHONE NUMBER COLLECTION

ENUMERATOR: PLEASE REPEAT THE FOLLOWING PROCESS **TWO TIMES.** ONLY ASK FOR THE PHONE NUMBER OF PEOPLE AGED 18 YEARS OR OLDER.

1. I am going to tell you a letter: [XXX randomized according to census prevalence XXX]. Now, please look into the contact list on your phone.

D1a.	Is there anyone **living in your village** whose name starts with [XXX]?	1. Yes, name: _____ 3. No ➔ PROCEED TO NEXT RANDOMIZED LETTER 7. REFUSE TO ANSWER ➔ PROCEED TO NEXT RANDOMIZED LETTER
D1b.	Are you willing to share the contact number of this person?	1. Yes 3. No ➔ D2a
D1c.	What is the phone number of this person?	|_|_|_|_| - |_|_|_|_|_|_|_|_|