It Takes a Village Election: Turnover and Performance in Local Bureaucracies*

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Abstract

In many countries, local governments struggle with inefficiency and corruption, often perpetuated by entrenched elites. This paper explores how leadership changes affect bureaucratic performance at the local level. Combining detailed personnel surveys with a regression discontinuity design in a large sample of Indonesian villages, we show that turnovers in village elections revitalize local bureaucracies, disrupt nepotistic networks, and improve local government performance. Bureaucrats under new leadership become more engaged, receive higher pay, and are less likely to be tied to past or present village officials, resulting in a more responsive bureaucracy that interacts more frequently with citizens and better understands their needs. This leads to higher levels of public service provision, measured in both administrative data and surveys conducted with citizens. Together, these findings suggest that leadership changes can mitigate elite capture and improve governance at the grassroots level.

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1 Introduction

In decentralized democracies, citizens can periodically replace their local leaders through competitive elections. Officials elected at this level typically oversee a small bureaucracy responsible for directly engaging with citizens and delivering services and policies aligned with their preferences. Oftentimes, these local leaders and bureaucracies have much discretion in terms of how to perform these missions. While effective bureaucracies are key ingredients of state effectiveness (Finan et al., 2017; Besley et al., 2022), there is less evidence on the consequences of turnover for bureaucratic performance in highly localized administrations, such as villages, municipalities, or district councils.

There are countervailing forces by which turnover might shape local governance. Recent work highlights the disruptions associated with bureaucratic turnover caused by elections (Akhtari et al., 2022; Toral, 2023). Others have studied the trade-offs between merit-based and discretionary appointments in bureaucracies (Colonnelli et al., 2020; Moreira and Pérez, 2021; Xu, 2018). This work suggests that turnover can cause instability, distort incentives, and undermine performance. At the same time, overly rigid bureaucracies might develop a "business as usual" culture, face organizational inertia, and struggle to attract new talent. These forces may be particularly salient in local administrations, where the pool of qualified bureaucrats is small and leaders face few checks and balances on their power, making such administrations prone to elite capture. In this case, turnover induced by elections could disrupt existing patronage networks and improve the quality of governance.

In this paper, we study how electoral turnovers affect bureaucratic performance in local administrative units. We explore this question in the context of village governments in Indonesia, where village heads are elected every six years and have substantial agency in the management of village affairs. At such a local level, little is known about the impacts of new leadership on bureaucratic performance. While most bureaucrats have tenured positions, elected village heads have some discretion to reorganize the village government. They can also bring new momentum to enhance the morale and effort of local administrators. Elected local governments provide an ideal setting to study the determinants of bureaucratic performance, 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 that we conducted in 2022 with village heads, bureaucrats, and citizens in 852 villages spanning 17 provinces across the archipelago. We designed this survey to collect rich data on bureaucrats' characteristics 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, which was last conducted in 2021. Together, these data allow us to jointly study what citizens want, what bureaucrats know about these preferences and how they act upon them, and how citizens perceive their village government's performance. 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. Since village elections are

non-political in Indonesia, incumbency is a key feature of competing candidates in this context.[1] 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- and individual-level outcomes. We additionally exploit variation from the staggered timing of village elections to estimate the dynamic effects of leader turnover. 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 predetermined village characteristics.

Several mechanisms could shape the relationship between turnover in village elections and local bureaucratic performance. First, while the overall composition of village governments is set by law in Indonesia, newly elected village leaders have some discretion to reshuffle the village administration by reallocating individuals across positions. They may also encourage some officials to step down in order to appoint other officials in their place. Dismissals of previous employees could result in a loss of experience and adversely affect performance, but the net effect of this bureaucratic turnover also depends on whether the characteristics of new employees—including their embeddedness in long-established patronage networks—are conducive to better performance. Second, holding bureaucratic composition and selection constant, new leaders could reshape the functioning of the bureaucracy, implement new management methods, and improve governance, broadly defined. If new leaders face stronger incentives to perform, for example because their reputation concerns are more powerful than those of reelected incumbents, this could trickle down the village bureaucracy and also affect organizational performance.

We first characterize the different types of bureaucratic reshuffling triggered by electoral turnover. We show that newly elected leaders appoint more new officials, engage in more promotions and demotions of existing staff, and set higher salaries. Strikingly, while the officials appointed by these new leaders are not markedly different along several observable characteristics, the share of officials embedded in nepotistic networks decreases after a turnover: 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. To the extent that nepotism undermines the quality of governance, this constitutes a major benefit of electoral transitions in this context.

We then show how election-induced leadership changes influence the morale of village officials and the effort they exert. Perhaps as a result of the higher salaries we observe after a turnover, bureaucrats serving in villages that recently experienced a turnover report substantially greater enthusiasm and motivation about their work. In turn, turnovers increase one key measure of effort and accountability: the frequency of their interactions with village citizens. Bureaucrats serving under new leaders are more likely to interact daily with their constituents, and they report a greater frequency of interactions with citizens overall. This allows village officials to gain a better understanding of citizens' preferences. Indeed, the same bureaucrats are more likely (i) to report receiving complaints about public services that citizens surveyed in the same villages considered priorities for future development projects, and (ii) to identify correctly the public services which citizens perceive to be of lower quality in their village.

[1] Candidates for the position of village head are legally prohibited from having political party affiliations.

Having established these changes in bureaucrat behavior, we proceed to estimating the impacts of electoral turnovers on the performance of the village administration in terms of public service provision. Consistent with greater effort and morale in the village bureaucracy, as well as improved knowledge about citizens' grievances and priorities, electoral turnovers improve the quality of public goods provision measured in administrative data. Restricting to villages that held their election before 2021 (the most recent year in which administrative data on service provision was collected), we find a large increase in a standardized index of service provision of around 0.5 standard deviations. This effect is driven by locally managed services 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 time to materialize, perhaps because these effects must offset some of the short-run disruptions engendered by the bureaucratic turnover that we observe (as in Akhtari et al., 2022).

Importantly, the citizens we surveyed also report improved perceptions of service access and public service quality in their village after an electoral turnover. However, they do not report higher levels of satisfaction with or trust in their village government. 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 as argued in other work (Cruz and Schneider, 2017; Guiteras and Mobarak, 2015; Khan et al., 2021).

In the last section of the paper, we provide evidence suggesting that reduced nepotism contributes to the positive effects of turnover on bureaucratic performance. First, turnovers improve service provision only in villages where the current village head does not have a relative employed in the village government. Second, comparing villages with and without nepotistic appointees remaining in place from the previous administration, we show that turnovers have a greater impact on bureaucrats' morale and engagement in the latter type of villages. We interpret this as suggestive evidence that the newly elected village heads who successfully disrupt existing nepotistic networks by removing connected appointees are those who achieve the most substantial improvements in bureaucratic performance. While challengers may not be intrinsically less prone to appointing friends and relatives in the bureaucracy, our results suggest that electoral turnover can disrupt the complex processes involved with building and maintaining nepotistic networks. These disruptions, in turn, may be conducive to more meritocracy and improved governance in the short and medium run.

Our paper provides novel evidence on the impacts of leadership turnover on bureaucratic performance in local administrative units. The seminal study by Akhtari et al. (2022) shows negative effects of bureaucratic turnover in the education sector in Brazilian municipalities. In a different setting, we show that turnover may improve performance if it disrupts nepotistic networks maintained by local elites, thereby allowing more responsive bureaucracies to emerge in the medium run. There is widespread evidence that nepotistic practices undermine good governance and public goods provision in Indonesia (Olken, 2007; Berenschot et al., 2021; World Bank, 2023) and beyond. Riaño (2023) and Cardoso et al. (2023) provide recent evidence from Colombia and Brazil, respectively. In related work, George (2024) describes the negative impacts of family dynasties on local economic development in India; Aspinall and

As'ad (2016) and Kenawas (2023) provide complementary evidence for Indonesia. Given the pervasive nature of bureaucratic nepotism in many countries, our findings on the role electoral turnover can play in disrupting nepotistic networks may generalize to other settings.

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 world, in linking citizen demands with frontline politicians and service providers. Prior work has explored 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 research highlights the key role played by non-elected bureaucrats (Gulzar and Pasquale, 2017), 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 highlights the importance of information about citizens' preferences as a driver of policy performance, and Bhavnani and Lee (2018), who show that the presence of accountability mechanisms shapes the performance of locally embedded bureaucrats.

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, with a few exceptions (Muñoz and Prem, 2021; Rasul and Rogger, 2018). In the political economy literature, our findings align with Bertrand et al. (2019), who document the superior performance of bureaucrats with greater career prospects in India, Dal Bó and Rossi (2011) who show that politicians with a longer time horizon exert greater effort in Argentina, and Marx et al. (2022), who estimate positive impacts of electoral turnover on country performance in a global sample of national elections.

Finally, our paper speaks to previous work on meritocracy in bureaucracies. 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 disrupting nepotistic networks, and in doing so, by inducing higher effort inside the bureaucracy and fostering more interactions between bureaucrats and citizens.

The rest of the paper is organized 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, while Section 5 discusses potential mechanisms and alternative interpretations. Section 6 concludes.

2 Background: Village Governance and Elections

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% in 2019 or early 2020, and the remainder 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 annual 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 for approval to the district government.

The vast majority (95%) of village heads in our data are male. The average village head 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. The average village head reported having served for 5.2 years.

Composition of Village Governments. Village heads appoint the members of the village government or apparatus (*aparatur desa*), which consist of four main positions: a village secretary and three heads of affairs respectively responsible for general matters, finances, and planning (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. Legally, they can only leave their post in specific circumstances, including death, resignation, retirement, and criminal convictions. In our sample, these officials 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 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.

In addition to the village secretariat, the village governance structure also includes the chairperson of village representative bodies (BPD) and BPD members, as well as local leaders of hamlets or neighborhoods (*dusun*). While our analysis primarily focuses on the main officials in the village government (village secretaries and heads of affairs for general, financial, and planning matters), we also document the effects of electoral turnovers on these other types of officials.

Political Economy of Village Governance. Local democracy is vibrant throughout Indonesia. Aspinall and Rohman (2017) and Berenschot et al. (2021) provide rich qualitative evidence and case studies describing local patterns of electoral competition in 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 Village Law era, the country's democratic transition in 1998 opened new opportunities for individuals outside traditional elite networks 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). Other recent evidence highlights that "village politics [are] sometimes marked by intense political competition and close margins of victory in village head elections" (World Bank, 2023, p.v).

Despite this intense electoral competition at the local level, the country still faces challenges to establishing accountable village governments that function in a fully transparent and democratic manner. Since the democratic transition, a gradual process of elite renewal has taken place, with old aristocratic elites associated with the Suharto regime slowly losing their grip on local power (Berenschot et al., 2021). However, this process remains incomplete due to the resilience of strong patronage networks associated with well-established family dynasties. While there is substantial variation across villages along this dimension, a key challenge stems from the continued practice of village heads appointing friends and relatives in the village government, reflecting broader patterns of elite capture in formal deliberative institutions. Consistent with the figures discussed above, a recent qualitative study conducted across 18 Indonesian villages found widespread evidence of nepotism in village bureaucracies: "As a result of considerable, albeit narrowing, discretionary powers of the village head, we found that the village bureaucracy is often made up of friends and, particularly, family members of the village head. In 8 of our 18 villages at least some ... village officials were related to the village head. Not surprisingly, the villages where officials were family members of the village head are also the villages with more unresponsive and factionalized village governments" (World Bank, 2023, p.17). These qualitative accounts suggest that nepotism may be central to understanding bureaucratic practice and performance.

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, non-elected members of the village government, as well as hamlet heads 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 members of the village government) were asked to provide three contact persons whose name began with a randomly drawn letter of the alphabet (see Appendix Figure B.2). This procedure continued until we reached the target sample size in each village. This implies that some citizens in our sample are likely to be more connected to the village government than the average citizen. However, the extent of these connections do not vary discontinuously at the RD threshold and therefore do not represent a threat for our empirical strategy (see Appendix Table A.3).

Our sample size reached a total of 738 village heads, 1,779 village bureaucrats, 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, 1,068 village bureaucrats, 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. 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% 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).[2] 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 (panel a) 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.

Administrative Data. To measure bureaucratic performance, in addition to outcomes observed in our survey, we use data from the 2014 and 2021 rounds of *Podes*, a village-level triennial census of villages,

[2] 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.

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 predetermined geographic and socioeconomic characteristics of villages observed in *Podes* to run balance and other validity checks.

3.2 Regression Discontinuity Design

Our analysis aims to measure changes in bureaucratic composition, effort, 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:

$$y_{ijt} = \alpha + \beta_1 \text{margin}_{jt} + \beta_2 \text{margin}_{jt} \times \mathbb{1}(\text{margin}_{jt} > 0) + \gamma \mathbb{1}(\text{margin}_{jt} > 0) + \delta_t + \varepsilon_{ijt}, \tag{1}$$

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. margin_{jt}, the running variable, is the victory margin of the highest-ranked challenger candidate in the election conducted in village j at time t, and $\mathbb{1}(\text{margin}_{jt} > 0)$ equals one when the challenger wins more votes. We include election-year fixed effects, δ_t, to account for the fact that villages hold their elections in different years.[3] When examining 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.

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 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 (panel b), 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 show balance along various predetermined village characteristics observed in the survey and the electoral data: the number of neighborhoods or hamlets (column

[3] 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).

1), 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), number of registered voters (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 further show balance along 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 characteristics (the probability of cultivating corn) is significantly correlated with the treatment, as one would expect by chance. Finally, in Appendix Table A.3, we show balance on whether a citizen's contact information is provided by a village official or BPD member.

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%[4] 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 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 differential turnout at the threshold (column 10), nor that they are associated with suspiciously high or low turnout (column 11). Turnovers also have 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 equal 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 turnovers (column 13). Overall, we find no evidence of manipulation of village election results across this large battery of tests.

4 Results

We now present our estimates of the effects of turnovers in village elections. First, we discuss how turnover affects the organization of village bureaucracies, including new appointments and promotions/demotions, staff salaries (Section 4.1), and the prevalence of nepotistic networks (Section 4.2). We then show that electoral turnovers improve bureaucratic morale and effort, proxied by the frequency of

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

interactions with citizens (Section 4.3). These more frequent interactions translate into greater knowledge about citizens' preferences and greater alignment between bureaucrats and citizens in terms of priorities for service provision and development spending in the village (Section 4.4). Finally, we discuss the effects of electoral turnovers on public service provision, as measured in administrative data and our own survey of citizens (Section 4.5). We conclude with a discussion of downstream effects on citizens' attitudes (Section 4.6).

4.1 Organization of the Village Bureaucracy

Leader Turnover. Our main specification measures the impact of an electoral defeat of the incumbent candidate in the most recent village election on village-level and individual-level outcomes. We use our survey data to verify that these electoral outcomes translate into a change of leadership in the village, as expected. We first show that a defeat of the incumbent candidate in the most recent 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 83.5 p.p., significant at the 1% level (see Table 1, column 1, and Figure 2, panel a). We also 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 (see Table 1, column 2, and Figure 2, panel b).

Thus, electoral turnovers do translate into leader turnovers at the village level, but there is imperfect compliance. While our baseline specification is a sharp RD estimation of the effect of turnovers (γ in equation 1), in the Appendix we also report fuzzy RD estimates where we use $\mathbb{1}(\text{margin}_{jt} > 0)$ as an instrument for village head turnover to account for this imperfect compliance. 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—i.e., the same variable that we use as an outcome in column 1 of Table 1. Thus, the sample size for this fuzzy RDD estimation is restricted to the N=443 villages in which an incumbent competed in the most recent election and we were able to survey the current village head.

Bureaucratic Turnover. Although the majority of village officials theoretically have tenured positions,[5] newly elected village heads may seek to reorganize the village government by appointing new officials or by reshuffling the existing staff across different positions. The bureaucrats appointed by previous leaders could also be more likely to step down or retire under the new leadership. In column 3 of Table 1, we estimate the effects of turnover on the fraction of non-elected village bureaucrats appointed to their current position since the last village election. This fraction is 33% 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 narrowly won the election). It increases by 18 p.p. at the RD cutoff, significant at the 5% level (Table 1, column 3). Panel (c) of Figure 2 provides corresponding visual evidence. Note that this effect captures higher replacement rates holding size constant, since the composition of village governments is constant and set by law, as described in Appendix Figure B.1. Overall, electoral turnovers have a positive effect on

[5] 76% of bureaucrats report having permanent tenure, or report a planned retirement date as the scheduled end of their tenure.

bureaucratic turnover: relative to reelected incumbents, newly elected leaders are more likely to make new appointments in the village administration.

Another way in which village heads can change the organization of the village government is by promoting or demoting existing staff. Table 1 shows that village head turnover increases the likelihood an official is promoted to a higher-ranking position, namely from a head of affairs position or a hamlet head position to a village secretariat position, though this estimate falls short of statistical significance (column 4). The effects on demotion and lateral moves (from one secretariat position to another) are also positive (column 5). In column 6, the outcome is a binary variable equal to 1 if any reshuffling (either promotions, demotions, or lateral moves) has taken place in the village since the last election. The mean of this variable is 15% in the control group, and this increases by 15.7 p.p. (significant at the 10% level) in villages that experienced an electoral turnover. Thus, newly elected leaders initiate a reorganization of the bureaucracy both by appointing new officials and by reshuffling the existing staff across positions.

Village heads who appoint new bureaucrats may opt for individuals with measurable differences in terms of their demographic characteristics. Appendix Table A.4 looks at the effect of turnovers on bureaucrats' age, education, and gender. While the officials serving in villages that experienced a turnover are slightly older (by 1.06 years, column 1) and less likely to be women (by 15.2 p.p., column 3), these estimates are noisy, and there is little evidence that bureaucrats appointed after a turnover differ in terms of these characteristics. Thus, any downstream effects of turnover on bureaucratic performance are unlikely to come from changes in bureaucratic selection along these dimensions.

Salaries. In the last column of Table 1, we examine the impacts of turnovers on the salary levels reported by bureaucrats in our sample. Under Indonesian law, the total amount of personnel salaries is legally capped at 30% of village budgets. This restriction seems well enforced in our sample (only two villages report total salaries in excess of this legal limit), and salaries represent 14% of village budgets on average. Appendix Figure A.3 shows the distribution of bureaucrat salaries: while we observe some bunching at 2 million IDR, there is substantial variation in salary levels. This suggests scope for village leaders to set salaries in a discretionary manner, and possibly to reward performance via higher salaries. We find that bureaucrats surveyed after a turnover report nearly 14% higher salaries, but this point estimate is not statistically significant at conventional levels (see Table 1, column 7, as well as Figure 2, panel d).

4.2 Nepotism

In many villages, widespread nepotistic networks ensure the continued dominance of old village elites and undermine the quality of local governance. These practices are widely considered to be a challenge for the consolidation of local democracy in Indonesia (see, e.g., Simanihuruk and Sihombing, 2019; World Bank, 2023). In Table 2, we first consider as an outcome the probability that relatives of the village head are employed in the village government, as reported by the village heads themselves. We estimate a large and statistically significant drop in the probability of nepotistic appointments at the RD cutoff (column 1). We note that 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 estimate in column 1 of Table 2 implies that new leaders at the very least do not systematically replace these previous nepotistic appointees with relatives of their own.

Columns 2 and 3 of Table 2 present additional evidence on nepotistic appointments using data collected from the bureaucrats. There, we look at the probability that bureaucrats had a parent who served as village head (column 2) or a parent who served in the village government (column 3). Overall, a large fraction of bureaucrats (27%) had a parent who served in the village government. We find that fewer individuals with such family connections serve under newly elected leaders: the point estimate in column 3 is -16.8 p.p., significant at the 5% level (see Figure 2, panel e, for visual evidence). This could be driven by both a lower probability of making nepotistic appointments and a higher probability of a staff shakeup, i.e., removing incumbent bureaucrats with family connections. We explicitly consider this possibility as part of our exploration of mechanisms in Section 5.

Importantly, the effect we measure on nepotism does not necessarily imply that challengers are intrinsically less prone to appointing friends and relatives in the bureaucracy. However, building and maintaining nepotistic networks are lengthy processes in practice, requiring leaders to spend time in office before they can gradually appoint favored individuals to certain positions. Based on the estimates in Table 2, electoral turnovers provide a clear benefit in the sense that they occasionally disrupt and break these nepotistic networks built over many years. These disruptions, in turn, may be conducive to more meritocracy and improved governance in the short and medium run, as we discuss below.

4.3 Morale and Effort

Morale. The inauguration of a new leader and the staff changes they initiate may boost the morale of non-elected village officials and bring new momentum throughout the village bureaucracy. Table 3 studies impacts of turnovers on bureaucratic morale and effort. We first examine effects on a self-reported measure of work-related 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, with an effect size of 0.49 standard deviations (s.d., see column 1). Figure 3 provides graphical evidence of this effect (panel a). In column 2 of Table 3, we then 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 (100.6 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, panel b, for the corresponding RD plot).

Effort. Table 3, columns 3 and 4 show that the bureaucratic reshuffling documented in Section 4.1 and the effects on morale discussed above 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.[6] Bureaucrats in villages that experienced a recent turnover are more likely to interact with citizens on a daily basis (column 3). We obtain similar results when looking at a standardized measure of the frequency of interactions with citizens (column 4). Panels (c) and (d) of Figure 3 provide visual evidence. Thus, 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, as we find no evidence that bureaucrats are more likely to attend village assemblies (*Badan Permusyawaratan Desa* or BPD) after a turnover (RD estimate = 0.00028, p-value = 0.941).

4.4 Bureaucratic Understanding of Citizens' Preferences

These frequent interactions between citizens and bureaucrats, in turn, may improve the bureaucrats' understanding of citizens' preferences. In Table 4, we show that turnovers result in bureaucrats gaining a better understanding of what citizens want. Figure 4 reports RD plots for the outcomes examined in this table. Our survey separately asked bureaucrats and citizens which services they considered to be priorities for future development spending in the village,[7] 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. We first look at a dummy equal to one if bureaucrats and citizens agree about which services should be considered investment priorities, i.e., if the bureaucrat names as priority for future development spending at least one public service which village citizens identify as a top-3 priority (column 1). The control mean of this variable is large (0.75) and this increases by 10.5 p.p. at the RD cutoff (not statistically significant). We then look at a dummy equal to one if bureaucrats correctly name as an investment priority one of the (top-3) services that citizens consider to be of worst quality (column 2). We find evidence of increased alignment between bureaucrats and citizens based on this measure. This result implies that bureaucrats in turnover villages correctly identify needs for improvements in terms of local service provision.

Our survey also asked bureaucrats to name the services for which they received complaints from constituents. In columns 3 and 4 of Table 4, as well as panels (c) and (d) of Figure 4, we look at indicators for bureaucrats mentioning complaints about services which the majority of village citizens identify as a top-3 priority, and complaints about services that most citizens believed is a bottom-3 quality service. These measures capture bureaucrats being able to accurately identify priorities for future development spending, based on citizens' actual grievances. We find robust evidence that bureaucrats in turnover villages were more likely to receive complaints about services identified as priorities by citizens: the point estimates are 16.2 p.p. and 17.4 p.p. (significant at the 1% level and the 5% level, respectively).

Other Bureaucratic Knowledge. Enhanced morale and effort could also affect the acquisition of other relevant knowledge inside the bureaucracy. Appendix Table A.5 reports effects on various measures of

[6] One concern could be 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. In Appendix Table A.3, we report balance checks on whether a citizen's contact information is provided by a village official or BPD member. Neither of these variables is statistically significant.

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

knowledge. We look at whether bureaucrats received any training in the past 12 months (column 1), whether they correctly answer a policy-relevant question about a recent regulation (an "objective" measure of knowledge, column 2), and a standardized index of self-reported knowledge across five domains: development management and accountability, financial management, village regulations, drafting development plans, and the Village Law (column 3). There are no significant effects of electoral turnovers on these outcomes.

Robustness Checks. In Appendix Tables A.6 through A.23, we report robustness checks on the results reported in Table 1, Table 2, and Table 3, and Table 4. Appendix Tables A.18–A.22 combine these robustness checks for the bureaucrat-level outcomes studied in Tables 3 and 4: we focus on enthusiasm and motivation (columns 1 and 2 in each table), the z-score of interactions with citizens (column 3), alignment in terms of investment priorities and services identified as low quality, corresponding to columns 1–2 of Table 4 (columns 4 and 5), and the measures of alignment based on complaints received from citizens, corresponding to columns 3–4 of Table 4 (columns 6 and 7).

First, recall that our baseline equation (1) controls for election-year dummies and a treatment indicator for our survey experiment treatment. In Appendix Tables A.6, A.12, and A.18, we report estimates without these controls for Table 1, Table 2, and Tables 3-4, respectively. Second, in Appendix Tables A.7, A.13, and A.19, 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 half the MSE-optimal bandwidth from Calonico et al. (2014) in Appendix Tables A.8, A.14, and A.20; three-fourths the MSE-optimal bandwidth in Appendix Tables A.9, A.15, and A.21; and two times larger than this optimal bandwidth in Appendix Tables A.10, A.16, and A.22. Finally, in Appendix Tables A.11, A.17, and A.23, we report estimates from the fuzzy RDD specification described in Section 3, where we instrument for leadership changes in our survey data with the treatment dummy from equation (1). Overall, these robustness checks and specification changes leave our main takeaways unchanged.

4.5 Bureaucratic Performance: Local Service Provision

The results presented thus far show that bureaucrats serving newly elected village heads exert higher effort in the form of more frequent interactions with citizens, possibly as a result of higher salaries and improved morale about their job and mission. 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, as recorded in administrative data. 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 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 5, column 1, and Figure 5, panel a). This effect is primarily driven by garbage collection, street lighting, and to a lesser extent, drinking water and public transit (Appendix Table A.24 reports RD estimates for each component of the index of service quality).

In the last column of Table 5 and panel (b) of Figure 5, we report a balance check based on 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 recorded in 2014. Overall, service provision was 0.06 s.d. lower (non-significant) in treatment villages before the most recent village head turnover.

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 about 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). Columns 2 and 3 of Table 5 report this set of results and Figure 6 the corresponding RD plots. We find an increase in terms of both reported access (column 2) and perceived quality (column 3). Appendix Table A.25 reports effects on the individual components of the two indices of service access and service quality; the positive effect of turnovers appear to be driven by garbage collection (columns 1-2) and roads (columns 13-14).

Robustness Checks. Appendix Tables A.26–A.30 report robustness checks on the key results in Table 5, column 1: removing election-year dummies (A.26); using a third degree polynomial instead of local linear regression (A.27); using a bandwidth half the MSE-optimal bandwidth (A.28), three-fourths the MSE-optimal bandwidth (A.29), or a bandwidth two times larger than the MSE-optimal bandwidth (A.30). 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.27) to 0.68 s.d. (Table A.26). Finally, in our baseline specification, we report RD estimates of the effects of turnovers on service provision. Appendix Table A.31 reports fuzzy RD estimates, instrumenting for leader changes in our survey data with $\mathbb{1}(\text{margin}_{jt} > 0)$ from equation (1). These estimates deliver similar insights with slightly larger magnitudes.

In Appendix Tables A.32 through A.36, we report the corresponding robustness checks for citizens' perceptions of service access and quality, i.e. the outcomes examined in columns 2–3 of Table 5. Appendix Table A.37 reports estimates from the fuzzy RDD specification. Across the board, we find consistent evidence that turnovers enhance access to public services as well as service quality, as perceived by the village citizens.

Dynamic Effects. In Appendix Table A.39, we exploit heterogeneity across villages in the timing of the most recent election to explore the dynamic effects of turnovers on local service provision. Specifically,

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 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 these tables 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 (as in Akhtari et al., 2022). Effect sizes are almost twice as large for villages that held their election between 2015-2017 (column 2) relative to villages that held their election more recently (column 3). As expected, there is no evidence of improvements in service provision in villages enumerated by *Podes* before the last village election (column 4).

4.6 Downstream Effects on Citizen Attitudes

Despite the improvements in service provision we observe in both the administrative *Podes* data and our survey data, Table 6 shows that citizens are no more satisfied and do not trust their village government more in the aftermath of a village head turnover. Consistent with bureaucrats' answers (Table 3), citizens also report more frequent interactions with bureaucrats after a turnover (column 1, not statistically significant), but they do not report higher satisfaction with the village government (column 2), nor do they have higher trust in the latter (column 3). Across the board, citizen attitudes seem largely driven by the time elapsed since the last election. Appendix Figure A.4 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—despite sizeable improvements in service provision—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).

5 Mechanisms and Interpretation

Our results show that turnover in village elections shakes up village bureaucracies, fosters increased engagement between bureaucrats and citizens and alignment in terms of policy priorities, and improves service provision. In this section, we present evidence on the potential mechanisms driving these results, as well as possible alternative interpretations.

5.1 Reduced Nepotism under New Village Heads

Our findings are in line with qualitative evidence highlighting the key role village heads can play in shaping development outcomes in their village. A recent qualitative study of Indonesian villages (see Section 2) found that "the role of the village head appears to be key: a responsive and reform-oriented village head can exercise considerable agency in ensuring a well-run village even without high levels of citizen demand." (World Bank, 2023, p.11). The staff replacements and the reduced nepotism that we observe may contribute to the emergence of more responsive bureaucracies: the officials working under new leaders exert higher effort to engage with citizens and to understand their priorities. This increased engagement fosters investments aligned with citizens' preferences and leads to improvements in local service provision, an effect we observe in both administrative data and survey data collected from the citizens themselves.

Reduced Nepotism as a Channel. We now provide evidence that the positive effects of turnover on performance are driven by villages where nepotistic networks are disrupted by the electoral outcome. First, in Table 7, columns 1 and 2, we show that turnovers improve service provision only in villages where the current village head does not have a relative employed in the village government. The effect of turnovers on the index of service provision is 0.77 s.d. in these villages (significant at the the 5% level), as opposed to -0.065 s.d. (not significant) in villages where at least one bureaucrat is connected to the village head. This suggests that newly elected village heads who themselves employ relatives in the village bureaucracy are unable to achieve improvements in service provision for their citizens. However, one important caveat is that selection into the two subsamples examined in columns 1–2 of Table 7 is endogenous to the occurrence of an electoral turnover, as we showed in Table 2, column 1.

We then turn to a different measure of the prevalence of nepotistic networks: the continued presence in the village administration of bureaucrats who were appointed before the most recent election and report that a family member previously served as a village official. This captures the long-standing presence of bureaucrats with a family history of serving in the village government. We estimate the effects of turnover on service provision in villages with and without these nepotistic appointees left over from the previous administration: to do so, we split the sample between villages where no bureaucrat appointed before the election has a parent who served as village official (Table 7, column 3), and villages where at least one such bureaucrat is present (column 4). The effect of turnovers on service provision is larger in the former type of villages (0.60 s.d., significant at the 5% level), though the difference between the point estimates in columns 3 and 4 is not statistically significant. One possible interpretation of these findings may be that the newly elected village heads who successfully tackle existing nepotistic networks are those who achieve the most substantial improvements in service provision—again with the caveat that the continued presence of connected bureaucrats appointed before the election may be endogenous to the occurrence of an electoral turnover.[8]

Table 8 provides further evidence supporting this interpretation. In this table, the top panel reports estimates for villages with no connected bureaucrat (i.e., bureaucrats with a family history of serving

[8] As we show in columns 1 and 2 of Appendix Table A.40, this variable is not directly affected by electoral turnovers.

in the village government) remaining from the previous administration, while the bottom panel reports estimates for all other villages, where long-serving connected bureaucrats are still present. First, we show that villages where no nepotistic appointees remain from the previous administration are indeed those that experienced the largest amount of bureaucratic turnover after the election (column 1). To understand how the removal of connected bureaucrats may be driving the positive effects of electoral turnovers, we then compare levels of bureaucratic morale and engagement between the two types of villages, namely with and without nepotistic appointees from the previous administration. We look at the same outcomes as those reported in Tables 3 and 4: namely enthusiasm (column 2), motivation (column 3), the frequency of interactions with citizens (column 4), bureaucrat-citizen alignment on investment priorities and low-quality services (columns 5–6), and having received complaints received from citizens about services which the latter consider to be of low quality (columns 7–8).

Overall, turnovers have a greater impact on bureaucrats' enthusiasm and motivation in villages without any nepotistic appointees remaining from the previous administration. This improved morale could come from newly appointed officials as well as continuing officials who are re-energized by the removal of colleagues appointed via nepotism. While there is no detectable difference between the two types of villages in terms of bureaucrats' effort, bureaucrats in villages where no previously appointed nepotistic appointees remain have a much greater understanding of citizens' preferences. For example, they are more likely to correctly name the services which citizens describe as low-quality: the effect on this measure of bureaucrats-citizens alignment is 0.29 s.d. (significant at the 5% level) in panel A as opposed to -0.02 s.d. in panel B. Taken together, these results suggest that the removal of nepotistic practices by newly elected village heads contributes to the improvements we observe in bureaucratic performance.

5.2 Alternative Explanations

In the remainder of this section, we discuss potential alternative interpretations of our results. We focus on four possible explanations: positive selection of new leaders along observable characteristics, lame-duck village heads driving down bureaucratic morale and effort, patronage appointments by newly elected leaders, and social desirability bias in survey data collected from bureaucrats.

Leader Selection. Village governance may improve due to a selection channel: the challengers winning village elections might be more able leaders than reelected incumbents, on average. In Appendix Table A.38, we examine how the characteristics of elected village heads vary at the RD threshold. We show that newly elected leaders are not less likely to be connected to a previous village head, relative to reelected incumbents: in particular, they are no less likely to have a parent who previously served as village head (column 1) or as a member of the village government (column 2).

In the remaining columns, we find little evidence that elected challengers differ from reelected incumbents along observe observable characteristics: their age (column 3), gender (column 4), level of education (column 5), or language ability (column 7). The point estimate for religion (column 6) is negative and significant at the 10% level, which we interpret as a chance finding. Overall, the average leader in the control group is 49.9 years old, overwhelmingly likely to be male, and has completed 13 years

of schooling, and none of these characteristics differs for elected challengers at the threshold. Thus, it is unlikely that electoral turnovers improve village government performance by selecting better leaders, or less connected leaders. These findings align with qualitative accounts of village elections often fought between members of rival families or clans, so that newly elected challengers are not necessarily less likely to belong to elite families in the village (Aspinall and Rohman, 2017). In fact, newly elected challengers may still perform better than reelected incumbents while also belonging to elite families, as a result of the "founder effect" described in George (2024).

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 effort 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 31 village heads (6%) 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. In Appendix Tables A.41 through A.44, we additionally show our results are unchanged if we exclude from the analysis the villages where the current village head is serving in their third term.[9]

Patronage Appointments. The increase in bureaucrat enthusiasm and interactions with citizens could come from patronage appointments of campaign 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, the friends and relatives of candidates are often involved in the latter's electoral campaigns, and we find evidence that nepotistic appointments of such individuals become less prevalent after an electoral turnover (Table 2). Furthermore, the positive effects of turnover on public service provision measured in administrative data and citizens' perceptions (Table 5) are unlikely to be driven by patronage appointments.

Social Desirability. Several of the outcomes we look at are reported by the bureaucrats themselves. 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. However, this also raises concerns about social desirability bias if such bias is correlated with village head turnovers.

[9] An important caveat to the estimates reported in Appendix Tables A.41–A.45 is that this sample restriction (excluding lame-duck village heads) is endogenous to the turnover treatment. Unfortunately, the available electoral data does not include information on which runner-ups would have been serving in their third term, had they won the most recent election.

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.

6 Conclusion

This paper studies villages across Indonesia 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 citizens and frontline service delivery.

Turnover in local elections reshapes the bureaucracy, most notably by inducing some staff reshuffling and by reducing the prevalence of nepotistic networks. In turn, village bureaucrats who serve under new leaders earn higher salaries and report greater enthusiasm. 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 bureaucrat morale and effort have downstream impacts on local service provision, measured in both administrative and survey data. The positive effects of turnovers on bureaucratic performance and local service provision are primarily driven by villages where newly elected village heads succeed in reducing the prevalence of nepotistic hiring practices.

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 decision-making power to regularly change hands, even at highly localized levels—appears crucial for democracy to work as a whole.

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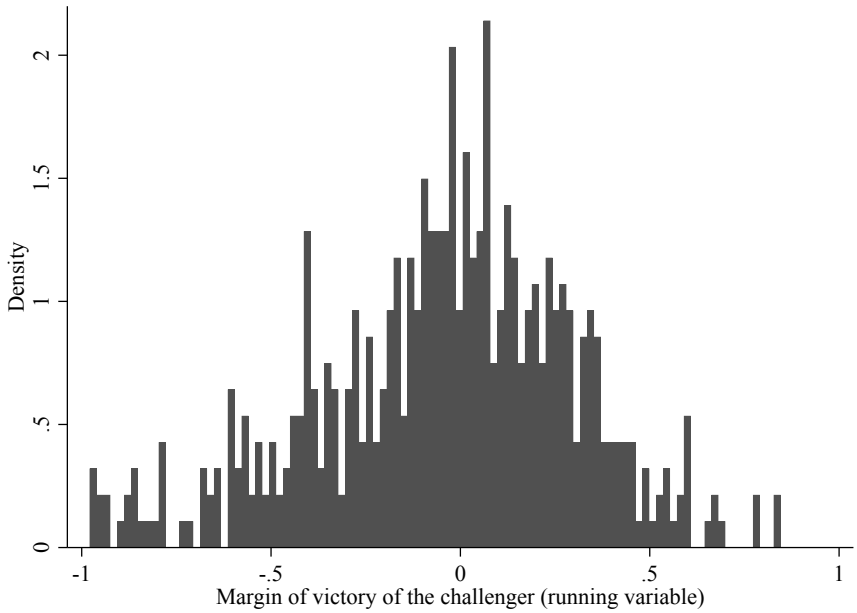
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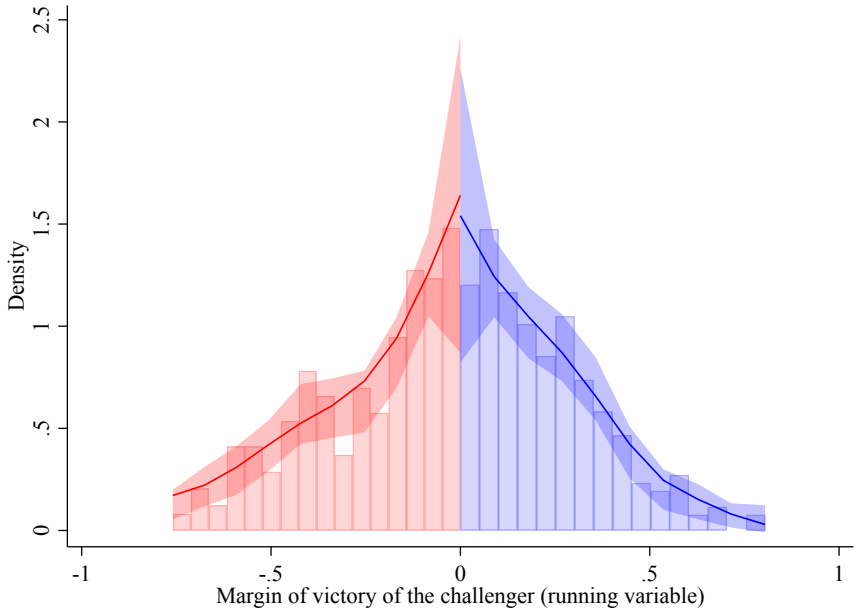
Figures

Figure 1: Density Test

(a) Distribution of the Victory Margin



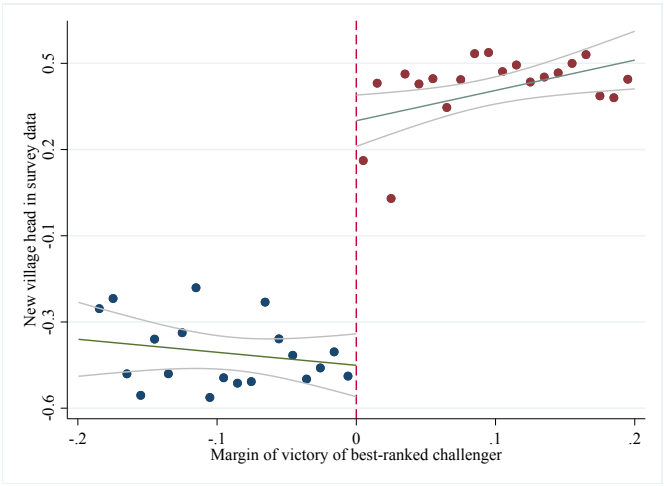
(b) Testing the Continuity of the Victory Margin



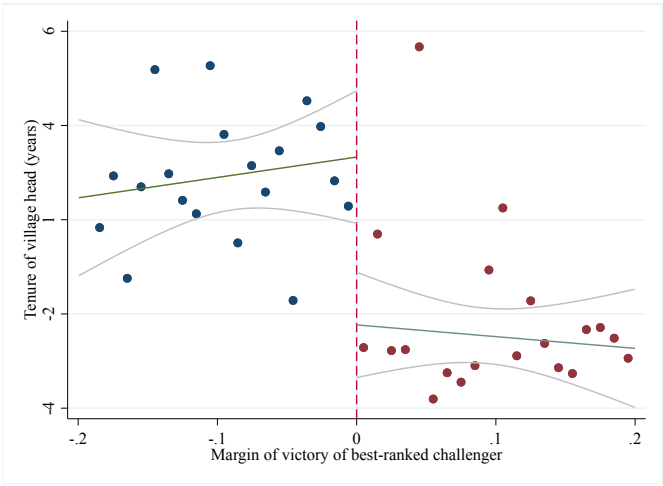
Notes: Panel (a) plots the density of the running variable in our RD estimation, defined as the difference between the vote share received by highest-ranked challenger and the incumbent's vote share in the most recent village election. Panel (b) implements the density test from Cattaneo et al. (2018) 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

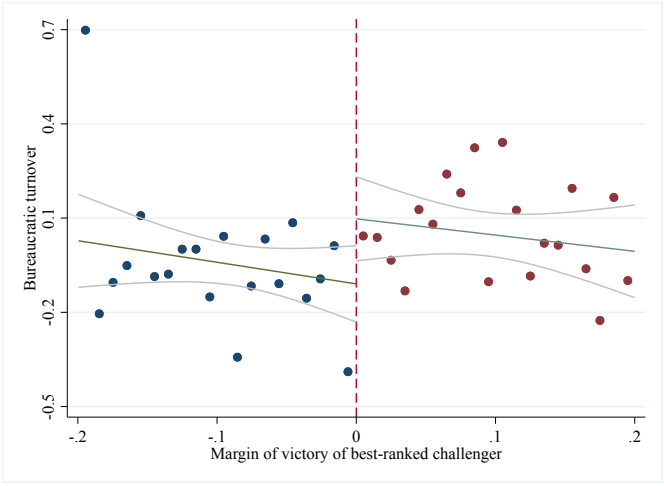
(a) New village head in survey data



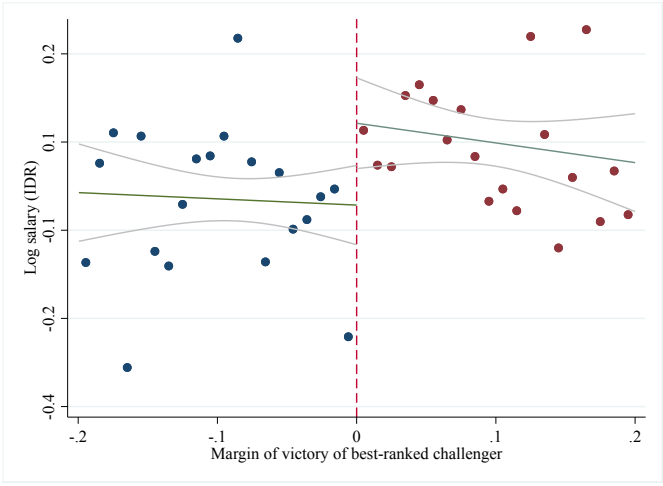
(b) Tenure of village head (years)



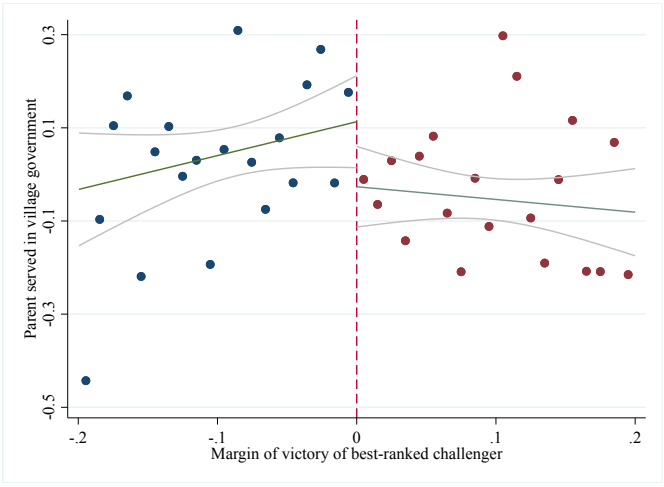
(c) % New appointments



(d) Salaries

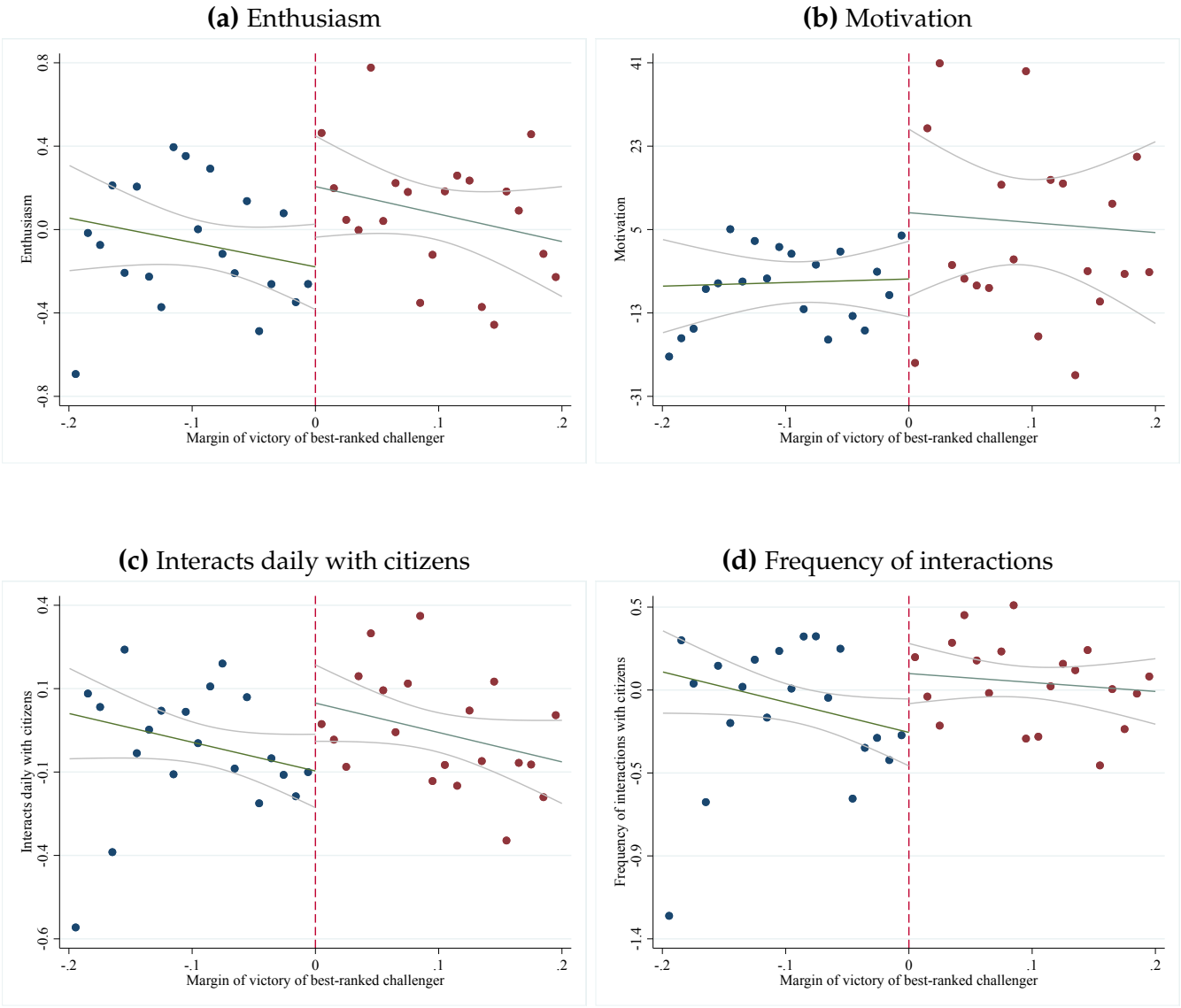


(e) Relative of village head in village gov.



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 bureaucrats' salaries measured in log IDR. Panel (e) looks at the probability that bureaucrats have a parent who served in the village government. The dots are conditional means of each outcome across binned intervals of the margin of victory of the best-ranked challenger on each side of the RD threshold, with 95% confidence intervals in solid gray lines.

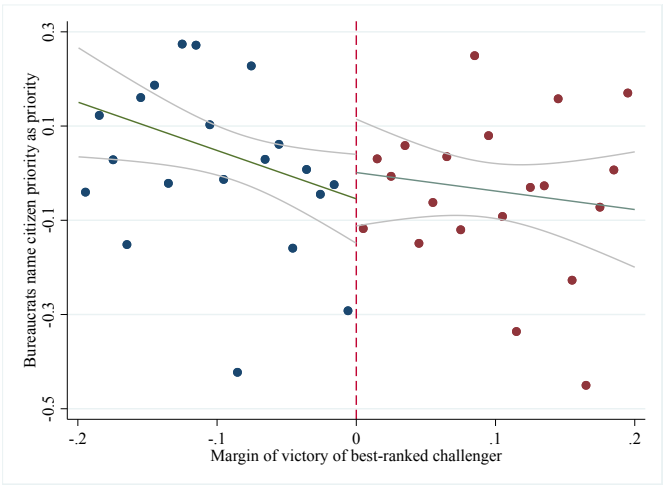
Figure 3: Bureaucratic Morale and Effort



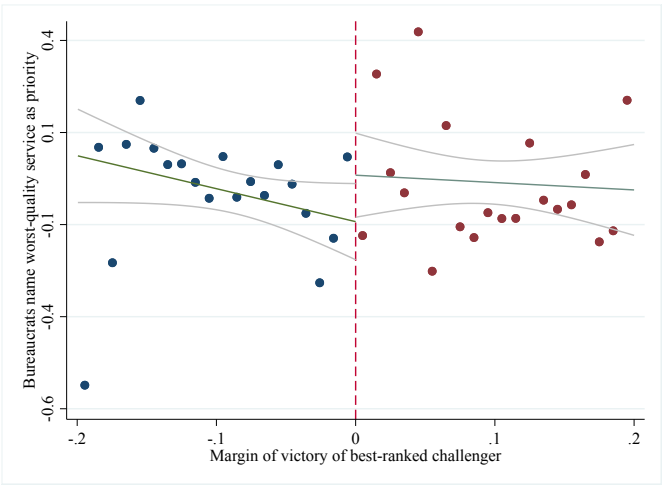
Notes: The top two figures look at morale outcomes. Panel (a) looks at a standardized z-score of self-reported enthusiasm. Panel (b) looks at a continuous measure of motivation anchored at a baseline of 100 and winsorized at the top percentile. The bottom two figures look at measures of the frequency of interactions between bureaucrats and citizens. Panel (c) looks at a dummy equal to 1 if the bureaucrat reports interacting with village citizens on a daily basis. Panel (d) looks at a standardized measure of the frequency of citizen interactions, computed from a categorical variable measured on a 1-5 scale. The dots are conditional means of each outcome across binned intervals of the margin of victory of the best-ranked challenger on each side of the RD threshold, with 95% confidence intervals in solid gray lines.

Figure 4: Understanding of Citizen Preferences

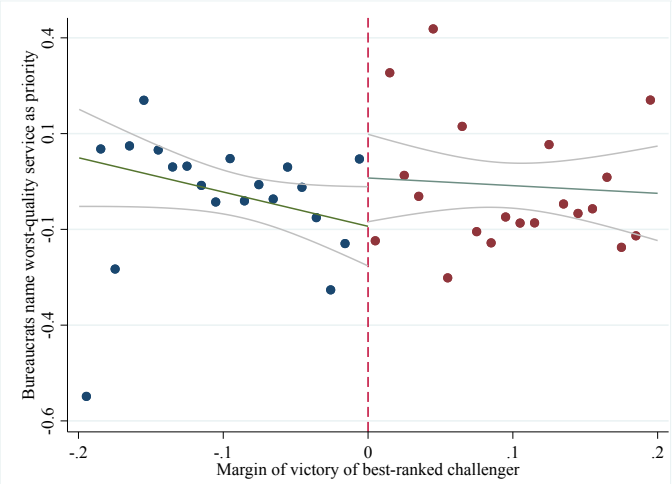
(a) Officials/citizens agree: Investment priorities



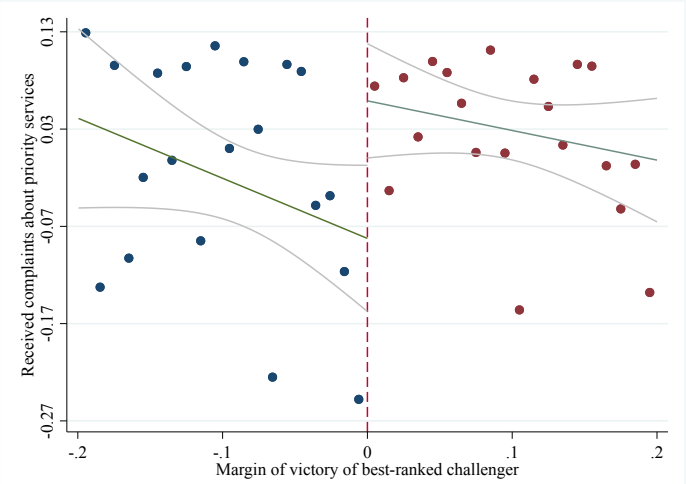
(b) Officials/citizens agree: Worst-quality services



(c) Complaints received: Priority services



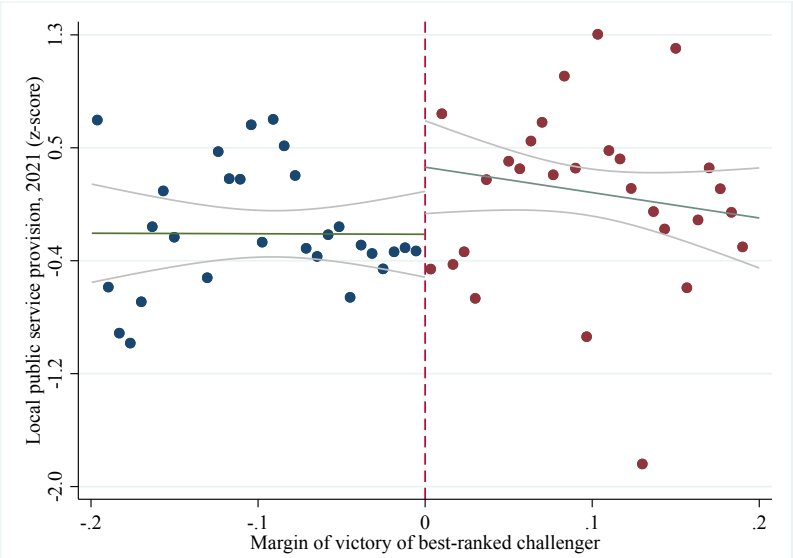
(d) Complaints received: Worst-quality services



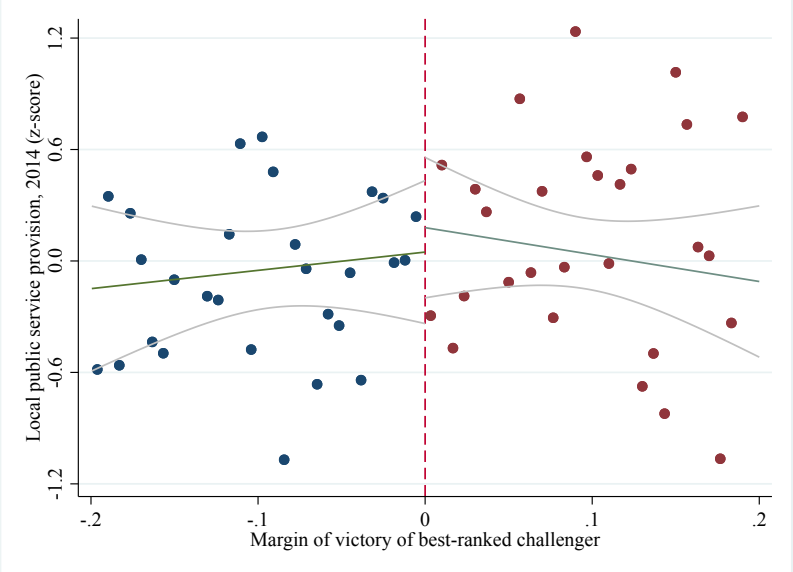
Notes: Panel (a) looks at an indicator equal to 1 if the bureaucrat names as priority for future development spending a public service which village citizens identify as a top-3 priority. Panel (b) looks at an indicator equal to 1 if the bureaucrat names as priority for future development spending a service which citizens rank as a bottom-3 quality public service. Panel (c) looks 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. Panel (d) looks at 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. The dots are conditional means of each outcome across binned intervals of the margin of victory of the best-ranked challenger on each side of the RD threshold, with 95% confidence intervals in solid gray lines.

Figure 5: Effects on Public Goods Provision (Administrative Data)

(a) Administrative data, 2021



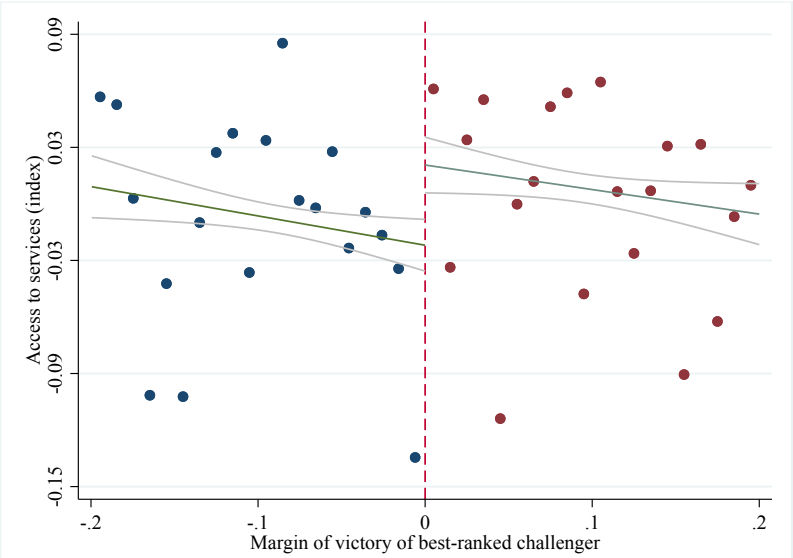
(b) Administrative data, 2014 (balance)



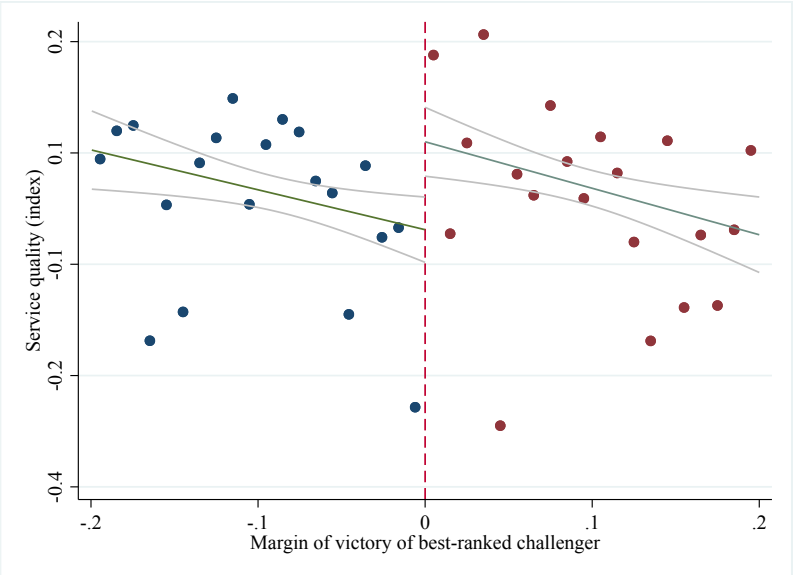
Notes: In panel (a), the dependent variable is a standardized index of local service provision constructed using the 2021 *Podes* survey. The index has the following 10 components: drinking water, sewage, garbage collection, street lighting, kindergartens, primary schools, village maternities (*polindes*), 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. The dots are conditional means of each outcome across binned intervals of the margin of victory of the best-ranked challenger on each side of the RD threshold, with 95% confidence intervals in solid gray lines.

Figure 6: 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. The dots are conditional means of each outcome across binned intervals of the margin of victory of the best-ranked challenger on each side of the RD threshold, with 95% confidence intervals in solid gray lines.

Tables

Table 1: Bureaucratic Organization

	Village heads		Village government				Bureaucrats
	New leader	Tenure (yrs)	% New appts	Any promotion	Any demotion	Any reshuffling	Ln salary (IDR)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
New village head	0.835***	-4.908***	0.182**	0.112	0.079	0.157*	0.136
	(0.101)	(1.527)	(0.100)	(0.097)	(0.056)	(0.107)	(0.108)
Observations	442	443	510	510	510	510	1060
Control mean	0.035	7.96	0.33	0.11	0.042	0.15	14.7
Robust p-value	0.000	0.001	0.042	0.218	0.103	0.100	0.152
Bandwidth size (%)	15.8	31.2	22.0	20.8	18.6	20.5	14.0
Effective obs.	172	285	256	248	232	247	395

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, villages in column 3-6, and bureaucrats in column 7. 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 column 3, 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 column 4, a dummy equal to 1 if there has been any promotion in the village government; in column 5, a dummy equal to 1 if there has been any demotion in the village government; in column 6; a dummy equal to 1 if there has been any reshuffling, i.e., promotion or demotion, in the village government; in column 7, log bureaucrat salary in IDR. See Section 4 for details.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors in parentheses for columns 1 through 6. Robust standard errors clustered by village in parentheses for column 7.

Table 2: Turnover and Nepotism

	Village head survey	**Bureaucrat survey**	
	Employs relative	Parent was village head	Parent served in village govt
	(1)	(2)	(3)
New village head	-0.380***	-0.066	-0.168**
	(0.177)	(0.051)	(0.082)
Observations	441	1067	1067
Control mean	0.37	0.054	0.27
Robust p-value	0.008	0.109	0.034
Bandwidth size (%)	12.8	17.5	22.5
Effective obs.	150	466	550

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 villages in column 1 and bureaucrats in columns 2-3. The dependent variable is: in column 1, a dummy equal to 1 if relatives of the village head are employed in the village government; in column 2, a dummy equal to 1 if the bureaucrat reports having a parent who served as village head; in column 3, a dummy equal to 1 if the bureaucrat reports having a parent who served in the village government. See Section 4 for details.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors in parentheses for column 1. Robust standard errors clustered by village in parentheses for columns 2-3.

Table 3: Bureaucrats' Morale and Effort

	Bureaucrat survey			
	Enthusiasm	Motivation	Interacts daily w/ citizens	Frequency of interactions
	(1)	(2)	(3)	(4)
New village head	0.487***	22.868	0.197**	0.405**
	(0.165)	(18.495)	(0.102)	(0.183)
Observations	1064	1062	1064	1064
Control mean	-0.057	100.6	0.57	0.32
Robust p-value	0.001	0.153	0.029	0.012
Bandwidth size (%)	20.8	21.5	18.5	16.3
Effective obs.	522	533	487	441

Notes: This table reports RD estimates of γ in equation (1) obtained via the non-parametric method from Calonico et al. (2014). Units of observation are bureaucrats in all columns. The dependent variable is: in column 1, a standardized z-score of self-reported enthusiasm; in column 2, a continuous measure of motivation anchored at 100 at baseline and winsorized at the top 1%; in column 3, a dummy variable equal to 1 if the bureaucrat reports interacting with citizens on a daily basis; in column 4, a standardized z-score of 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:		**Complaints received about:**	
	Investment priorities	Worst-quality services	Priority services	Worst-quality services
	(1)	(2)	(3)	(4)
New village head	0.105	0.236**	0.162***	0.174**
	(0.116)	(0.117)	(0.068)	(0.079)
Observations	1067	1067	1067	1067
Control mean	0.75	0.32	0.87	0.71
Robust p-value	0.204	0.015	0.006	0.028
Bandwidth size (%)	17.5	17.0	18.4	25.7
Effective obs.	467	457	484	606

Notes: This table reports RD estimates of γ in equation (1) obtained via the non-parametric method from Calonico et al. (2014). Units of observation are bureaucrats in all columns. In column 1, 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 column 2, 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. In column 3, 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 column 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 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 5: Effects of Turnover on Public Goods Provision

	Public Goods Index	**Citizen Perceptions**		**Balance**
	Podes 2021	Access	Quality	*Podes* 2014
	(1)	(2)	(3)	(4)
New village head	0.503*	0.073**	0.208**	-0.058
	(0.263)	(0.043)	(0.102)	(0.419)
Observations	378	8848	8846	375
Control mean	0.23	0.78	-0.028	0.018
Robust p-value	0.053	0.039	0.014	0.823
Bandwidth size (%)	18.7	15.2	14.9	19.0
Effective obs.	161	3479	3427	161

Notes: This table reports RD estimates of γ in equation (1) obtained via the non-parametric method from Calonico et al. (2014). Units of observation are villages in columns 1 and 4, and citizens in columns 2 and 3. In column 1, the dependent variable is a standardized index of local public service provision constructed using the 2021 Podes data. 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. In column 2, the dependent variable is a standardized index of access to local services constructed using our citizens survey data. In column 3, 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. In column 4, the dependent variable is a standardized index of local public service provision constructed using the 2014 Podes data, and serves as a balance check. The index includes all components as in column 1, with the exception of garbage collection and polindes (village maternities) which were not collected in 2014. See Section 4 for details.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors in parentheses for columns 1 and 4. Robust standard errors clustered by village in parentheses for columns 2 and 3.

Table 6: Citizen Attitudes Towards the Village Government

	Citizens survey		
	Interactions with govt	Perceived govt quality	Trust in govt
	(1)	(2)	(3)
New village head	0.177	-0.018	0.027
	(0.159)	(0.142)	(0.126)
Observations	8815	8790	8789
Control mean	-0.12	-0.034	-0.029
Robust p-value	0.223	0.949	0.724
Bandwidth size (%)	17.1	17.7	17.5
Effective obs.	3752	3892	3812

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 column 1, a z-score of the frequency of interactions with village officials, as reported by citizens; in column 2, a z-score of self-reported satisfaction with the village government; in column 3, 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.

Table 7: Public Goods Provision, Heterogeneity by Nepotistic Networks

	Village head survey		Bureaucrat survey	
	Does not employ relative	Employs relative	No old-serving nepotistic appointee	At least 1 old-serving nepotistic appointee
	(1)	(2)	(3)	(4)
New village head	0.773**	-0.065	0.603**	0.484
	(0.359)	(0.388)	(0.282)	(0.526)
Observations	191	132	295	81
Control mean	0.26	0.30	0.23	0.23
Robust p-value	0.020	0.688	0.022	0.309
Bandwidth size (%)	20.6	16.1	19.2	23.8
Effective obs.	86	47	129	38

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 standardized index of local public service provision constructed using the 2021 Podes data, as in column 1 of Table 5. The sample includes: in column 1, all villages in which the village head reports having no relative in the village government; in column 2, all villages in which the village head reports having at least one relative in the village government; in column 3, all villages in which no bureaucrat who was appointed before the most recent election reports a family member previously served as a village official; and in column 4, all village in which at least one bureaucrat who was appointed before the most recent election reports a family member previously served as a village official. See Section 4 for details.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors in parentheses.

Table 8: Bureaucrat Outcomes, Heterogeneity by Nepotistic Networks

	% New appts	Enthusiasm	Motivation	Interactions	Alignment		Complaints received	
					Priorities	Worst services	Priorities	Worst services
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Villages without old-serving nepotistic appointees								
New village head	0.199**	0.643***	36.819*	0.378**	0.117	0.285***	0.196***	0.196**
	(0.107)	(0.184)	(24.737)	(0.216)	(0.113)	(0.127)	(0.079)	(0.092)
Observations	401	833	833	833	835	835	835	835
Control mean	0.41	-0.093	97.6	0.32	0.77	0.32	0.84	0.69
Robust p-value	0.033	0.000	0.088	0.044	0.148	0.008	0.004	0.038
Bandwidth size (%)	25.0	16.7	19.5	16.6	19.6	17.9	17.7	22.1
Effective obs.	224	360	402	352	403	377	375	426
Panel B: Villages with old-serving nepotistic appointees								
New village head	0.127	0.166	-15.848	0.468*	-0.005	-0.019	0.088	0.221**
	(0.117)	(0.411)	(16.289)	(0.257)	(0.278)	(0.187)	(0.086)	(0.157)
Observations	109	231	229	231	232	232	232	232
Control mean	0.11	-0.13	98.1	0.29	0.77	0.32	0.85	0.69
Robust p-value	0.283	0.559	0.324	0.050	0.827	0.934	0.350	0.049
Bandwidth size (%)	29.4	22.5	16.1	21.9	16.8	20.4	23.4	15.5
Effective obs.	67	116	91	114	93	106	125	89

Notes: This table reports RD estimates of γ in equation (1) obtained via the non-parametric method from Calonico et al. (2014). The dependent variables are: in column 1, 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 column 3, a standardized z-score of self-reported enthusiasm; in column 4, a continuous measure of motivation anchored at 100 at baseline and winsorized at the top 1%; in column 5, 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 column 6, 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; in column 7, 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; and in column 8, 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. The sample includes: in Panel A, all villages in which no bureaucrat who was appointed before the most recent election reports a family member previously served as a village official; in Panel B, all village in which at least one bureaucrat who was appointed before the most recent election reports a family member previously served as a village official. See Section 4 for details.

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors in parentheses in column 1. Robust standard errors clustered by village in parentheses in columns 2 to 8.

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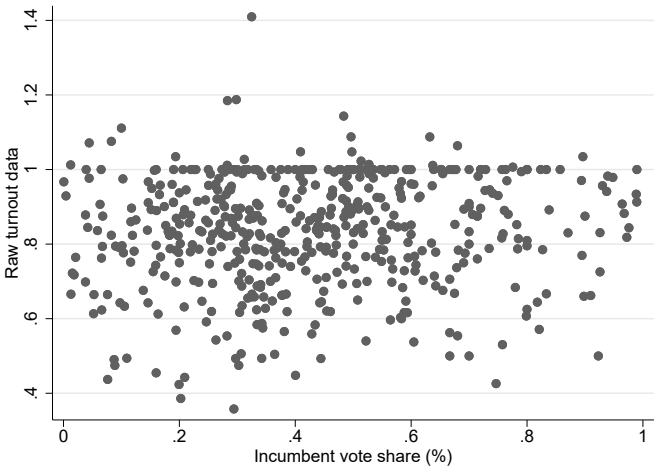
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A Additional Results

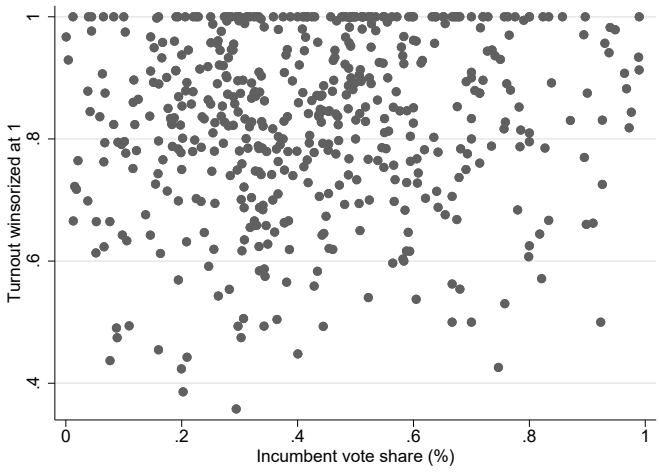
Figures

Figure A.1: Electoral Data Checks: Turnout

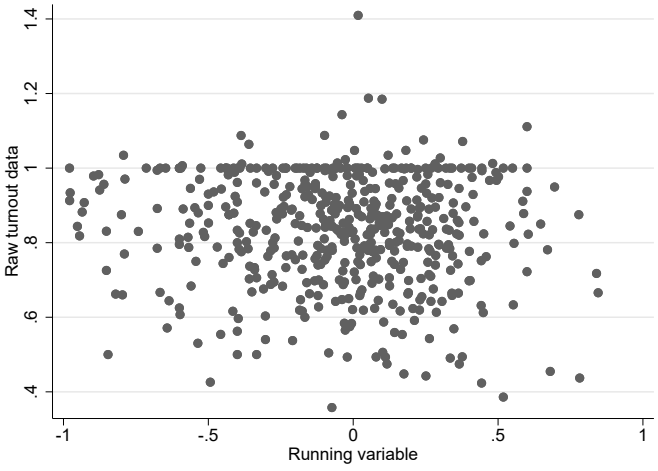
(a) Raw Turnout vs. incumbent vote



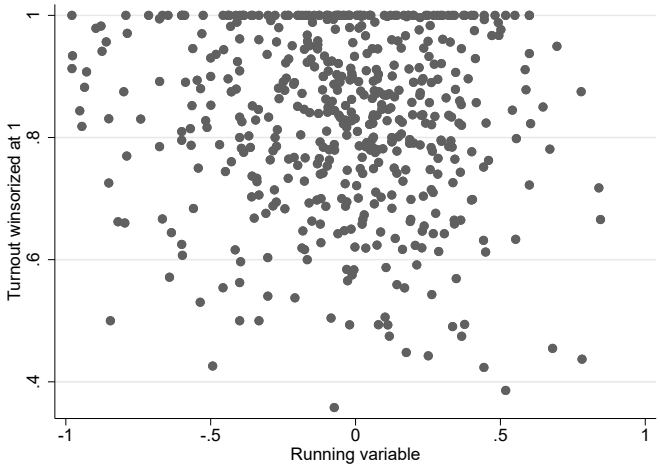
(b) Winsorized Turnout vs. incumbent vote



(c) Raw Turnout vs. running variable

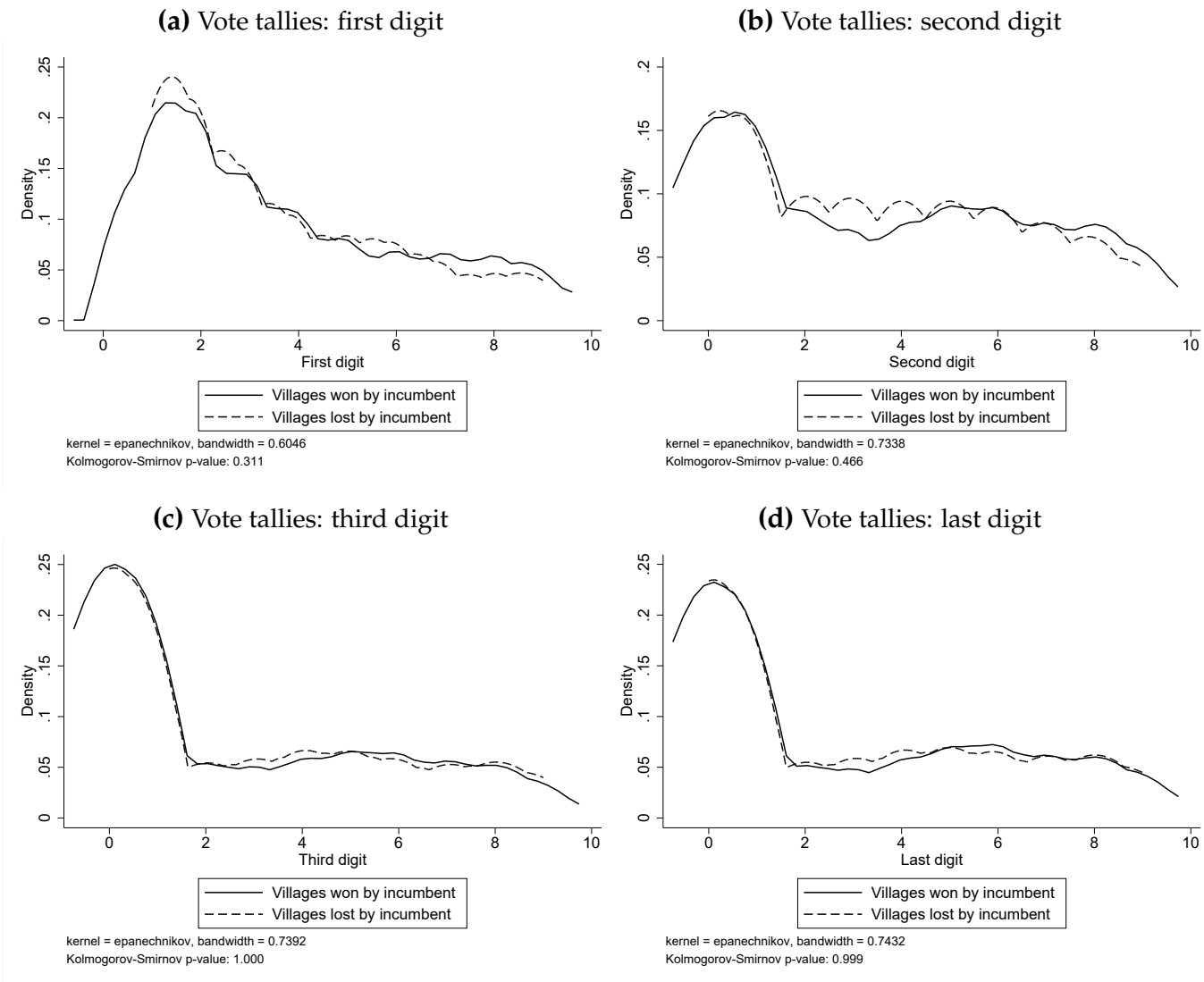


(d) Winsorized Turnout vs. running variable



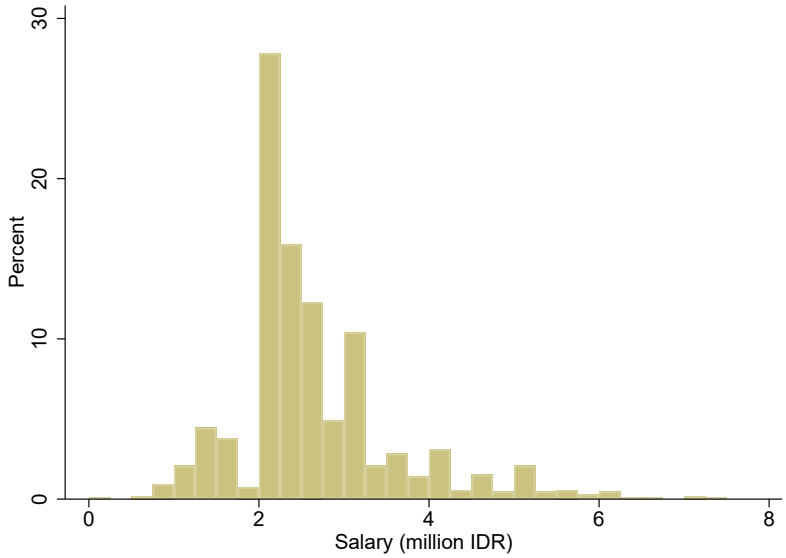
Notes: Panels (a) and (b) plot raw turnout and turnout winsorized at 100% against the vote share of the incumbent candidate. Panels (c) and (d) plot raw turnout and turnout winsorized at 100% against our running variable in the RD analysis, namely the difference between the vote share of the highest-ranked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

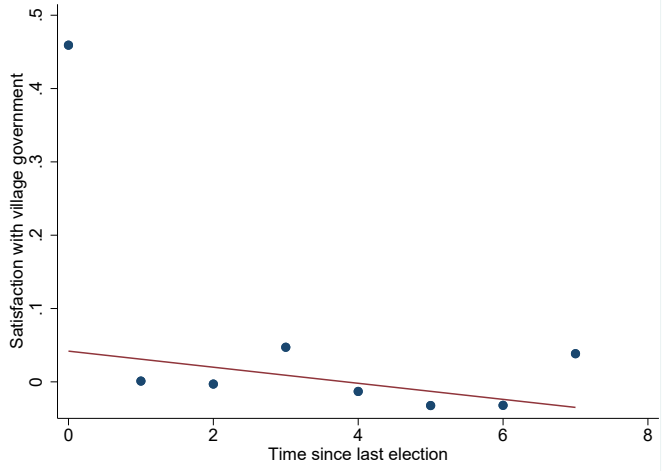
Figure A.3: Distribution of Bureaucrat Salaries



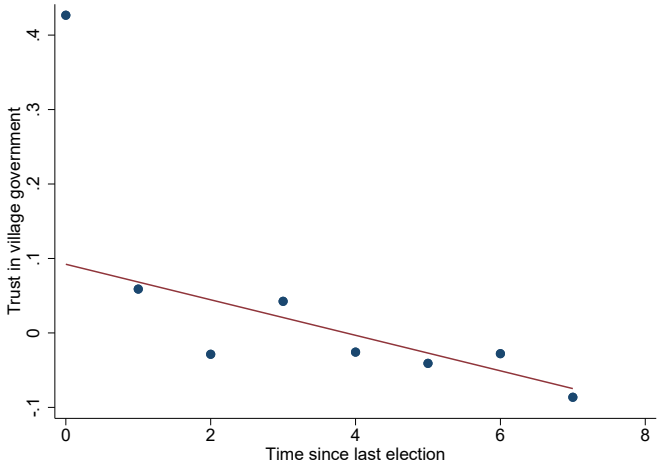
Notes: This figure plots of the distribution of reported salaries in million IDR for bureaucrats in our sample.

Figure A.4: 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	-0.597	-0.156	-0.057	-0.005	0.198*	0.059	-0.015	-515.438	-0.198	0.042	-0.002	0.001	-0.238
	(0.666)	(0.277)	(0.141)	(0.104)	(0.110)	(0.079)	(0.103)	(552.581)	(0.346)	(0.049)	(0.061)	(0.026)	(0.403)
Observations	512	509	512	512	512	512	512	512	512	512	512	512	512
Control mean	4.65	6.47	0.31	0.15	0.16	0.076	0.17	2229.8	3.43	0.84	0.025	0.39	1.63
Robust p-value	0.31	0.54	0.67	0.80	0.053	0.42	0.93	0.36	0.52	0.25	0.93	0.97	0.45
Bandwidth size (%)	19.6	20.4	21.1	27.7	19.8	18.9	22.3	20.3	22.5	22.1	31.6	31.7	18.4
Effective obs.	241	246	251	310	242	235	259	249	262	258	336	336	229

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 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	0.659	0.146	106.152	-0.009	0.013	-0.049	0.144	-0.190**	-0.026	-0.003
	(0.725)	(3.019)	(161.475)	(0.073)	(0.089)	(0.085)	(0.127)	(0.083)	(0.060)	(0.008)
Observations	512	512	512	512	512	512	512	512	512	512
Control mean	4.76	110.6	179.6	0.093	0.14	0.92	0.56	0.17	0.034	0.012
Robust p-value	0.33	0.99	0.38	0.99	0.93	0.45	0.23	0.015	0.73	0.54
Bandwidth size (%)	23.1	19.4	17.0	22.6	20.5	23.9	28.5	19.4	18.7	11.5
Effective obs.	266	239	216	262	249	276	316	240	234	158

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 in parentheses.

Table A.3: Balance Checks on Sampling of Citizens

	Listed by village official	Listed by BPD member
	(1)	(2)
New village head	-0.014	0.005
	(0.013)	(0.011)
Observations	14484	14484
Control mean	0.081	0.081
Robust p-value	0.264	0.689
Bandwidth size (%)	24.0	25.4
Effective obs.	7899	8223

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, a dummy equal to 1 if a village official provided a citizen's phone number; in column 2, a dummy equal to 1 if a BPD member provided a citizen's phone number.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.4: Effects on Bureaucrats' Demographic Characteristics

	Age	Years of education	Gender (female)
	(1)	(2)	(3)
New village head	1.055	-0.521	-0.152*
	(1.797)	(0.439)	(0.090)
Observations	1061	1066	1067
Control mean	38.6	13.6	0.28
Robust p-value	0.338	0.191	0.055
Bandwidth size (%)	17.8	20.5	16.1
Effective obs.	474	523	437

Notes: This table reports RD estimates of γ in equation (1) obtained via the non-parametric method from Calonico et al. (2014). Units of observation are bureaucrats in all columns. 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.5: Effects on Self-Reported Bureaucratic Knowledge

	Training	Village Law	Knowledge index
	(1)	(2)	(3)
New village head	-0.089	0.019	0.088
	(0.117)	(0.107)	(0.119)
Observations	1067	1065	1065
Control mean	0.61	0.76	0.12
Robust p-value	0.313	0.886	0.391
Bandwidth size (%)	19.1	17.8	28.4
Effective obs.	500	476	662

Notes: This table reports RD estimates of γ in equation (1) obtained via the non-parametric method from Calonico et al. (2014). Units of observation are bureaucrats in all columns. 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.6: Robustness Checks on Bureaucratic Organization: No Controls

	New village head	Tenure (yrs)	% New appts	Any promotion	Any demotion	Any reshuffling	Ln salary (IDR)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
New village head	0.831***	-4.006**	0.139	0.079	0.051	0.116	0.201**
	(0.098)	(1.930)	(0.102)	(0.101)	(0.057)	(0.110)	(0.093)
Observations	442	443	510	510	510	510	1060
Control mean	0.035	7.96	0.33	0.11	0.042	0.15	14.7
Robust p-value	0.000	0.044	0.13	0.47	0.27	0.25	0.024
Bandwidth size (%)	16.9	23.7	28.1	19.5	20.7	19.8	22.5
Effective obs.	184	235	311	239	248	240	545

Notes: This table reports 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 Table 1 .
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.7: Robustness Checks on Bureaucratic Organization: 3rd-Degree Polynomial

	New village head	Tenure (yrs)	% New appts	Any promotion	Any demotion	Any reshuffling	Ln salary (IDR)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
New village head	0.809***	-4.698*	0.127	0.163	0.131	0.288*	0.120
	(0.126)	(2.452)	(0.152)	(0.138)	(0.081)	(0.159)	(0.142)
Observations	442	443	510	510	510	510	1060
Control mean	0.035	7.96	0.33	0.11	0.042	0.15	14.7
Robust p-value	0.000	0.058	0.40	0.24	0.11	0.053	0.39
Bandwidth size (%)	34.7	45.8	26.2	33.6	26.8	29.2	18.3
Effective obs.	305	367	291	348	300	318	478

Notes: This table reports 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 Table 1.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.8: Robustness Checks on Bureaucratic Organization: Half the MSE-Optimal Bandwidth

	New village head	Tenure (yrs)	% New appts	Any promotion	Any demotion	Any reshuffling	Ln salary (IDR)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
New village head	0.825***	-5.502*	0.094*	0.093	0.096	0.199	0.119
	(0.228)	(2.776)	(0.150)	(0.161)	(0.060)	(0.176)	(0.156)
Observations	442	443	510	510	510	510	1060
Control mean	0.035	7.96	0.33	0.11	0.042	0.15	14.7
Robust p-value	0.000	0.064	0.069	0.15	0.79	0.12	0.58
Bandwidth size (%)	7.88	15.6	11.0	10.4	9.28	10.2	6.98
Effective obs.	99	172	150	145	131	143	214

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

Table A.9: Robustness Checks on Bureaucratic Organization: Three-Fourths the MSE-Optimal Bandwidth

	New village head	Tenure (yrs)	% New appts	Any promotion	Any demotion	Any reshuffling	Ln salary (IDR)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
New village head	0.813***	-5.145**	0.141	0.116	0.100	0.194	0.138
	(0.153)	(2.317)	(0.131)	(0.132)	(0.071)	(0.146)	(0.135)
Observations	442	443	510	510	510	510	1060
Control mean	0.035	7.96	0.33	0.11	0.042	0.15	14.7
Robust p-value	0.000	0.027	0.31	0.37	0.18	0.11	0.47
Bandwidth size (%)	11.8	23.4	16.5	15.6	13.9	15.3	10.5
Effective obs.	137	232	209	200	187	199	301

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

Table A.10: Robustness Checks on Bureaucratic Organization: Twice the MSE-Optimal Bandwidth

	New village head	Tenure (yrs)	% New appts	Any promotion	Any demotion	Any reshuffling	Ln salary (IDR)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
New village head	0.888***	-4.369***	0.141**	0.096	0.047	0.130*	0.132*
	(0.087)	(1.347)	(0.092)	(0.085)	(0.052)	(0.096)	(0.095)
Observations	442	443	510	510	510	510	1060
Control mean	0.035	7.96	0.33	0.11	0.042	0.15	14.7
Robust p-value	0.000	0.001	0.024	0.12	0.22	0.087	0.099
Bandwidth size (%)	31.5	62.4	44.0	41.6	37.1	40.9	27.9
Effective obs.	284	410	411	405	375	399	651

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). The dependent variables are identical to those in Table 1.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.11: Robustness Checks on Bureaucratic Organization: Fuzzy RD

	Tenure (yrs)	% New appts	Any promotion	Any demotion	Any reshuffling	Ln salary (IDR)
	(1)	(2)	(3)	(4)	(5)	(6)
New village head	-6.507***	0.115	0.102	0.145**	0.185*	0.221**
	(2.513)	(0.139)	(0.107)	(0.073)	(0.129)	(0.097)
Observations	442	441	441	441	441	873
Control mean	7.96	0.33	0.11	0.042	0.15	14.7
Robust p-value	0.008	0.37	0.30	0.026	0.094	0.015
Bandwidth size (%)	16.2	17.6	23.9	17.0	20.6	23.7
Effective obs.	179	189	233	185	212	461

Notes: This table reports fuzzy RD estimates of γ in equation (1) obtained via the non-parametric method from Calonico et al. (2014). We use $\mathbb{1}(\text{margin}_{jt} > 0)$ from equation (1) to instrument for a dummy equal to 1 if the current village head in our survey sample is a different individual from the incumbent who competed in the last election. The dependent variables are identical to those in Table 1.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.12: Robustness Checks on Nepotism: No Controls

	Relative of village head in village govt	Parent was village head	Parent served in village govt
	(1)	(2)	(3)
New village head	-0.186	-0.040	-0.165**
	(0.178)	(0.046)	(0.084)
Observations	441	1067	1067
Control mean	0.37	0.053	0.27
Robust p-value	0.15	0.26	0.041
Bandwidth size (%)	14.8	22.3	21.9
Effective obs.	167	546	537

Notes: This table reports 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 Table 2 .
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.13: Robustness Checks on Nepotism: 3rd-Degree Polynomial

	Relative of village head in village govt	Parent was village head	Parent served in village govt
	(1)	(2)	(3)
New village head	-0.515**	-0.096	-0.209*
	(0.237)	(0.065)	(0.120)
Observations	441	1067	1067
Control mean	0.37	0.053	0.27
Robust p-value	0.016	0.12	0.061
Bandwidth size (%)	29.6	32.8	30.2
Effective obs.	275	715	695

Notes: This table reports 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 Table 2.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.14: Robustness Checks on Nepotism: Half the MSE-Optimal Bandwidth

	Relative of village head in village govt	Parent was village head	Parent served in village govt
	(1)	(2)	(3)
New village head	-0.454	-0.080	-0.188
	(0.399)	(0.073)	(0.131)
Observations	441	1067	1067
Control mean	0.37	0.053	0.27
Robust p-value	0.31	0.46	0.19
Bandwidth size (%)	6.41	8.74	11.3
Effective obs.	80	261	327

Notes: This table reports RD estimates of γ in equation (1) using a RD bandwidth half the MSE-optimal bandwidth from Calonico et al. (2014). 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.15: Robustness Checks on Nepotism: Three-Fourths the MSE-Optimal Bandwidth

	Relative of village head in village govt	Parent was village head	Parent served in village govt
	(1)	(2)	(3)
New village head	-0.441	-0.076	-0.200*
	(0.323)	(0.064)	(0.109)
Observations	441	1067	1067
Control mean	0.37	0.053	0.27
Robust p-value	0.10	0.30	0.080
Bandwidth size (%)	9.62	13.1	16.9
Effective obs.	116	380	455

Notes: This table reports RD estimates of γ in equation (1) using a RD bandwidth three-fourths smaller than the MSE-optimal bandwidth from Calonico et al. (2014). 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.16: Robustness Checks on Nepotism: Twice the MSE-Optimal Bandwidth

	Relative of village head in village govt	Parent was village head	Parent served in village govt
	(1)	(2)	(3)
New village head	-0.068**	-0.027	-0.134**
	(0.165)	(0.046)	(0.073)
Observations	441	1067	1067
Control mean	0.37	0.053	0.27
Robust p-value	0.041	0.17	0.022
Bandwidth size (%)	25.6	35.0	45.1
Effective obs.	245	757	884

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). 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.17: Robustness Checks on Nepotism: Fuzzy RD

	Relative of village head in village govt	Parent was village head	Parent served in village govt
	(1)	(2)	(3)
New village head	-0.035	-0.086*	-0.396***
	(0.147)	(0.062)	(0.129)
Observations	440	880	880
Control mean	0.37	0.053	0.27
Robust p-value	0.67	0.087	0.00088
Bandwidth size (%)	30.2	22.7	17.1
Effective obs.	279	444	371

Notes: This table reports fuzzy RD estimates of γ in equation (1) obtained via the non-parametric method from Calonico et al. (2014). We use $\mathbb{1}(\text{margin}_{jt} > 0)$ from equation (1) to instrument for a dummy equal to 1 if the current village head in our survey sample is a different individual from the incumbent who competed in the last election. 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.18: Robustness Checks on Bureaucrat Outcomes: No Controls

	Enthusiasm	Motivation	Freq. interactions	Priorities	Worst services	Priorities	Worst services
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
New village head	0.343**	30.825*	0.402**	0.046	0.224**	0.192***	0.167**
	(0.155)	(20.756)	(0.195)	(0.132)	(0.120)	(0.070)	(0.083)
Observations	1064	1062	1064	1067	1067	1067	1067
Control mean	-0.058	100.6	0.32	0.75	0.33	0.87	0.71
Robust p-value	0.020	0.090	0.022	0.56	0.024	0.0016	0.049
Bandwidth size (%)	27.4	18.1	18.0	16.9	16.8	18.0	26.3
Effective obs.	647	476	476	455	455	477	618

Notes: This table reports 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 3 and 4.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.19: Robustness Checks on Bureaucrat Outcomes: 3rd-Degree Polynomial

	Enthusiasm	Motivation	Freq. interactions	Priorities	Worst services	Priorities	Worst services
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
New village head	0.705***	34.742	0.570**	0.129	0.337**	0.242**	0.202*
	(0.236)	(26.132)	(0.246)	(0.178)	(0.165)	(0.102)	(0.115)
Observations	1064	1062	1064	1067	1067	1067	1067
Control mean	-0.058	100.6	0.32	0.75	0.33	0.87	0.71
Robust p-value	0.002	0.15	0.017	0.53	0.039	0.013	0.069
Bandwidth size (%)	34.2	38.5	31.2	28.7	34.5	33.9	28.3
Effective obs.	744	792	703	672	749	736	660

Notes: This table reports 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 3 and 4.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.20: Robustness Checks on Bureaucrat Outcomes: Half the MSE-Optimal Bandwidth

	Enthusiasm	Motivation	Freq. interactions	Priorities	Worst services	Priorities	Worst services
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
New village head	0.539**	30.067	0.452	0.122	0.289	0.198*	0.163*
	(0.287)	(28.168)	(0.281)	(0.248)	(0.248)	(0.167)	(0.106)
Observations	1064	1062	1064	1067	1067	1067	1067
Control mean	-0.058	100.6	0.32	0.75	0.33	0.87	0.71
Robust p-value	0.016	0.33	0.24	0.80	0.59	0.062	0.051
Bandwidth size (%)	10.4	10.7	8.17	8.77	8.49	9.19	12.8
Effective obs.	302	311	254	261	260	273	376

Notes: This table reports RD estimates of γ in equation (1) using a RD bandwidth half the MSE-optimal bandwidth from Calonico et al. (2014). The dependent variables are identical to those in Tables 3 and 4.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.21: Robustness Checks on Bureaucrat Outcomes: Three-Fourths the MSE-Optimal Bandwidth

	Enthusiasm	Motivation	Freq. interactions	Priorities	Worst services	Priorities	Worst services
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
New village head	0.528**	27.447	0.455	0.104	0.268	0.175**	0.163*
	(0.233)	(26.313)	(0.254)	(0.178)	(0.186)	(0.114)	(0.097)
Observations	1064	1062	1064	1067	1067	1067	1067
Control mean	-0.058	100.6	0.32	0.75	0.33	0.87	0.71
Robust p-value	0.014	0.28	0.11	0.53	0.12	0.039	0.073
Bandwidth size (%)	15.6	16.1	12.3	13.2	12.7	13.8	19.2
Effective obs.	423	437	351	382	374	397	502

Notes: This table reports RD estimates of γ in equation (1) using a RD bandwidth three-fourths smaller than the MSE-optimal bandwidth from Calonico et al. (2014). The dependent variables are identical to those in Tables 3 and 4.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.22: Robustness Checks on Bureaucrat Outcomes: Twice the MSE-Optimal Bandwidth

	Enthusiasm	Motivation	Freq. interactions	Priorities	Worst services	Priorities	Worst services
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
New village head	0.318***	20.093	0.329***	-0.005	0.099**	0.118***	0.182**
	(0.156)	(15.826)	(0.169)	(0.108)	(0.111)	(0.063)	(0.073)
Observations	1064	1062	1064	1067	1067	1067	1067
Control mean	-0.058	100.6	0.32	0.75	0.33	0.87	0.71
Robust p-value	0.0065	0.16	0.0081	0.20	0.022	0.0028	0.010
Bandwidth size (%)	41.6	43.0	32.7	35.1	34.0	36.7	51.3
Effective obs.	847	855	713	759	736	787	918

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). The dependent variables are identical to those in Tables 3 and 4.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.23: Robustness Checks on Bureaucrat Outcomes: Fuzzy RD

	Enthusiasm	Motivation	Freq. interactions	Priorities	Worst services	Priorities	Worst services
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
New village head	0.710***	37.908	0.582***	-0.001	0.301***	0.190**	0.148
	(0.235)	(25.172)	(0.249)	(0.147)	(0.144)	(0.094)	(0.119)
Observations	877	875	877	880	880	880	880
Control mean	-0.058	100.6	0.32	0.75	0.33	0.87	0.71
Robust p-value	0.001	0.11	0.0097	0.79	0.0082	0.020	0.21
Bandwidth size (%)	17.0	17.7	17.0	17.3	19.6	18.1	18.0
Effective obs.	369	385	370	375	409	388	388

Notes: This table reports fuzzy RD estimates of γ in equation (1) obtained via the non-parametric method from Calonico et al. (2014). We use $\mathbb{1}(\text{margin}_{jt} > 0)$ from equation (1) to instrument for a dummy equal to 1 if the current village head in our survey sample is a different individual from the incumbent who competed in the last election. The dependent variables are identical to those in Tables 3 and 4.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.24: Effects on Public Goods Provision Index Components (2021 Administrative Data)

	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	0.503*	0.212	0.064	0.825*	0.472**	0.194	-0.159	-0.025	0.044	0.059	0.328
	(0.263)	(0.357)	(0.392)	(0.404)	(0.256)	(0.332)	(0.304)	(0.354)	(0.289)	(0.127)	(0.331)
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	0.26
Robust p-value	0.053	0.45	1.00	0.079	0.046	0.41	0.53	0.70	0.96	0.59	0.23
Bandwidth size (%)	18.7	22.5	21.9	16.6	20.8	20.2	18.5	15.3	25.0	23.1	18.6
Effective obs.	161	181	177	141	173	172	160	133	196	182	160

Notes: This table reports RD estimates of γ in equation (1) obtained via the non-parametric method from Calonico et al. (2014). In column 1, the dependent variable is a standardized index of local service provision constructed using the 2021 *Podes* survey. Remaining columns report 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 A.25: 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	0.208**	0.364**	0.025	0.164	0.003	0.047	0.009	0.037	0.030	0.157	0.035	0.057	0.149**	0.351**
	(0.097)	(0.170)	(0.023)	(0.136)	(0.078)	(0.145)	(0.080)	(0.182)	(0.047)	(0.150)	(0.102)	(0.211)	(0.077)	(0.186)
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	0.93	-0.023	0.72	0.027	0.91	0.073
Robust p-value	0.017	0.022	0.23	0.12	0.92	0.63	0.86	0.73	0.35	0.16	0.62	0.63	0.017	0.021
Bandwidth size (%)	23.0	26.5	28.8	23.9	21.2	29.0	22.9	20.7	21.0	18.7	17.7	16.0	12.4	13.3
Effective obs.	4575	5140	5536	4801	4403	5465	4579	4309	4349	4057	3897	3533	2898	3165

Notes: This table reports RD estimates on the individual components of the indices of service access and quality used in Table A.39, columns 2 and 3. 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.26: 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)
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
Effective obs.	165	177	177	154	182	204	165	156	216	201	157

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 A.24. * p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.27: 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)
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
Effective obs.	218	236	236	197	279	259	221	260	238	233	237

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 A.24. * p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.28: 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)
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
Effective obs.	90	104	103	84	99	96	90	78	116	103	237

Notes: This table reports RD estimates of γ in equation (1) using a RD bandwidth half the MSE-optimal bandwidth from Calonico et al. (2014). All dependent variables are identical to those examined in Table A.24. * p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.29: Robustness Checks on Public Goods Provision: Three-Fourths 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	0.442	0.345	-0.023	0.400	0.605	0.573	-0.318	0.059	-0.138	0.054	0.211
	(0.364)	(0.498)	(0.605)	(0.557)	(0.356)	(0.604)	(0.427)	(0.519)	(0.438)	(0.092)	(0.487)
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	0.74	0.54	0.53	0.72	0.11	0.22	0.48	0.13	0.69	0.83	0.80
Bandwidth size (%)	14.0	16.9	16.5	12.5	15.6	15.2	13.9	11.5	18.8	17.4	31.0
Effective obs.	126	145	140	112	134	133	126	105	161	146	237

Notes: This table reports RD estimates of γ in equation (1) using a RD bandwidth three-fourths smaller than the MSE-optimal bandwidth from Calonico et al. (2014). All dependent variables are identical to those examined in Table A.24. * p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.30: 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)
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
Effective obs.	273	307	298	244	293	288	273	235	316	308	237

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 A.24. * p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.31: Robustness Checks on Public Goods Provision: Fuzzy RD

	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
Effective obs.	128	158	141	115	152	149	141	155	154	149	118

Notes: This table reports fuzzy RD estimates of γ in equation (1) obtained via the non-parametric method from Calonico et al. (2014). We use $\mathbb{1}(\text{margin}_{jt} > 0)$ from equation (1) to instrument for a dummy equal to 1 if the current village head in our survey sample is a different individual from the incumbent who competed in the last election. All dependent variables are identical to those examined in Table A.24. * p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.32: Robustness Checks on Citizen Perceptions: No Controls

	Access	**Quality**
	(1)	(2)
New village head	0.061*	0.202**
	(0.039)	(0.098)
Observations	8848	8846
Control mean	0.78	-0.028
Robust p-value	0.057	0.012
Bandwidth size (%)	18.5	16.1
Effective obs.	4066	3592

Notes: This table reports RD estimates of γ in equation (1). In these specifications, we remove election year dummies, which are included in our baseline estimation. The dependent variables are identical to those in Table 5, columns 2 and 3.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.33: Robustness Checks on Citizen Perceptions: 3rd-Degree Polynomial

	Access	**Quality**
	(1)	(2)
New village head	0.111*	0.271**
	(0.064)	(0.125)
Observations	8848	8846
Control mean	0.78	-0.028
Robust p-value	0.078	0.031
Bandwidth size (%)	23.5	30.3
Effective obs.	4755	5753

Notes: This table reports 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 Table 5, columns 2 and 3.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.34: Robustness Checks on Citizen Perceptions: Half the MSE-Optimal Bandwidth

	Access	**Quality**
	(1)	(2)
New village head	0.082	0.202
	(0.085)	(0.189)
Observations	8848	8846
Control mean	0.78	-0.028
Robust p-value	0.42	0.31
Bandwidth size (%)	7.60	7.45
Effective obs.	1953	1914

Notes: This table reports RD estimates of γ in equation (1) using a RD bandwidth half the MSE-optimal bandwidth from Calonico et al. (2014). The dependent variables are identical to those in Table 5, columns 2 and 3.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.35: Robustness Checks on Citizen Perceptions: Three-Fourths the MSE-Optimal Bandwidth

	Access	**Quality**
	(1)	(2)
New village head	0.077*	0.212**
	(0.063)	(0.143)
Observations	8848	8846
Control mean	0.78	-0.028
Robust p-value	0.086	0.044
Bandwidth size (%)	11.4	11.2
Effective obs.	2733	2672

Notes: This table reports RD estimates of γ in equation (1) using a RD bandwidth three-fourths smaller than the MSE-optimal bandwidth from Calonico et al. (2014). The dependent variables are identical to those in Table 5, columns 2 and 3.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.36: Robustness Checks on Citizen Perceptions: Twice the MSE-Optimal Bandwidth

	Access	**Quality**
	(1)	(2)
New village head	0.036*	0.097**
	(0.039)	(0.095)
Observations	8848	8846
Control mean	0.78	-0.028
Robust p-value	0.051	0.017
Bandwidth size (%)	30.4	29.8
Effective obs.	5755	5648

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). The dependent variables are identical to those in Table 5, columns 2 and 3.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.37: Robustness Checks on Citizen Perceptions: Fuzzy RD

	Access	**Quality**
	(1)	(2)
New village head	0.110**	0.308***
	(0.050)	(0.124)
Observations	7695	7693
Control mean	0.78	-0.028
Robust p-value	0.011	0.004
Bandwidth size (%)	14.8	15.2
Effective obs.	2925	2999

Notes: This table reports fuzzy RD estimates of γ in equation (1) obtained via the non-parametric method from Calonico et al. (2014). We use $\mathbb{1}(\text{margin}_{jt} > 0)$ from equation (1) to instrument for a dummy equal to 1 if the current village head in our survey sample is a different individual from the incumbent who competed in the last election. The dependent variables are identical to those in Table 5, columns 2 and 3.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.38: Effects on Village Head Characteristics

	Parent was village head	Parent served in village govt	Age	Male	Educ	Islam	Bahasa
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
New village head	0.071	0.005	-2.124	-0.028	-0.182	-0.188*	0.100
	(0.096)	(0.113)	(2.969)	(0.059)	(0.582)	(0.135)	(0.117)
Observations	443	443	443	443	443	443	443
Control mean	0.10	0.24	49.9	0.95	13.1	0.86	0.17
Robust p-value	0.37	0.91	0.64	0.53	0.70	0.082	0.31
Bandwidth size (%)	24.5	28.3	16.0	22.0	28.2	15.9	20.8
Effective obs.	241	267	176	220	266	176	214

Notes: This table reports RD estimates of γ in equation (1). The sample includes all village heads. The dependent variable is: in column 1, a dummy equal to one if the village head's parent was also village head; in column 2, a dummy equal to one if the village head's parent served in the village government; in column 3, the age of village heads in years; in column 4, a dummy equal to one if the village head is male; in column 5, years of education; in column 6, a dummy equal to one if the village head's religion is Islam; in column 7, a dummy equal to one if the village head speaks Bahasa as the primary language.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors in parentheses.

Table A.39: Dynamic Effects on Public Goods Provision

	2015-2020	2015-2017	2018-2020	2021-22 (placebo)
	(1)	(2)	(3)	(4)
New village head	0.503*	0.902*	0.440	-0.364
	(0.263)	(0.529)	(0.340)	(0.549)
Observations	378	122	256	134
Control mean	0.23	0.33	0.15	0.45
Robust p-value	0.053	0.063	0.17	0.61
Bandwidth size (%)	18.7	18.4	19.0	22.2
Effective obs.	161	52	109	80

Notes: This table reports RD estimates of γ in equation (1). The dependent variable is the index of local public service provision constructed using the 2021 Podes data. We restrict the sample to villages that conducted their most recent election between 2015-2020 (column 1); between 2015 and 2017 (column 2) or between 2018 and 2020 (column 3). In column 4, 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 A.40: Effects on Old-Serving Nepotistic Appointees

	Proportion	Binary (=1 if any)
	(1)	(2)
New village head	-0.036	-0.017
	(0.068)	(0.130)
Observations	510	510
Control mean	0.15	0.25
Robust p-value	0.83	0.93
Bandwidth size (%)	22.9	21.3
Effective obs.	263	252

Notes: This table reports RD estimates of γ in equation (1). In column 1, the dependent variable is the share of bureaucrats who were appointed before the most recent election and report that a family member previously served as a village official. In column 2, the dependent variable is a dummy equal to one if at least one such bureaucrat is present in a village. See See Section 5 for details.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors in parentheses.

Table A.41: Bureaucratic Organization, Excluding Lame-duck Village Heads

	New village head	Tenure (yrs)	% New appts	Any promotion	Any demotion	Any reshuffling	Ln salary (IDR)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
New village head	0.839***	-4.701***	0.179**	0.115	0.081	0.152	0.112
	(0.104)	(1.127)	(0.102)	(0.094)	(0.059)	(0.106)	(0.108)
Observations	411	412	479	479	479	479	999
Control mean	0.037	6.97	0.33	0.11	0.045	0.14	14.7
Robust p-value	0.000	0.000	0.044	0.17	0.11	0.11	0.26
Bandwidth size (%)	16.5	31.0	22.9	24.0	18.6	23.2	15.9
Effective obs.	171	269	251	262	221	256	412

Notes: This table reports RD estimates of γ in equation (1). The sample excludes villages where the current village head is serving in their third term. The dependent variables are identical to those in Table 1.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors in parentheses for columns 1-6. Robust standard errors clustered by village in parentheses for column 7.

Table A.42: Turnover and Nepotism, Excluding Lame-duck Village Heads

	Relative of village head in village govt	Parent was village head	Parent served in village govt
	(1)	(2)	(3)
New village head	-0.413***	-0.079*	-0.150**
	(0.178)	(0.050)	(0.077)
Observations	410	1006	1006
Control mean	0.38	0.051	0.27
Robust p-value	0.0045	0.055	0.038
Bandwidth size (%)	12.8	16.3	28.8
Effective obs.	142	424	646

Notes: This table reports RD estimates of γ in equation (1). The sample excludes villages where the current village head is serving in their third term. The dependent variables are identical to those in Table 2.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors in parentheses for column 1. Robust standard errors clustered by village in parentheses for columns 2-3.

Table A.43: Bureaucrats' Morale and Effort, Excluding Lame-duck Village Heads

	Enthusiasm	Motivation	Interacts daily with citizens	Frequency of interactions (z-score)
	(1)	(2)	(3)	(4)
New village head	0.527***	22.989	0.188**	0.363**
	(0.179)	(17.014)	(0.103)	(0.181)
Observations	1003	1001	1003	1003
Control mean	-0.051	101.1	0.57	0.29
Robust p-value	0.001	0.13	0.041	0.023
Bandwidth size (%)	18.4	25.7	20.5	17.2
Effective obs.	462	578	499	441

Notes: This table reports RD estimates of γ in equation (1). The sample excludes villages where the current village head is serving in their third term. The dependent variables are identical to those in Table 3.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.44: Alignment with Citizens' Preferences, Excluding Lame-duck Village Heads

	Investment priorities	Worst-quality services	Priority services	Worst-quality services
	(1)	(2)	(3)	(4)
New village head	0.125	0.277***	0.127**	0.189**
	(0.118)	(0.111)	(0.060)	(0.079)
Observations	1006	1006	1006	1006
Control mean	0.75	0.31	0.87	0.71
Robust p-value	0.15	0.003	0.013	0.014
Bandwidth size (%)	17.9	16.4	18.4	29.1
Effective obs.	457	424	464	646

Notes: This table reports RD estimates of γ in equation (1). The sample excludes villages where the current village head is serving in their third term. The dependent variables are identical to those in Table 4.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village in parentheses.

Table A.45: Effects on Public Goods Provision, Excluding Lame-duck Village Heads

	Public Goods Index	**Citizen Perceptions**		**Balance**
	Podes 2021	Access	Quality	*Podes* 2014
	(1)	(2)	(3)	(4)
New village head	0.498*	0.055	0.175*	-0.058
	(0.272)	(0.044)	(0.107)	(0.429)
Observations	356	8304	8302	353
Control mean	0.26	0.78	-0.043	-0.0024
Robust p-value	0.057	0.12	0.050	0.79
Bandwidth size (%)	19	15.7	15.5	19.5
Effective obs.	153	3317	3317	155

Notes: This table reports RD estimates of γ in equation (1). The dependent variables are identical to those in Table 5.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors in parentheses for columns 1 & 4. Robust standard errors clustered by village in parentheses for columns 2 & 3.

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.

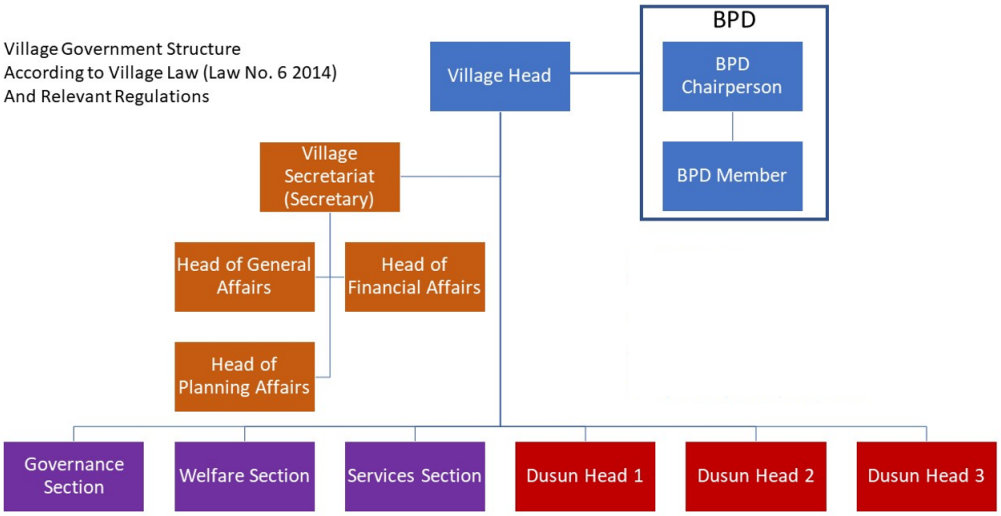
Our initial goal was to recruit a sample of 1,000 villages from a set of eligible villages in 20 districts. Given surveys were conducted over the phone, we expected a low consent rate. We thus sampled from a pool of around 1,700 villages across 20 districts and later added another 3 districts in order 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?	|_|_|_|_| - |_|_|_|_|_|_|_|_|