



UNIVERSITY OF GOTHENBURG
SCHOOL OF BUSINESS, ECONOMICS AND LAW

WORKING PAPERS IN ECONOMICS

No 684

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December 2016

ISSN 1403-2473 (print)
ISSN 1403-2465 (online)

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JOB MARKET PAPER

Latest version: [here](#)

First version: 6th April, 2015

This version: 25th November, 2016

Abstract

Modern state bureaucracies are designed to be insulated from political interference. Successful insulation implies that politicians' electoral incentives do not affect bureaucrats' corruption. I test this prediction by assembling a unique dataset on corruption, promotions and demotions for more than 4 million Indonesian local civil servants. To identify the effect of reelection incentives, I exploit the existence of term limits and a difference-in-difference strategy. I find that reelection incentives decrease the corruption behaviour of both top and administrative bureaucrats, which constitutes new evidence of the deep, far-reaching effects of politicians' accountability on local civil servants. I explore a mechanism where bureaucrats have career concerns and politicians facing reelection manipulate such

*Special thanks to Philippe Aghion, Tim Besley, Sonia Bhalotra, Gharad Bryan, Ruben Enikopolov, Claudio Ferraz, Frederico Finan, Adnan Khan, Randi Hjalmarsson, Roland Hodler, Sergei Guriev, Roland Hodler, Andreas Madestam, Giovanni Mastrobuoni, Ola Olsson, Torsten Persson, David Strömberg, Måns Söderbom, Jakob Svensson and Alessandro Tarozzi, as well as participants at the Quality of Government seminar, UPF Breakfast seminar, ASWEDE Meeting in Stockholm, Max Planck Institute for Collective Goods, STICERD-LSE work in progress seminar, 2015 SITE Conference on Corruption at the Stockholm School of Economics, Stockholm University, IEB Workshop on Political Economy and Public Finance, SSDEV 2015 in Garda, University of Gothenburg, ISER (University of Essex), 2014 PSPE-LSE lunch seminar. I wish to thank Daniel Surydarma for sharing his data, and Matteo Spreafico, Desiana Barianti and Indra Ambarita for priceless help in assembling the data. I am grateful to the Gothenburg Center for Globalization and Development, the Foundation for Economic Research in West Sweden and the Wallander Foundation for financial support. All errors are my own. I thank IIES (Stockholm University), STICERD (LSE) and UPF for hosting me while working on this project. Email: michele.valsecchi@economics.gu.se

concerns by increasing the turnover of top bureaucrats. Consistent with this mechanism, I find that reelection incentives increase demotions of top bureaucrats and promotions of administrative bureaucrats.

Key words: Corruption; Elections; Bureaucracy.

JEL Classification codes: D72, D73, H83, K40, O17.

1 Introduction

While most of the countries in the world have adopted some variation of the Weberian bureaucratic system,¹ which essentially insulates the bureaucracy from political influence, in no country is such insulation complete (Global Integrity 2006-2013). Strong insulation of bureaucrats from politicians is often advocated as protection against political patronage. However, voters judge politicians based on economic outcomes generated by both politicians and bureaucrats. Providing politicians with greater control over bureaucrats can enhance their reelection incentives (Ujhelyi 2014a). According to this view, a completely insulated bureaucracy would shut down the disciplining effect of elections, which is one of its core functions.² More generally, civil service rules can interfere with the ability of elections to discipline politicians. This is consistent with the observation that, while few governments have questioned the principle of meritocratic recruitment,³ the optimal level of control over the bureaucracy has been more controversial.⁴

In this paper, I test whether, in a setting where most of the typical civil service system features are present, but the politician retains some control over the appointment of top bureaucrats, the politician uses this power for reelection purposes. First, I evaluate the effect of politicians' reelection incentives on the demotions and the corruption behavior of top

¹The main features of Weberian bureaucracies are: meritocratic recruitment, tenure-based salaries, low risk of getting fired, and internal promotions.

²Political influence can also be a factor of positive change during democratization, a time when the turnover of politicians precedes the turnover of bureaucrats who are typically inherited from the previous regime (Acemoglu, Ticchi and Vindigni 2011).

³This principle was introduced with the US Pendleton Act of 1883. See Rauch (1995) and Ujhelyi (2014b) for an empirical analysis.

⁴See the US Civil Service Reform Act of 1978, as well as Thatcher's policies of the 1970s (Lah and Perry (2008), Perry (2008), Ujhelyi (2014a)).

bureaucrats. Second, I evaluate the effect of politicians' reelection incentives on the pool of candidates for top positions: administrative bureaucrats and front-line service providers.

I investigate this question using data from Indonesia, a young democracy with a standard Weberian bureaucratic system, where politicians have the power to influence internal promotions and the selection of new recruits, but otherwise have no power to fire civil servants or to recruit top bureaucrats from outside the civil service.

I study this question using a unique dataset on corruption, promotions and demotions for more than 4 million local civil servants. I measure corruption by constructing a dataset of corruption offences from corruption prosecutions. The main advantage of this data is that it allows me to identify whether corruption offences involve politicians, top or administrative bureaucrats, front-line service providers or private agents (contractors). The data that I extract from these documents is rich enough to allow me to run several tests for potential manipulation of corruption law enforcement.

The identification strategy is based on the existence of term limits for local politicians. This feature, jointly with the prevalence of first-term politicians at the beginning of the period that I consider, allows me to estimate a simple difference-in-difference model, where I follow districts with first and second-term politicians before and after local elections. This strategy and the wealth of available data allow me to control for various endogeneity threats and to validate the identification assumption by estimating several placebo effects.

Most political economy models assume that politicians' reelection depends on the level of public goods. For any given level of public expenditure, any capture of funds reduces resources available for public good provision. If public service provision depends uniquely on these resources, then the politician will want to reduce bureaucrats' corruption, even more so if corruption directly harms his reelection chances through media exposure (Ferraz and Finan 2008).⁵

How will the politician force the bureaucrats to reduce their corruption activities (or to devote more effort to public good provision)? The literature on front-line service providers

⁵However, if public service provision depends on both the level of resources and on the bureaucrats' level of effort, the politician might not necessarily want to reduce bureaucrats' corruption, because that constitutes an incentive to work (Lichand, Lopes and Madeiros 2016).

emphasizes the potential importance of increased monitoring, but this could have limited effectiveness if the politician lacks enforcing mechanisms. In absence of the ability to fire civil servants, the politician might reduce bureaucrats' engagement in corrupt activities by manipulating their career concerns.⁶

I estimate that civil servants' corruption is 56 percent lower when the local government head faces reelection. The effect is driven by top and administrative bureaucrats, while I find no effect for front-line civil servants, politicians and private agents (contractors). Consistent with the mechanism based on career concerns, I find that reelection incentives increase demotions of top bureaucrats and promotions of administrative bureaucrats. The timing of the effects corroborates the career concern interpretation: if the decrease in bureaucrats' corruption is generated by career concerns, then it must take place before or during the same year of the increase in promotions and demotions; consistent this fact, both effects are concentrated during the first 2-3 years of the political mandate.⁷ This suggests that the control of the politician over the top bureaucrats also generates incentives for the low-level bureaucrats. Hence, the inability of the politician to fire bureaucrats does not prevent him from having an influence over the behavior of low-level bureaucrats.

I then test for a second mechanism based on local public expenditure.⁸ Specifically, I test whether reelection incentives generated a decrease in total expenditure or a change in expenditure across sectors. The former could decrease corruption almost mechanically, while the latter could decrease corruption if the compositional change was in favor of sectors that

⁶An increase in monitoring can strengthen this mechanism, but it is not necessary.

⁷In a more sophisticated version of the career concern mechanism, the politician could select the new top bureaucrats along some specific dimension, such as honesty or loyalty. In this case, the increased turnover of top bureaucrats would also generate a compositional change (such as, for instance, an increase in average honesty or loyalty) that could also contribute to decrease corruption. Selection along a specific characteristic also implies that the incentive (or career concern) mechanism will depend on the share of low-level bureaucrats with that characteristic (or perhaps an even larger share if the characteristic is private information). While it is beyond the scope of this paper to separate these incentives and selection effects, what might be relevant here is that the incentive effect will last until promotions and demotions are realized, while the selection effect will take place after their realization. An alternative mechanism also based on promotions and demotions centers instead on job rotations as a device to break up the repeated interaction between bureaucrats and private agents. Abbink (2004) provides lab evidence that staff rotations can decrease corruption.

⁸There is a rich literature on the effect of electoral accountability on fiscal policies, which starts with theoretical work by Barro (1973) and Ferejohn (1986), obtains empirical support with Besley and Case (1995) and List and Sturm (2006) and continues theoretically with Besley (2006) and Smart and Sturm (2013). See Aschworth (2012) for a recent survey. Shi and Svensson (2006) also provide evidence on public expenditure and political cycles around the world.

are less vulnerable to capture by bureaucrats.⁹ I find that reelection incentives had only weak effects on total and sectoral expenditure. Specifically, they had no effect throughout the first part of the political mandate; the only effect is an increase in total expenditure the year before the forthcoming elections, which could explain, at most, why the effect on corruption is muted during the last year. Estimates also suggest no noteworthy change in sectoral expenditure.

The paper makes three contributions. First, it contributes to the literature on the personnel of the state,¹⁰ which is rich when it comes to front-line service providers,¹¹ while it is much less developed when it comes to bureaucrats. This might be due to the typical reluctance of central governments to release data on civil servants (if such data exist) or to allow researchers to collect data. In fact, a large share of few existing studies focuses on Indian top civil servants, for which there exist excellent data.¹² Indeed, the mechanism outlined above builds on the finding that top bureaucrats can influence economic outcomes (Bertrand et al. 2016). This paper speaks to this research by studying contemporaneously several types of civil servants (top and administrative bureaucrats, as well as front-line civil servants) with a particular focus on administrative bureaucrats (i.e., the primary pool of candidates to become top bureaucrats) and by providing rich and highly disaggregated data for all Indonesian districts, i.e., one of the biggest in the world.

Second, the paper contributes to a more specific literature on the interaction between politicians and bureaucrats. Existing studies suggest that political turnover can be associated with top bureaucrats' transfers (Iyer and Mani 2012) and that political competition can influence the speed of approval of development projects by top bureaucrats close to promotion review (Nath 2016). I contribute in three different ways: first, by showing that politicians'

⁹This compositional change might be driven, for instance, by the politician diverting resources from long-run investment to short-run projects, or from maintenance/non-visible to visible projects (Robinson and Torvik 2005).

¹⁰See Finan, Olken and Pande (2015) for a recent review of existing studies.

¹¹Front-line service providers are primarily teachers, doctors and nurses. Prominent examples of the literature on these civil servants are Duflo, Hanna and Ryan (2012) for teachers' absenteeism; Banerjee, Glennerster and Duflo (2012) for nurses' absenteeism; Callen et al (2015) for clinic doctors' fake reports; and Banerjee, Chattopadhyay, Duflo, Keniston and Singh (2014) for police officers. By focussing on community development agents and tax collectors, Dal Bo, Finan and Rossi (2013) and Khan, Khwaja and Olken (2015) are perhaps the closest examples of a randomized intervention involving bureaucrats rather than front-line civil servants. Their focus, however, is on the effect of financial incentives on job performance.

¹²Bertrand et al (2016), Iyer and Mani (2012), Nath (2016). Other work focuses on Nigeria (Rasul and Rogger 2016), Ghana (Williams 2015), Uganda (Raffler 2016) and China (Bai and Jia 2016).

incentives can influence bureaucrats far below the top layer; second, by showing evidence of manipulation of internal promotions linking different tiers of the bureaucracy; and, third, by focussing on corruption behavior.

More generally, the evidence in this paper complements the theory by Ujhelyi (2014a) to suggest that, if we want to understand the effect of political institutions on economic outcomes, then we should pay more attention to their complementarity with civil service institutions.

Third, this paper contributes to the literature on corruption.¹³ Bureaucrats' corruption is commonly considered one of the main obstacles to economic activities in developing countries.¹⁴ While a lot of attention has been paid to the strategic interaction between bureaucrats (Shleifer and Visny 1993, Olken and Barron 2009) or, in the context of front-line service providers, on monitoring,¹⁵ much less attention has been paid to electoral pressures. The closest paper to this project is Ferraz and Finan (2011), who use cross-sectional data on Brazilian municipalities to show that reelection incentives are associated with a decrease in corruption. This paper builds on their findings by i) estimating separately the effect on corruption by politicians, top and administrative bureaucrats, front-line service providers and private agents (contractors); ii) disaggregating the effect on bureaucrats' corruption over the political cycle; and iii) exploring the role of bureaucrats' promotions and public expenditure as channels of transmission.

The paper develops as follows: Section 2 provides the context; Section 3 describes the data; Section 4 outlines the empirical strategy and presents the main results; Section 5 presents a variety of robustness checks; Section 6 discusses the mechanisms; and Section 7 concludes.

¹³See Olken and Pande (2012), Banerjee, Hanna and Mullainathan (2013), Burguet, Ganuza and Montalvo (2016) for recent surveys of the literature.

¹⁴Estimating the magnitude of this corruption is difficult. Reinikka and Svensson (2004), Khwaja and Mian (2005), Fisman (2001) and Niehaus and Sukhantar (2010) find large estimates of corruption in a variety of settings. Svensson (2003) reports that over 80 percent of firms in Uganda report having paid bribes. Reinikka and Svensson (2004) find that 87 percent of central government spending for an education program in Uganda did not reach beneficiary schools. Olken (2006, 2007) finds estimates of corruption of 18 percent (of program expenditure) and 24 percent (of road construction costs). Consistent with the view that corruption is a major obstacle to development, the World Bank has supported over 600 anti-corruption programs around the world since 1996 (Banerjee, Hanna and Mullainathan 2013).

¹⁵Recent works in this strand of literature include Duflo et al (2012), Banerjee et al (2008), Callen et al. (2015).

2 Context

In this section, I outline the structure of local governments and, separately, provide a description of corruption schemes in Indonesia. Regarding the structure of local governments, I focus on the appointment and responsibilities of local politicians and civil servants and describe the type of influence that the former might exert on the latter.

2.1 Local politicians: appointment, responsibilities and term limits

The administrative structure in Indonesia is composed of several layers: the central government, the provinces (33), the districts (390), the sub-districts (about 4,000) and the villages (about 76,000). The district (called *kabupaten* or *kota*) is the most important administrative layer besides the central government. It is responsible for the provision of local public goods.¹⁶ The district is headed by a local government composed of a district head (called *bupati* in rural districts and *walikota* in urban districts) and a vice-head (called *wakil*). It is also assisted by a local parliament (called DPRD), whose members are responsible for analysing and approving the yearly budget submitted by the district government.

District governments stay in power for five years. District heads can be elected for up to two mandates (either consecutive or not).¹⁷ The position of district head is very prestigious. In fact, 80 percent of first-term district heads run for reelection. However, political competition is often fierce. Conditional on running for reelection, the probability of winning is 70 percent.

Throughout the rest of the paper, I will refer to elected public officers (district head, vice

¹⁶District governments received this responsibility from the central government in 1999 following a large decentralization program. While the program decentralized most responsibilities concerning local public good provision (and therefore the expenditure side), it kept the revenue side essentially centralized: district administrations kept receiving substantial formula-based transfers from the central government, thus retaining very limited power over tax rates in their own territory. Olsson and Valsecchi (2015) exploit the formula determining the transfers to identify the effect of resource revenue windfalls on local public good provision.

¹⁷Local deputies also have a mandate of five years, but do not face term limits. An important difference between elections for district parliaments and elections for district governments is that the former take place at the same time throughout all of Indonesia (1999, 2004, 2009), while the latter take place at different times throughout the country: 1999-2004 (first wave), 2005-2009 (second wave), 2010-2014 (third wave). The timing of these elections is driven primarily by the year of formation of the district, natural death of the district head, or district head resigning to run for gubernatorial or other elections. The timing of district elections is arguably exogenous to many district observable and unobservable characteristics. Valsecchi (2013), Skoufias (2014), Sjöholm and Moricz (2014) and Mukherjee (2014) exploit this timing as a source of exogeneity to identify the effect of local elections on a variety of economic outcomes.

district head, local deputies, and elected village heads)¹⁸ as *politicians*.

2.2 Local civil servants: recruitment and promotions

There are about 4.6 million civil servants in Indonesia.¹⁹ The number of local civil servants is 3.5 million (including teachers, doctors, nurses and social workers).

Indonesian bureaucrats are recruited through a competitive examination. The candidates who pass this examination enter the local civil service as administrative bureaucrats (*Jabatan Fungsional Umum, or JFU*), numbering about 1,400 in an average district, or front-line service providers (*Jabatan Fungsional Tertentu, or JFT*), numbering about 3,400 on average in a district (mostly teachers, doctors, nurses and social workers). They also get assigned a rank. Rank and tenure are the only determinants of the salary. Civil servants enjoy automatic promotions to higher ranks every four years. Promotions to higher ranks also constitute a requirement for promotion to top (or managerial) positions (called *eselon*).

Top positions constitute the fundamental skeleton of the local administration: they range from secretary of the local government (the highest civil servant) to heads of the various departments (typically between 20 and 30)²⁰ to sub-department and office heads. Top positions constitute the most prestigious and most powerful jobs within the civil service. Indeed, the competition to achieve these positions is ferocious: simply consider that they typically amount to 2-300 positions, while, on average, there are about 5000 civil servants working for a local government.

Promotions to top positions are open exclusively to civil servants with several years in office, who (typically) come from the same local governments. Most importantly, and differently from promotions to higher ranks, the district head can heavily influence promotions to

¹⁸Villages are typically headed by elected village heads, called *Kepala Desa*. See Martinez-Bravo (2014, 2016) for a political economy analysis of Indonesian villages.

¹⁹According to the World Bank (2000), in 1999, there were 5.6 million public sector employees, of whom 1 million were employed in state enterprises and 4.6 were employed by the general government. Among these 4.6 million, 0.5 million were employed by the military and the police, while 4 million were civil servants. Among these 4 million, there were 0.5 million regional civil servants, 1.7 central but seconded to regions, and 1.7 who were central without being seconded. According to Statistik Indonesia (2008, 2011), in 2007 and 2010, there were 4 and 4.6 million local civil servants.

²⁰While the number and labelling of departments can vary from district to district, the most common are the department of education, health, infrastructure, marine resources, culture and tourism, finance, religion, research and development, and environment.

top positions, both in terms of quantity of promotions, demotions and transfers, and in terms of who gets promoted, demoted or transferred. Specifically, case study evidence suggests that district heads can influence promotions and/or demotions by influencing the activities of the local government secretary. This secretary, in turn, is responsible for the activities of the Human Resource Department (*Badan Kepegawaian Daerah*), which, in turn, handles all promotions, demotions and transfers in a local government (World Bank 2011).

2.3 Prosecution of corruption offences

The data on corruption offences used in this paper originates from corruption prosecutions. In this section, I outline how corruption offences are prosecuted.

There are two bodies in charge of prosecuting corruption offences: the General Attorney Office (AGO) and the National Anti-Corruption Commission (KPK). AGO has its headquarters in Jakarta, provincial offices in each provincial capital and district offices in each district. AGO is in charge of prosecuting both normal and “special” crimes, where the latter are largely corruption crimes. Corruption prosecutions are triggered by police investigations and prosecutors’ investigations. While an investigation can start from a citizen’s complaint (or an audit report), a prosecution requires solid evidence. Specifically, it requires at least two qualitatively different kinds of evidence among the following: witness’ statements (at least two); a letter or document; statements of defendants from separate prosecutions; and evidence from investigative tools (for example, wire-tapping). Once the evidence is available, the investigation is handed over to a prosecutor,²¹ who opens a prosecution and prepares the case for the trial. Once the case goes to trial, the judge listens to the prosecutor and the defendant’s lawyer, reviews the evidence and issues a verdict.

Prosecutors are formally independent from local governments. Their promotions, demotions and transfers depend on the provincial attorney office, which, in turn, responds to the General Attorney Office in Jakarta. The only prosecutor who owes his/her appointment to a politician or a political body is the General Attorney in Jakarta, who is appointed directly by the President of the Republic. Hence, local politicians have no formal power to influence

²¹In case of investigation by a prosecutor, the case is handed over to a different prosecutor.

the local prosecutors' activities.²²

The National Anti-Corruption Commission (KPK) was created in 2002 and started operating in 2004. Its main functions are to coordinate and monitor the activities of the police and the local prosecutors' offices and to prosecute cases of substantial size (above 1 billion IDR or 100,000 USD). It typically prosecutes or at least monitors cases involving district heads or prominent politicians.

2.4 Corruption schemes

In this subsection, I provide some examples of corruption schemes involving politicians, top bureaucrats, or administrative bureaucrats. Corruption activities at the local level are primarily about diversion of public funds and fraud in procurement.

With respect to diversion of public funds, three examples illustrate well the typical mechanisms. Between 2007 and 2012, the district mayor of Kabupaten Buleleng issued a decree according to which the mining, plantation and forestry industries in the district would have had to pay an additional land and building tax. The decree was illegal, because it contradicted a ministerial regulation. In addition, the district and vice-district heads pocketed the revenue from this tax. As second example, in 2007, the head of the revenue, wealth and asset division of the finance department of Kabupaten Sidoarjo, who was supposed to distribute money to support 72 orphanages, kept some of the funds for himself. A third, somewhat similar example, concerns an administrative bureaucrat: between 2008 and 2010, one of the "salary treasurers" of Kabupaten Semarang, who was supposed to distribute salaries to teachers, used some of the funds to repay her loans.

With respect to fraud in procurement, I provide two simple examples. Between 2005 and 2006, the head of the public works department of Kabupaten Nunukan awarded a road project to a contractor (who was not the best bidder) in exchange for a bribe. In 2007, the secretary of the land acquisition committee of Kabupaten Cianjur colluded with a land owner to acquire land at above-market prices.

²²This does not exclude the possibility of informal influence. I will address this possibility in Section 5.

3 Data

In this section I describe the three main datasets used in this paper. First, a dataset on politicians, bureaucrats and private agents' (contractors') corruption offences for 2002-2011. This dataset is used to generate a measure of corruption offences for the period covered by the empirical analysis (2002-2011). Second, the universe of all bureaucrats' promotions and demotions during 2002-2011. Finally, the complete history of district mayors for 1995-2014.

3.1 Politicians, bureaucrats and contractors' corruption offences

To measure corruption, I rely on documents on corruption cases prosecuted or coordinated by the General Attorney Office (AGO) in 2008-2013. For each corruption offence, the documentation includes a description of the case and several characteristics of the defendants.²³ From this documentation, I extract the location and the date of the offence, the type of official involved and the year of the prosecution. This provides me with 1141 corruption offences for which I can determine these characteristics. Table 1 shows some descriptive statistics. Offences can take place once or repeatedly. The maximum duration is 12 years, with an average of 0.64 years;²⁴ 30 percent of the offences lasted more than one year; the average number of defendants is 1.32; 19 percent of the offences have more than one defendant; 11 percent of the offences involve at least one politician (3 percent involve a district head); 66 percent involve at least one bureaucrat; and 31 percent involve at least one private agent. It takes about three years, on average, to prosecute an offence; 20 percent of the offences are prosecuted 1 year later; 26 percent are prosecuted 2 years later; 19 percent are prosecuted 3 years later. About one-third of the cases were at the prosecution stage; about two-thirds were the court stage.²⁵

²³Annual reports from AGO suggest that prosecutors' activity was fairly weak before 2008. Indeed, the data to which I received access includes some prosecutions that took place before 2008, but these are relatively few.

²⁴The description of the offences included in the dataset always specifies the year of the offence (and sometimes even the month). However, it is not always clear whether the offence took place continuously throughout the year or just at a specific point in time. A duration of zero years is specified whenever the description indicated a specific year, but it should be interpreted as "zero to one" years. The same applies to all other values of this variable.

²⁵The percentage of cases at the prosecution and court stage is greater than 100 percent because, for 21 cases, defendants prosecuted for the offence were at different stages of the process.

Because the dataset includes all corruption offences prosecuted within 2013, the ability of the data to record corruption offences decreases as the time approaches 2013. This implies that, the longer the time span of the quantitative analysis, the lower the accuracy of the corruption data. For this reason, I will limit the quantitative analysis to offences that took place up to 2011.

The reports vary a lot in the level of detail. This typically does not prevent the identification of the main information used in this paper (district, year of the offence, occupation of the defendant, year of the prosecution), but it makes it hard to code (or estimate) the total amount of resources related to corrupt activities in a systematic way. For this reason, the empirical analysis will focus on the number of offences in a given district-year,²⁶ rather than on the share of resources embezzled.²⁷ Nonetheless, for about 48 percent of the offences, it is also possible to extract the information on the monetary size of the embezzlement and, for a smaller percentage (18 percent), even the size of the project that suffered the capture of funds. Table 2 shows the summary statistics for these amounts. Because the distribution of both project size and embezzlement is highly skewed, I will discuss only median values. The summary statistics suggest two important facts. First, corruption constitutes a substantial share of project size (36 percent). Second, corruption involving politicians (median embezzlement of 105,000 USD) is qualitatively different from corruption involving bureaucrats (18,000 USD) or private agents (18,000 USD).²⁸

One general issue with prosecution-based corruption measures is that corruption might be associated with weak state capacity. In turn, weak state capacity might be associated with poor corruption law enforcement. Hence, corruption in areas with strong state capacity could be over-reported, while corruption in areas with weak state capacity could be under-reported.

²⁶Note that this measure differs from previous prosecution-based measures of corruption used in the literature (such as Glaeser and Saks 2006, and Fisman and Gatti 2002a,b), because it records the number of corruption events that took place in a given district year, and *not* the number of prosecutions in a given district-year.

²⁷Estimating the value of corruption violations is a delicate exercise. Using data on budget irregularities for Brazilian municipalities, Ferraz and Finan (2011) run their empirical analysis on both number and value of corruption violations, while Lichand, Lopes and Madeiros (2016) use only the number of violations.

²⁸KPK prosecutions cover primarily politicians and large amounts (at least 100,000 USD), so one would expect that the inclusion of KPK reports is driving this difference. However, the median “AGO” embezzlement involving politicians is actually 75,000 USD.

In principle, the reporting bias might be so strong as to overturn the (positive) relationship between number of corruption offences and true corruption.

In order to get a sense of whether prosecuted corruption increases with true corruption, I compare the prosecution-based measure with a central government, audit-based measure of budget irregularities. Budget irregularities are a popular measure of corruption (Ferraz and Finan 2011, 2008),²⁹ which offers the advantage of being less prone to local corruption law enforcement concerns, because central government audits are carried out every year by the same government agency in the capital on all local government budgets. Because the number of budget irregularities refers to the district budget, I restrict the prosecution-based measure of corruption to offences related to such budget. Table 3 shows the results of an OLS regression of the number of corruption offences on the number of budget irregularities (in levels, Col. 1-2, and in logs, Col. 3-4). I also replace budget irregularities with the subset of irregularities most likely associated with corruption (in levels, Col. 5-6, and logs, Col. 7-8). The estimates suggest that the prosecution-based measure of corruption is positively correlated with the central government's audit-based measure of corruption and, therefore, that corruption law enforcement does not seem to be distributed so unevenly as to call into question the relationship between prosecution and true corruption. I will discuss further the relationship between corruption and corruption law enforcement in Section 5.

3.2 Bureaucrats' promotions and demotions

For this project, I use novel disaggregated data on bureaucrats' promotions and demotions. The dataset includes the number of civil servants and their promotions and demotions aggregated by district, year and category of civil servant. This dataset allows me to investigate both the effect of reelection incentives on bureaucrats' promotions and demotions and the effect on recruitment, in addition to the effect on local government size. The dataset covers all Indonesian districts for the period 2002-2015.

²⁹It is not a perfect measure, because it is hard to separate corruption from mismanagement. Most importantly, it provides no detail on who is directly responsible for the budget irregularity.

3.3 History of district mayors in power over 1995-2014

While a political mandate is five years long throughout the entire country, the timing of elections varies across local government. For instance, local governments with appointments in 1995 will typically go through elections in 2000, 2005 and 2010, while governments with appointments in 1998 will typically go through elections in 2003, 2008 and 2013. Throughout the rest of the paper, I will call “round of appointments” a time window (such as, for instance, 2005-2008) large enough to cover one and only one appointment for each local government. Later in the empirical analysis, I will generate an “election-wave” variable indicating whether a district went through elections at the first, second, third, fourth or fifth year of a round (such as, for instance, 2005, 2006, 2007, 2008 or 2009).

I reconstructed the history of district mayors in power over four consecutive rounds of appointments (1995-1999, 2000-2004, 2005-2009, 2010-2014).³⁰ For all these four political mandates, I identify the date of the appointment as well as the identities of the district and vice-district mayors. For the two most recent political mandates, I also collected the full list of candidates, the list of political parties supporting them, and the number and share of votes that each candidate received.³¹ The data on the identities of district and vice-district mayors, the dates of their appointment and the list of parties that supported them are coded from documents from the Ministry of Home Affairs. The data on the list of candidates, the coalition of parties supporting them and the number of votes and voting shares comes from various sources. The large majority comes from official documents from the Ministry of Home Affairs, newspapers and official local government websites.³²

I use the data of these rounds of appointments to identify first and second-term politicians elected in 2000-2004, 2005-2009 and 2010-2014.

³⁰The dataset shares some features with the dataset collected by Martinez-Bravo, Mukherjee and Stegmann (2016). The two datasets were collected independently. The main difference is the time coverage: their dataset covers mayors’ identities up to 2007, i.e., until about halfway through the 2005-2009 round of elections; my dataset also covers the local elections that took place during 2008-2014, i.e., about 700 additional elections.

³¹The list of political parties is also available for about half the district and vice-district mayors elected in 2000-2004.

³²For a small share of the elections, I rely on online sources such as Wikipedia, quick counts and political blogs. Whenever I rely on non-official sources, I validate the information by cross-checking it across two or more separate sources.

3.4 Summary statistics at the district level

There were 320 first-mandate district mayors elected in 2000-2004. Following the 2005-2009 elections, the same 320 districts had 133 first-term politicians and 187 second-term politicians.

Table 4 shows the summary statistics for the entire sample of district-year combinations used for the empirical analysis. Districts have, on average, half a million people. The local bureaucracy (5,000 employees) is composed of 288 top bureaucrats, 1,405 administrative bureaucrats and 3,453 front-line public service providers. The local bureaucracy is constantly renovating: every year, there are about 250 new recruits (110 new administrators and 143 new front-line service providers); 3 percent of top bureaucrats are demoted and nearly 6 percent of administrators are promoted (promotions among front-line service providers are less than 1 percent). In absolute numbers, the primary source of corruption within local governments is administrators, followed by private agents (contractors), top bureaucrats and politicians. Relative to its group size, the primary source of corruption among civil servants is top bureaucrats.

4 Empirical strategy and main results

The identification strategy used in this paper is based on the fact that a large majority (88 percent) of the district mayors elected during the period 2000-2004 were at their first mandate, partly because some of the districts had formed only recently (and therefore had never had a mayor for an entire political mandate).³³ I exploit this fact as follows: I restrict the sample to districts that had first-term mayors elected in 2000-2004; among these districts, I separate the districts whose mayor was replaced by another first-term mayor during the 2005-2009 round of elections from those whose mayor was reelected (and therefore hit the term limit); I

³³The total number of districts in which a mayor was elected in 2000-2004 is 362. Among them, 72 are newly formed districts, which means that this was their first politician in power for a full mandate. Among the remaining 290 districts, the reappointment rate was 14 percent (42 out of 290), probably due to their association with the Suharto regime that terminated in 1998. Martinez-Bravo, Mukherjee and Stegmann (2016) exploit the differential timing of the transition from Suharto-appointed to post-Suharto mayors to estimate the effect of Suharto's non-democratic legacy on current outcomes. Because my focus is on the difference between 1st mandate and 2nd mandate politicians *within the same "election-wave"*, their source of variation is orthogonal to mine.

apply a difference-in-difference strategy by comparing these two types of districts before and after the 2005-2009 elections. Restricting the sample to districts that, at the beginning of the sample period, were governed by a district head at the first mandate (i.e., who could run for reelection) should ensure that districts have similar initial conditions.³⁴

Following this strategy, I include in the sample three years of data before the 2005-2009 elections. Table 5 shows a simple balance test based on district level data dating back to three years before the 2005-2009 elections; the balance test compares districts that will have a 1st mandate politician to districts that will have a 2nd mandate politician. The table shows that the two groups are very similar along a wide range of important characteristics: population, revenue and expenditure composition, size of the civil service, and number of promotions and demotions. The comparison in terms of timing of elections suggests that 2nd mandate politicians are slightly more likely to belong to districts that went through elections in 2008. Because the effect of reelection incentives on corruption might vary over the political business cycle, this slight difference in the timing of the elections suggests it might be safer to include “election-wave”-year fixed effects in the specification (rather than the standard year fixed effects).

The table shows some differences with respect to urban district status, number of recruits and corruption among administrators. While this might give rise to some concerns about the validity of the comparison, note that, in the empirical analysis, I will control for district fixed effects, thereby controlling for any time-invariant differences between districts where the politician can run for reelection and districts where the politician is hitting the term limit.

Another important point is that I include in the analysis enough pre-periods to estimate the difference in trends between these two types of districts *before* the beginning of the mandate on which I focus. These coefficient estimates represent a placebo test, because the sample is restricted to district-mandate combinations preceded by 1st mandate politicians.

³⁴Specifically, it ensures that the comparison between districts with politicians at the 1st vs 2nd mandate: i) does not correspond to a comparison between newly formed vs older districts (because newly formed districts would be experiencing their first elections, while older districts would not); ii) does not correspond to a comparison between “districts formerly governed by a 1st mandate politician” vs “districts formerly governed by a 2nd mandate politician”, which could bias the comparison if the effect of reelection incentives persisted over time.

The specification is slightly complicated by the fact that the local political business cycle in Indonesia is not synchronized across districts. Let $e \in \{2005, 2006, 2007, 2008\}$ indicate the year of the elections.³⁵ The sample period ranges from three years prior to the elections, up to four year afterwards. Since elections take place at different times in different districts, the sample period $t \in [e - 2, e + 4]$, where year t ranges from 2002 to 2009 (for districts with elections in 2005) and, for instance, from 2005 to 2012 (for districts with elections in 2008).³⁶ Figure 1 provides an illustration. The specification is the following:

$$c_{edt} = \alpha_d + \Pi_{et} + \beta M_{edt} + \underbrace{\gamma(M_{edt} \times I_d)}_{\text{main effect}} + \sum_{m=-2}^{-1} [\beta_m M_{edt}^m + \underbrace{\gamma_m(M_{edt}^m \times I_d)}_{\text{placebo}}] + \varepsilon_{edt}, \quad (1)$$

where c_{edt} is the number of corruption offences in district d at time t ; α_d are district fixed effects; Π_{et} are “election wave”-year fixed effects; M_{edt} is a binary indicator taking the value 1 throughout all five years of the mandate of the politician elected in district d in “election wave” e ; I_d is the time-invariant indicator for districts with a first-term mayor elected in 2005-2009; M_{edt}^{-1} and M_{edt}^{-2} are two binary variables indicating the first and second year before the elections, respectively; and ε_{edt} is the error term. Standard errors are computed adjusting for clustering at the district level.

The coefficient of interest is γ , which captures the effect of reelection incentives on corruption as long as no time-varying unobserved determinant of corruption is correlated with the ability of a mayor to run for reelection (within the same “election-timing” group). As mentioned before, the coefficients γ_{-1} and γ_{-2} will be important to validate this assumption.

In addition, I explicitly address the possibility that politicians who can run for reelection differ from politicians hitting the term limit in terms of ability and experience. With respect to (unobserved) differences in ability, I restrict the group of first-term politicians to future

³⁵The large majority of districts went through elections in 2005 and 2008. Nearly all remaining districts went through elections in 2006 and 2007. A few districts went through elections in 2009 because of various delays in the implementation of the electoral process.

³⁶Since the number of corruption offences becomes less accurate as the time gets closer to 2013, for most of the analysis I keep 2011 as upper bound to the sample period. This choice is based on the fact that most of the offences are prosecuted one, two or three years afterwards. While I believe that this threshold is reasonable, one could make different choices. I reestimated the main specifications in this paper using, as alternative thresholds, $e + 3$ and $e + 4$ (results available upon request).

winners. To the extent politicians’ ability is time-invariant, this should ensure that first-term and second-term politicians have similar ability. With respect to (unobserved) differences in experience, I control for the number of years in office (both in levels and squared). It will also be possible to validate the assumption of no confounding effect of experience by looking at the effect of reelection incentives over the political cycle: if the main effect is driven by experience, then it should appear gradually over time. I relegate all other robustness checks to Section 5.

4.1 Main results

Table 6 shows the coefficient estimates associated with specification (1). Reelection incentives are associated with a decrease in the number of corruption offences for all agents (Col. 1). The effect is negative, large (-0.280) and precisely estimated. It corresponds to a 39 percent decrease relative to the mean number of offences (0.716).³⁷

The table shows the disaggregation by type of agent involved: politician (Col. 2), bureaucrat (Col. 3), private agent (Col. 4), and unclassified (Col. 5). The estimates suggest that the main effect is driven by bureaucrats (Col. 3): the coefficient estimate is negative, large (-0.256) and precisely estimated. It corresponds to a 56 percent decrease relative to the mean (0.459). The other categories show no effect. The absence of any effect before the elections confirms that the effect is not driven by the district environment.

Following Section 2.2, I further disaggregate bureaucrats into: i) top bureaucrats, ii) administrative bureaucrats, and iii) front-line civil servants (teachers, doctors and nurses). Table 7 shows that the effect is driven by a decrease in corruption among top bureaucrats (Col. 2) and administrative bureaucrats (Col. 3), while there is no effect associated with front-line civil servants (Col. 4).

These results suggest that politicians’ incentives have a “deep” effect on the bureaucracy, in the sense that they affect not only bureaucrats in direct contact with the politician, like

³⁷This seems a large effect, but it is still consistent with the 27 percent decrease found by Ferraz and Finan (2011) for Brazilian municipalities. In this respect, also note that, in Brazil, second-mandate politicians have the possibility to run again for office after a one-term hiatus and, indeed, 12 percent of them do. In fact, the authors note that they might have under-estimated the true effect of reelection incentives (Ferraz and Finan 2011:1281).

the top bureaucrats, but also bureaucrats further down the hierarchy, like administrative bureaucrats. In addition, the lack of any effect for front-line civil servants is consistent with the need for physical proximity for the channel of transmission to work: administrative bureaucrats are largely located in the headquarters, while the front-line civil servants are located in schools, hospitals and health centers. I will more rigorously investigate possible channels of transmission in Section 6.

Table A1 also shows the coefficient estimates associated with the control for experience and ability. The effect of reelection incentives on bureaucrats' corruption is still negative and large, although the loss in sample size (due to the restriction of first-term politicians to future winners only) generated a loss in the precision of the estimates.

5 Robustness checks

In this section, I discuss whether corruption might have influenced the selection into first-term politicians (Section 5.1) and whether measurement error in the dependent variable might bias the main estimates (Section 5.2).

5.1 The effect of corruption on the probability of reelection

One concern with this identification strategy is that corruption (or exposure of corruption) might have determined who, among the first-mandate politicians in the baseline, was reelected. Specifically, highly corrupt politicians might have been forced out of office by prosecutors or by voters. In that case, either because of popular outrage, or because of some form of mean reversion, corruption among the (new) first-mandate politicians might have ended up being lower, not because of reelection incentives, but because of the political history of the district. Alternatively, highly corrupt environments might be associated with greater (or lower) persistence of politicians in power. This could bias the selection of politicians in power. It could also make the difference between districts with first-term and second-term politicians appear larger or smaller than it really is.

In order to test whether this concern is relevant in this context, I restrict the sample to

first-mandate politicians and estimate the effect of corruption offences on the likelihood of reelection. In addition, I disaggregate corruption offences according to whether they were prosecuted before, during or after the forthcoming elections.

Because selection into “treatment” in this context concerns who, among the politicians elected in 2000-2004, was reelected in 2005-2009, I estimate this effect first for the politicians elected in 2000-2004. Table 8, Panel A, shows the results. Corruption (and corruption prosecution) seems to have no effect on the probability of being first-term district mayor.

In addition, I repeat the same test for the politicians elected in 2005-2009. This should suggest whether, during the political mandate on which I focus, politicians should expect any electoral penalty from being corrupt (or being exposed). Panel B shows the results. Corruption has a negative effect on the reelection of the first-mandate politicians (Col. 1-5), but only when the offences are prosecuted during the political mandate (rather than during the election year or afterward). The coefficient estimates show that the effect of corruption on reelection (Col. 1) is -0.030 (relative to a mean of 0.538). The estimates also suggest, importantly, that politicians care primarily about their own exposure: the exposure of bureaucrats’ corruption does not seem to have electoral effects (Col. 6-10). This is important, because it suggests that the politician might care about bureaucrats’ corruption as a signal of public service inefficiency, rather than as political risk per se.

5.2 Testing for manipulation of prosecutors’ activity

In Section 2.3, I explained that prosecutors are independent from local governments and respond solely to provincial prosecutors’ offices (which, in turn, respond solely to the General Attorney Office in Jakarta). Nonetheless, one might wonder whether politicians with or without reelection incentives put pressure on prosecutors, or whether prosecutors themselves target politicians with or without reelection incentives because they expect more corruption, or whether the intensity of the citizens’ complaints relative to true corruption differs between the two.

Let π be the probability of prosecution. Borrowing from Löchner and Moretti (2004), I

write the relationship between observed and true corruption as follows:

$$c_{edt} = \pi c_{edt}^{TRUE},$$

so that

$$\frac{d \ln(c_{edt})}{d(I_d)} = \frac{d \ln \pi}{d(I_d)} + \frac{d \ln(c_{edt}^{TRUE})}{d(I_d)}$$

where I_d indicates the strength of reelection incentives as defined earlier. This expression makes clear that $\frac{d \ln(c_{edt})}{d(I_d)} = \frac{d \ln(c_{edt}^{TRUE})}{d(I_d)}$ if and only if $\frac{d \ln \pi}{d(I_d)} = 0$.

One can think of various mechanisms that might generate a correlation between reelection incentives and prosecution of an offence. Two obvious mechanisms are the following. First, politicians might collude with prosecutors. Politicians with reelection incentives have more incentives to collude with prosecutors than do politicians without reelection incentives. Collusion might lead to some offences not being prosecuted at all, or to some delays in the prosecutions. In this case, the effect of reelection incentives on corruption (presumably negative) would suffer from a downward bias. Second, prosecutors might target politicians. Prosecutors might choose to devote more effort to cases involving politicians with reelection incentives (to prevent corrupt politicians from being reelected), since politicians without reelection incentives will soon leave office anyway. In this case, the effect of reelection incentives on corruption (presumably negative) would suffer from an upward bias. In order to test how severe this concern is, I adopt two strategies. First, I test whether reelection incentives have an effect on the speed of prosecution of offences that were eventually prosecuted. This can be thought of as a test for manipulation on the “intensive margin,” strong enough to delay but not to prevent prosecution. Evidence of such manipulation would lead one to presume manipulation on the “extensive margin” (i.e., offences that took place and were never prosecuted). Second, I control directly for manipulation on the extensive margin by controlling for time-varying differences across and within prosecutors’ offices as well as by using only district-year combinations associated with active prosecutors’ offices.

5.2.1 Testing for manipulation on the intensive margin

Recall that the benchmark measure of corruption is the number of corruption offences in a given district during the year when the offence took place and *not* during the year when it was prosecuted. In this subsection, I use both dates to estimate the effect of reelection incentives on the probability that a case is prosecuted in a given period. I estimate a discrete-time hazard model separately for offences that took place in districts where the politician was facing reelection incentives, and offences associated with politicians without reelection incentives. Figure 2 shows that the baseline hazard function for the cases associated with politicians with reelection incentives lies above the one associated with politicians without incentives, but the difference is small. The lack of evidence on manipulation of prosecutors' activity is confirmed by the disaggregation of the survival analysis by proximity to elections (Figure 3).

5.2.2 Controlling for manipulation on the extensive margin

The evidence in the previous subsection is reassuring: to the extent the mechanisms driving the manipulation along the intensive and extensive margin are the same, the analysis in the previous subsection tells us that we may not worry about the extensive margin either.

In this subsection, I suggest an additional way to address these concerns. I exploit the date of the offence and the date of the prosecution in a different way: I disaggregate the measure of corruption with respect to the district (d), the year when it took place (t) and the year in which it was prosecuted (the "prosecution year," p). Correspondingly, I disaggregate specification (1) from the district (d)-year(t) level to the district (t) - year (t) - prosecution year (p) level. In practice, this means that each district-year combination will now have a number of observations equal to the number of prosecution years after that. For district-year combinations in 2008 (or earlier), there will be six observations (2008-2013); for combinations in 2009, there will be five (2009-2013); for combinations in 2010, there will be four (2010-2013); for combinations in 2011, there will be three (2011-2013).³⁸

³⁸Notwithstanding the extremely short time available to prosecute offences that took place in 2012, I also estimated specification including that year. The estimates are very similar (results available upon request).

The corresponding specification is:

$$c_{edtp} = \alpha_d + \Pi_{et} + \beta M_{edt} + \underbrace{\gamma(M_{edt} \times I_d)}_{\text{main effect}} + \sum_{m=-2}^{-1} [\beta_m M_{edt}^m + \underbrace{\gamma_m(M_{edt}^m \times I_d)}_{\text{placebo}}] + \Upsilon_{edp} + \varepsilon_{edtp}, \quad (2)$$

where Υ_{edp} is a prosecutors' office-prosecution year fixed effect.³⁹

Estimates at this level of disaggregation provide me with two key advantages. First, I can control for prosecution year fixed effects. This controls for possible changes in prosecutors' technology over time. Alternatively, I can even control for prosecution year - district fixed effects. This controls for time-varying differences in corruption law enforcement across districts and, within districts, over prosecution year.

Second, it allows me to test for some form of manipulation of prosecutors' activity along the extensive margin. After controlling for prosecutors' office - prosecution year fixed effects, prosecutors might have avoided prosecuting recent corruption offences (and prosecuted nothing). In this case, collusion between the politician and the prosecutor generates under-reporting of corruption, which, in turn, generates a downward bias on the estimates. While I cannot completely rule out this possibility, I can identify prosecutors' offices that, in a given prosecution year, reported no offences. In these unusually inactive offices, it could be that the prosecutors came to know about some corruption offence, but chose not to prosecute. As a robustness check I will drop prosecutors' office - prosecution year combinations associated with no offences, testing whether these offices are driving the main estimates.

Another possibility is that prosecutors shifted their attention from recent to earlier corruption. In this case, collusion generates under-reporting of recent corruption and over-reporting of earlier corruption. If this is the case, then the placebo estimates should signal a positive effect of reelection incentives on corruption before the elections actually took place.

Overall, controlling for prosecutors' office - prosecution year fixed effects, dropping prosecutors' office-“prosecution year” combinations associated with no prosecution, and estimating

³⁹District prosecutors are in charge of offences that took place on their own territory. Hence, prosecutors' office-“prosecution year” fixed effects coincide with district-“prosecution year” fixed effects.

placebo effects should constitute a rather strong test of manipulation of prosecutors' activity.

Table 9 shows the effect of reelection incentives on bureaucrats' corruption at the district-year-“prosecution year” level for all bureaucrats (Col. 1-3), top bureaucrats (Col. 4-6) and administrative bureaucrats (Col. 7-9). At this level of disaggregation, I can control for “prosecution year” fixed effects (Col. 1,4 and 7) or even prosecutors' office-“prosecution year” fixed effects (Col. 2-3,5-6, 8-9). When controlling for “prosecution year” fixed effects, the effect is negative and large for all three categories (with the effect corresponding to a 38, 27 and 48 percent decrease relative to the mean), but it is generally imprecisely estimated. Results are almost identical when I control for prosecutors' office-“prosecution year” fixed effects (Col. 2, 5 and 8). When I also drop prosecutors' office-“prosecution year” combinations with no offences (Col. 3,6 and 9), the effect is also large (with the effect corresponding to a 54, 63 and 62 percent decrease relative to the mean), but it is much more precisely estimated.

The robustness of the main estimates to this restriction reinforces the lack of evidence of manipulation on the intensive margin (Section 4.2.1). Both tests suggest that such manipulation, if it exists, is not driving the main results.

Table A2 shows the coefficient estimates associated with the same specification, jointly with the control for ability and experience. While this test cannot rule out that some form of manipulation of prosecutors' activity did take place, mechanisms explaining the estimates in Tables 6 and 7 in terms of manipulated corruption law enforcement should also explain the lack of evidence reported by both the discrete-time hazard model (Figure 2 and 3) and the robustness test here (Table 9 and A2).

6 Mechanisms

In this section, I discuss two potential mechanisms through which the effect of politicians' reelection incentives may affect bureaucrats' corruption. First, I look at changes in the number of promotions and demotions. Second, I investigate changes in the level and composition of local public expenditure.

6.1 Mechanism (1): changes in the composition of top bureaucrats

Reelection incentives might affect the politician's choice over the level and composition of the bureaucracy. The politician has the power to influence the level and composition of top bureaucrats. She can use that power to manipulate career concerns (Holmström 1999) among both top bureaucrats (fearing demotion) and low-level bureaucrats (hoping for promotion).

Before discussing the effect of reelection incentives on promotions and demotions, I will disaggregate the effect of reelection incentives on corruption over the political business cycle. Table 10 indicates that the effect for all bureaucrats (Col. 1) is negative, large and precisely estimated for all the different phases of the political cycle, except for the last year before the new elections. The effect for administrative bureaucrats (Col. 3) shows a similar pattern, while the effect for top bureaucrats (Col. 2) is weak at the beginning and, overall, more concentrated during the middle of the political cycle.

With respect to promotions and demotions, I estimate a specification similar to (1), where the only difference is the dependent variable, which is now promotions and demotions instead of corruption. Given the structure of local bureaucracies in this context, I measure promotions as “any switch from administrative/front-line position to top/managerial (*Eselon*) position). Demotions are similarly defined as “any switch to a lower level”.⁴⁰

Table 11 shows the coefficient estimates associated with the demotions of top bureaucrats (Col. 1), promotions of administrative staff (Col. 2) and promotions of teachers, doctors and nurses (Col. 3). All estimates are in per capita terms and in percentage points. The estimates for demotions of top bureaucrats indicate a positive, large and precisely estimated increase in demotions during the election year and the first year afterward. The estimates (0.986 during the election year and 0.963 during the first year of the political cycle) correspond to an increase of 32 and 31 percent relative to the mean (3.075). The effect is also relatively large during

⁴⁰Note that this definition of promotions and demotions differs substantially from the definition given to promotions in Mukherjee (2014). There, she considers changes in the rank (*Golongan*) of a civil servant. The rank of a civil servant is important, because it is one of the determinants of the basic salary (together with years of experience). However, an increase in rank does not per se constitute an increase or change in responsibilities in office or even a change in job description. In addition, rank promotions are de jure and de facto separated by eselon promotions, where the former is typically driven by regular promotions determined by seniority and the latter is driven by an application and screening process managed by the Human Resource Department. In this sense, I believe that the definition given here is closer to the common sense definition of promotions.

the second year of the political mandate (0.538), but it is far from statistically significant. The estimates for promotions of administrative bureaucrats also indicate an increase. The increase is positive and large for the election year and the two years afterward (0.926, 1.335 and 1.015), although only the effect one year after the elections is precisely estimated. The effects correspond to 16, 23 and 18 percent increases relative to the mean (5.746). Promotions also increase for front-line service providers (Col. 3), but the estimates are much noisier, perhaps because promotions are less common for them (the unconditional likelihood of promotion is 0.217 percentage points for them). For these civil servants, there is an increase of about 45 percent relative to the mean during the second year of the political mandate.

It is important to note that, while the effect of reelection incentives on demotions of top bureaucrats and promotions of administrative bureaucrats (and front-line service providers) seems symmetric, the absolute numbers of promotions and demotions do not add up. This is simply due to the fact that there are many more administrative bureaucrats than top bureaucrats; therefore, a percentage increase in demotions of top bureaucrats will be much smaller in absolute numbers than a percentage increase in promotions of administrative bureaucrats. Hence, these changes could be accompanied by either an increase in retirements of top bureaucrats or an increase in the size of the top layer of the local bureaucracy. While I cannot observe retirement decisions, I can observe the evolution of the size of each layer of the bureaucracy.

Table 12 shows the effect of reelection incentives on the size of each layer. In order to check whether changes are driven by promotions and demotions or by recruitment decisions, I separate the size of the bottom two layers (administrative, as opposed to front-line service providers) depending on seniority. Col. 1 shows the effect on the size of the top bureaucracy; Col. 2 and 3 show the effect on the number of bureaucrats (or front-line service providers) with at least five years of experience; and Col. 4 and 5 show the effect on the number of new bureaucrats (or front-line service providers). Table 12 shows only small, never precisely estimated, variations in the size of any layer. This suggests that the composition of the top bureaucracy was accompanied, at least partially, by an increase in retirements.

Overall, Tables 10 and 11 suggest that reelection incentives increased the turnover among top bureaucratic positions and that this change followed roughly the same timing as the decrease in corruption that I showed in the previous section. This can be seen more clearly in Figures 4-7, which show the effect of reelection incentives on administrative bureaucrats' corruption and promotions (Figures 3-4)⁴¹ as well as top bureaucrats' corruption and demotions (Figures 6-7).⁴² This suggests that the two phenomena are connected.

6.2 Mechanism (2): a political business cycle explanation

Reelection incentives might lead the incumbent to change the level and composition of public goods. The most obvious way to do that is to change the level and/or composition of local public expenditure. Local governments in Indonesia have very limited room to change the level of revenues (since the tax revenue from own sources amounts, on average, to only 15 percent of their budget). Hence, I do not expect an effect along that dimension. However, local governments might still affect the level of local expenditure, at the margin, by creating debt (or decreasing their savings). It is not clear how much room local governments have for this type of intervention, but the local budget figures do show some non-zero level of surplus and deficit.

Table 13 shows the effect of reelection incentives on revenue (Col. 1), total expenditure (Col. 2) and sectoral expenditure (Col. 3-9). Sectoral expenditure is divided along the "economic" dimension (Col. 3-6) and the "functional" dimension (Col. 7-9). Along the economic dimension, expenditure is divided into expenditures for personnel (Col. 3), capital (Col. 4), goods and services (Col. 5) and other (Col. 6). Along the functional dimension, expenditure is divided into expenditures for administrative purposes (Col. 7), education (Col. 8) and infrastructure (Col. 9).⁴³

⁴¹Figure 4 shows the effect on number of offences for every 3,000 bureaucrats versus the effect on the number of promotions for every 100 bureaucrats, while Figure 5 shows the effect on number of offences versus the number of promotions for every 100 bureaucrats. Using offences per bureaucrat introduces yet another source of noise in the data. However, it facilitates the comparison of the effect on corruption versus the effect on promotions.

⁴²The difference between Figures 6 and 7 is similar to the difference between Figures 4 and 5. See the previous footnote.

⁴³The local government expenditure data include many more categories along the functional dimension. For

Consistent with the limited room that local governments have to manoeuvre their revenue, the effect on revenue (Col. 1) is generally positive, but relatively small and never statistically significant. In contrast, when it comes to total expenditure (Col. 2), the effect is also generally positive, but it is larger than that for revenue, particularly so during the last year before the elections (0.261), when it is also precisely estimated.⁴⁴ The effect corresponds to a 13 percent increase relative to the mean.

The coefficient estimates associated with the various sectoral expenditure components do not show clear patterns: along the economic dimension, there is a (weak) effect on personnel and “other” expenditure during the last period before elections; along the functional dimension, there is a precisely estimated effect for administrative expenditure (0.150). The effect corresponds to a 21 percent increase in expenditure relative to the mean (0.707). Again, the effect is limited to the last year before the forthcoming elections.

Overall, it seems that any effect of reelection incentives on the level and composition of public expenditure exists only when it comes to the last period before the next election. While interesting, these effects do not seem capable of explaining the bulk of the effects of corruption shown in earlier tables. In particular, the disaggregation of the effect on corruption over the political cycle suggests that the effect is not driven by pre-election campaigning.

7 Conclusion

One of the cornerstones of Weberian civil service reforms is internal promotions and bureaucratic insulation from politicians. In this paper, I consider a setting where promotions are internal but politicians retain some influence over their timing.

By assembling a unique dataset on corruption, promotions and demotions for more than 4 million civil servants, as well as a two-decade long panel on district mayors in Indonesia, I am able to link the behaviour of bureaucrats to the electoral incentives of politicians.

presentation purposes, I report here only the three biggest categories. These three categories alone constitute 82 percent of total expenditure.

⁴⁴While the individual coefficient estimate is precisely estimated, the difference with the placebo effect is not. Hence, the result is not very robust.

I find that reelection incentives alter the corruption behaviour of both top and low-level bureaucrats, which constitutes evidence of the deep, far-reaching effects of politicians' accountability on local civil servants. I then explore a mechanism where bureaucrats have career concerns and politicians facing reelection manipulate such concerns by increasing the turnover of top bureaucrats. Consistent with this mechanism, I find that reelection incentives increase demotions of top bureaucrats and promotions of administrative bureaucrats.

This is the first paper to show that politicians' influence over the bureaucracy can go beyond the top bureaucrats and reach administrative bureaucrats. It is also the first to show that bureaucrats' corruption responds to politicians' incentives.

These findings are broadly in line with recent evidence suggesting that top bureaucrats are particularly important for economic outcomes (Bertrand et al. 2016) and that, while meritocratic recruitment is unambiguously good, insulation of promotions from politicians' influence is more controversial (Rauch and Evans 2000).⁴⁵ These results call for wider research on how civil service institutions shape the effect of political institutions on the selection and incentives of bureaucrats.

Accounting for heterogeneity in civil service institutions might be especially useful to advance our understanding of the economic performance of newly democratized countries, which is when civil service institutions are most likely to persist (Acemoglu, Ticchi and Vindigni 2011).

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⁴⁵Their study is the first and, to the best of my knowledge, the only attempt to estimate the effect of, separately, meritocratic recruitment, internal promotions and competitive wages on quality of government and economic outcomes. While their study can only identify partial correlations, the topic deserves much more attention than it has attracted so far.

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Figures

Illustration of the sample period: year $t \in [e - 2, e + 4]$, where election $e \in \{2005, \dots, 2008\}$.

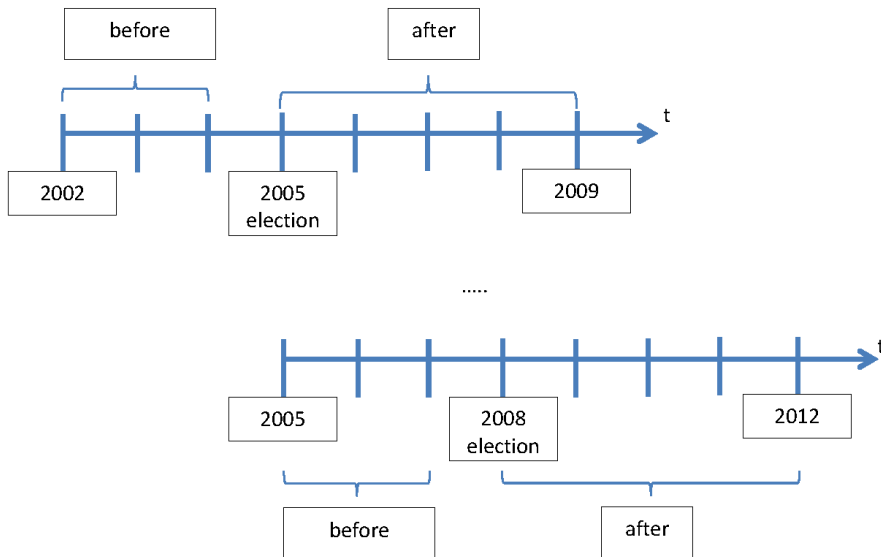


Figure 1: TIMING OF ELECTIONS AND SAMPLE COVERAGE

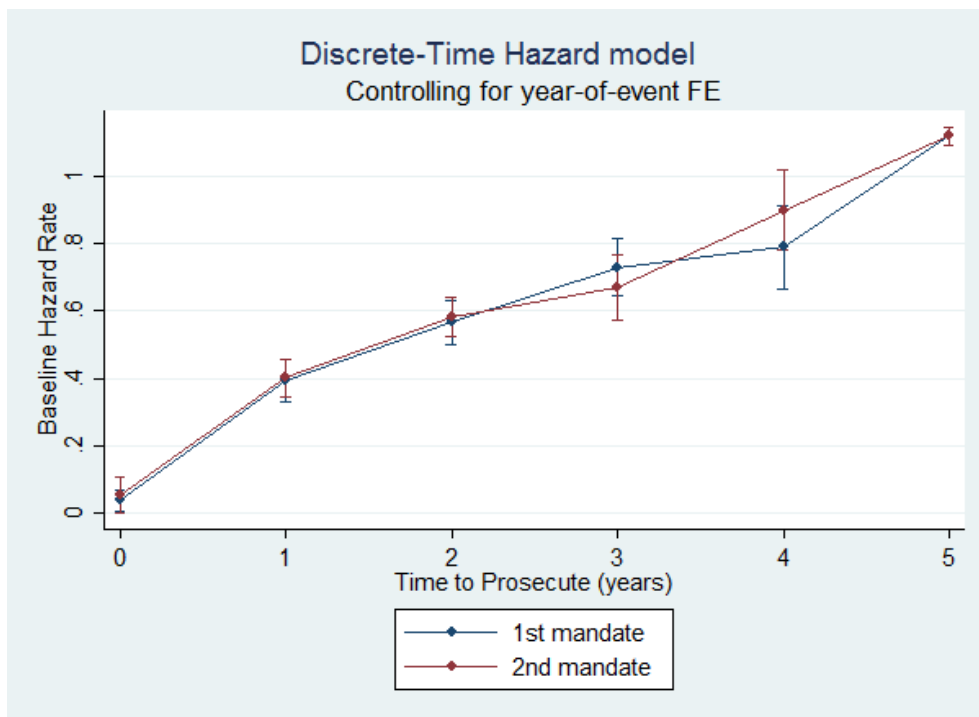


Figure 2: DISCRETE-TIME HAZARD MODEL

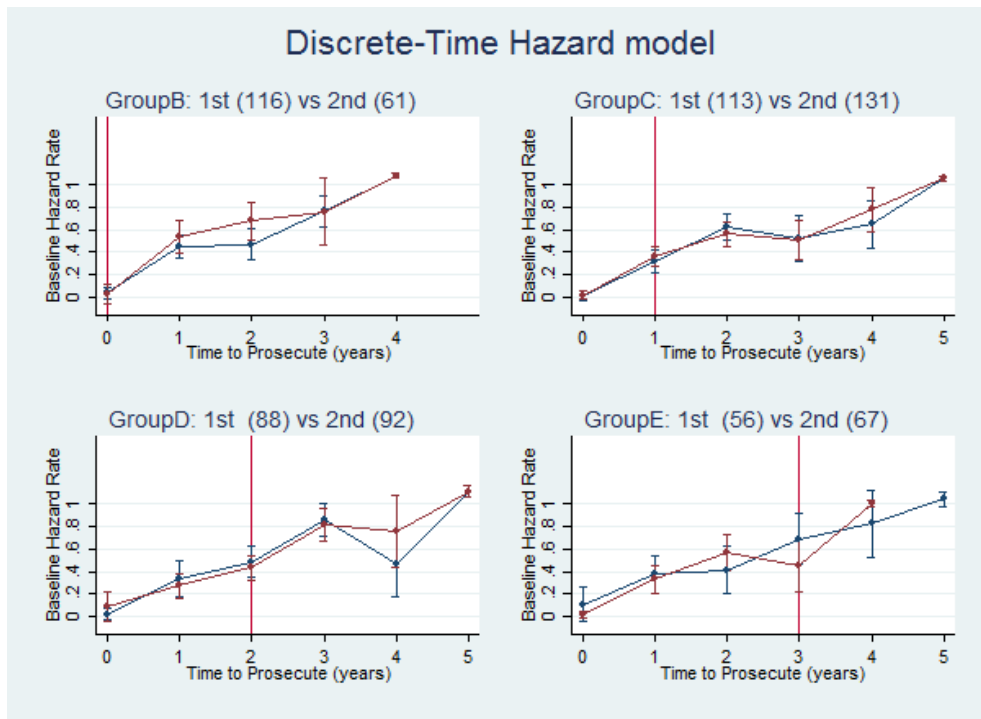


Figure 3: DISCRETE-TIME HAZARD MODEL AND PROXIMITY TO ELECTIONS

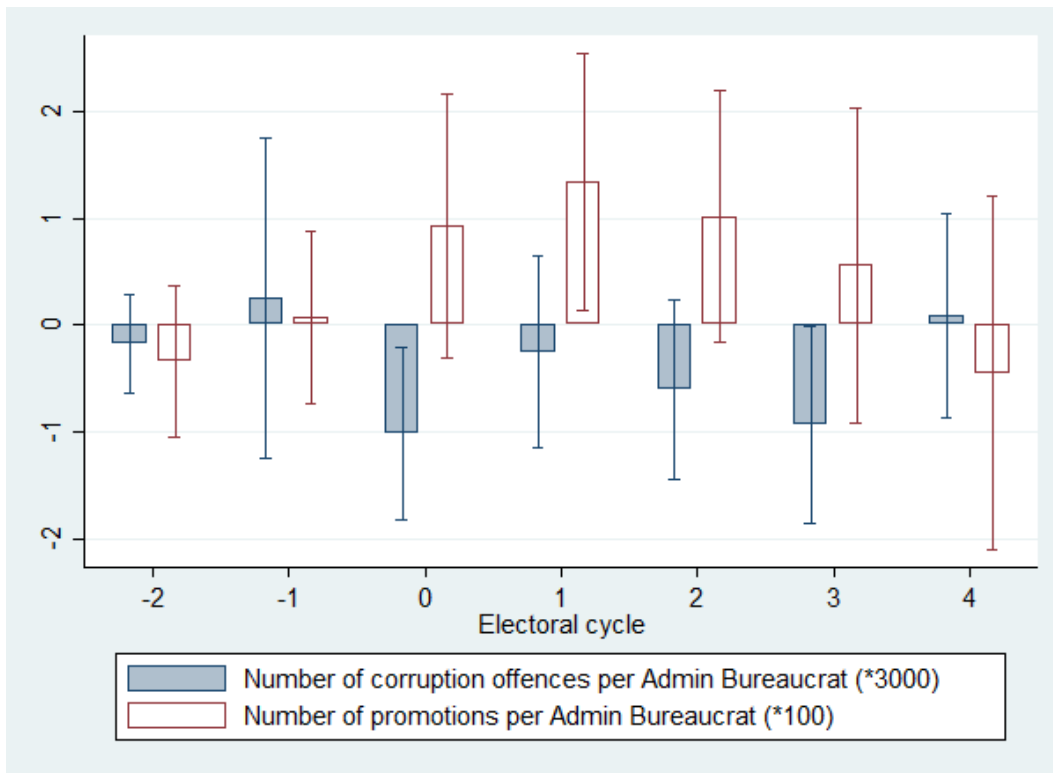


Figure 4: THE EFFECT OF REELECTION INCENTIVES ON ADMIN BUREAUCRATS

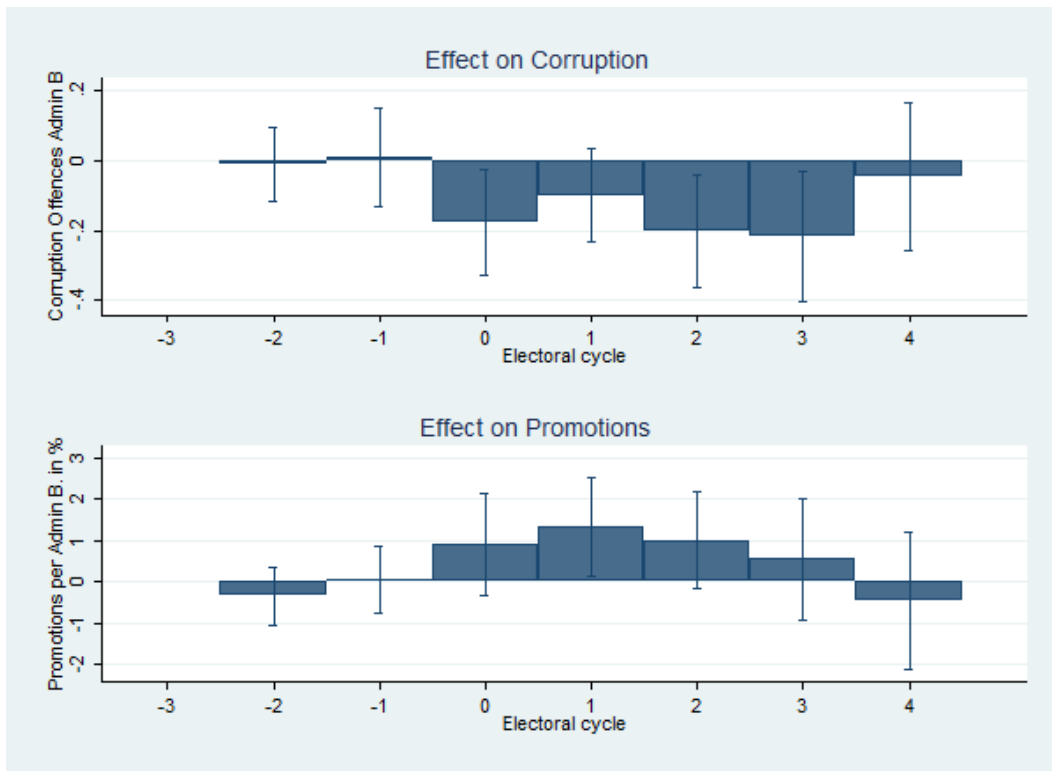


Figure 5: THE EFFECT OF REELECTION INCENTIVES ON ADMIN BUREAUCRATS

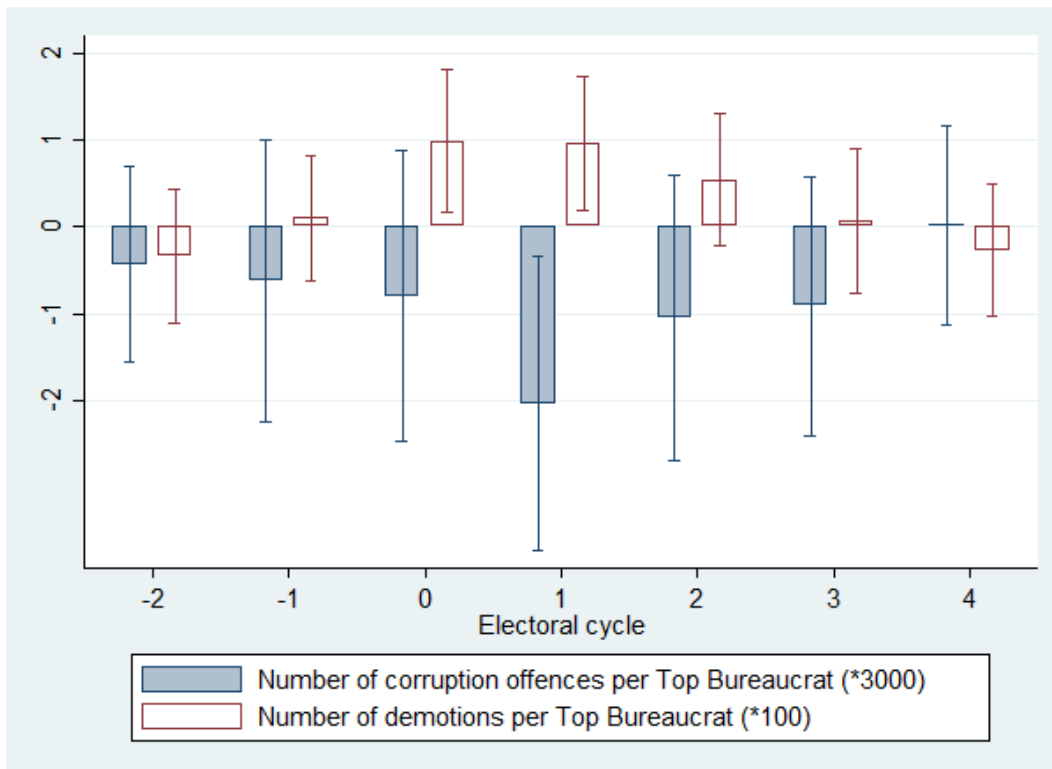


Figure 6: THE EFFECT OF REELECTION INCENTIVES ON TOP BUREAUCRATS

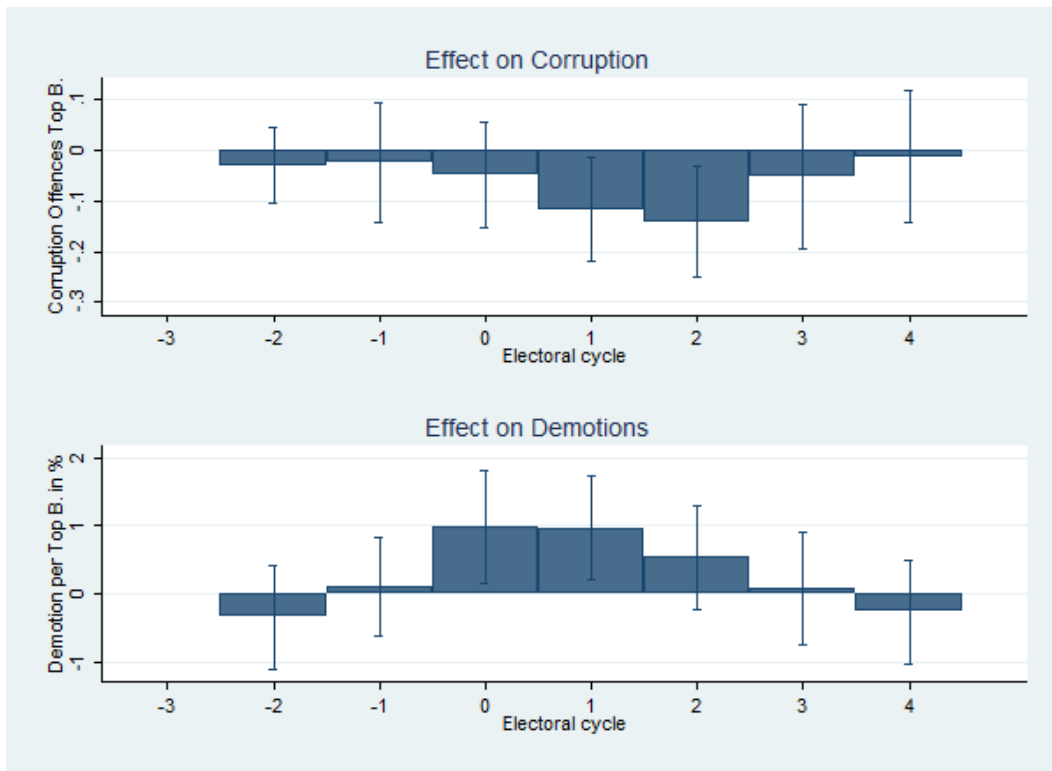


Figure 7: THE EFFECT OF REELECTION INCENTIVES ON TOP BUREAUCRATS

Tables

Table 1: SUMMARY STATISTICS CORRUPTION OFFENCES

| Variable | N | Mean | Std. Dev. | Min. | Max. |
|--------------------------------|------|------|-----------|------|------|
| Duration of the offence | | | | | |
| Number of years | 1141 | 0.64 | 1.33 | 0 | 12 |
| Offence lasted 0-1 years | 1141 | 0.70 | 0.46 | 0 | 1 |
| Offence lasted 1-2 years | 1141 | 0.15 | 0.36 | 0 | 1 |
| Offence lasted >2 years | 1141 | 0.15 | 0.36 | 0 | 1 |
| Number of defendants | | | | | |
| Number of defendants | 1141 | 1.31 | 0.88 | 1 | 14 |
| Offence with 1 defendant | 1141 | 0.81 | 0.39 | 0 | 1 |
| Offence with 2 defendants | 1141 | 0.12 | 0.33 | 0 | 1 |
| Offence with >2 defendants | 1141 | 0.06 | 0.25 | 0 | 1 |
| Occupation defendant | | | | | |
| Politician | | | | | |
| District head | 1141 | 0.11 | 0.32 | 0 | 2 |
| District head | 1141 | 0.03 | 0.16 | 0 | 1 |
| Vice District head | 1141 | 0.00 | 0.06 | 0 | 1 |
| Village head | 1141 | 0.07 | 0.25 | 0 | 1 |
| Bureaucrat | | | | | |
| Top Bureaucrat | 1141 | 0.66 | 0.54 | 0 | 2 |
| Administrative | 1141 | 0.21 | 0.41 | 0 | 1 |
| Administrative | 1141 | 0.33 | 0.47 | 0 | 1 |
| Front-line service providers | 1141 | 0.12 | 0.32 | 0 | 1 |
| Private agent | | | | | |
| Private agent | 1141 | 0.31 | 0.46 | 0 | 1 |
| Unclear | | | | | |
| Unclear | 1141 | 0.06 | 0.24 | 0 | 1 |
| Source of the funds | | | | | |
| District | 1141 | 0.62 | 0.49 | 0 | 1 |
| Sub-district | 1141 | 0.05 | 0.21 | 0 | 1 |
| Village | 1141 | 0.23 | 0.42 | 0 | 1 |
| Unclear | 1141 | 0.11 | 0.31 | 0 | 1 |
| Law Enforcement | | | | | |
| Time to prosecute | | | | | |
| Time to prosecute (years) | 1141 | 3.06 | 2.10 | 0 | 13 |
| Prosecuted same year | 1141 | 0.03 | 0.18 | 0 | 1 |
| Prosecuted 1 year later | 1141 | 0.20 | 0.40 | 0 | 1 |
| Prosecuted 2 years later | 1141 | 0.26 | 0.44 | 0 | 1 |
| Prosecuted 3 years later | 1141 | 0.19 | 0.39 | 0 | 1 |
| Prosecuted >3 years later | 1141 | 0.32 | 0.47 | 0 | 1 |
| Prosecution stage | | | | | |
| Prosecution stage | 924 | 0.35 | 0.48 | 0 | 1 |
| Court stage | | | | | |
| Court stage | 924 | 0.68 | 0.47 | 0 | 1 |

Source: corruption offences from AGO and KPK.

Table 2: SUMMARY STATISTICS SIZE OF THE CORRUPTION OFFENCES

| Variable | N | Median | Mean | Std. Dev. | Min. | Max. |
|---|-----|---------|---------|-----------|------|-------------|
| Offences with nonmissing project size and embezzlement amounts | | | | | | |
| Project size | 200 | 49,750 | 993,147 | 9,007,226 | 0 | 126,370,000 |
| Embezzlement | 200 | 17,981 | 80,858 | 239,829 | 25 | 2,165,000 |
| Offences with nonmissing embezzlement amount | | | | | | |
| - by anybody | 543 | 20,014 | 138,748 | 531,633 | 10 | 6,413,708 |
| - by politicians | 61 | 105,385 | 575,548 | 1,264,958 | 200 | 6,413,708 |
| - by bureaucrats | 314 | 17,813 | 83,997 | 300,011 | 25 | 3,744,990 |
| - by top bureaucrats | 113 | 22,915 | 77,375 | 150,538 | 25 | 796,906 |
| - by admin. bureaucrats | 166 | 22,982 | 109,126 | 391,525 | 172 | 3,744,990 |
| - by front-line providers | 71 | 7,693 | 14,186 | 26,095 | 400 | 165,000 |
| - by private agents | 163 | 17,990 | 73,552 | 291,314 | 10 | 3,160,136 |
| - by unclassified | 32 | 22,986 | 79,320 | 128,901 | 100 | 615,067 |

Note: Corruption offences from AGO and KPK. All amounts in this table are in USD (converted using a 1 USD=10,000 IDR exchange rate).

Table 3: CORRELATION WITH AUDIT IRREGULARITIES

| Dependent variable | number of corruption offences affecting the district budget | | | | | | | |
|---------------------------------------|---|--------------------|--------------------|------------------|------------------|-------------------|-------------------|-------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| audit irregularities (any) | 0.015** (0.007) | 0.011** (0.006) | | | | | | |
| ln(audit irregularities (any)) | | | 0.184** (0.086) | 0.097 (0.069) | | | | |
| audit irregularities (corruption) | | | | | 0.019 (0.015) | 0.020* (0.011) | | |
| ln(audit irregularities (corruption)) | | | | | | | 0.121* (0.063) | 0.101* (0.053) |
| Observations | 977 | 977 | 977 | 977 | 977 | 977 | 913 | 913 |
| R-squared | 0.091 | 0.057 | 0.091 | 0.054 | 0.087 | 0.056 | 0.085 | 0.057 |
| Mean dep. variable | 0.552 | 0.552 | 0.552 | 0.552 | 0.552 | 0.552 | 0.542 | 0.542 |
| Mean expl. variable | 13.78 | 13.78 | 13.78 | 13.78 | 4.449 | 4.449 | 4.761 | 4.761 |
| Number of districts | 320 | 320 | 320 | 320 | 320 | 320 | 318 | 318 |
| Year FE | YES | YES | YES | YES | YES | YES | YES | YES |
| Unit FE | province | district | province | district | province | district | province | district |

Note: the audit irregularities are based on audits of district budget reports. Corruption offences based on corruption prosecutions are restricted to offences affecting the district budget.

*** p<0.01, ** p<0.05, * p<0.1

Table 4: SUMMARY STATISTICS DISTRICTS

| Variable | N | Mean | Std. Dev. | Min. | Max. |
|--|------|-----------|-----------|-------|---------|
| Population | 2430 | 562255.79 | 563190.48 | 28970 | 4179163 |
| Urban district | 2430 | 0.22 | 0.41 | 0 | 1 |
| District with province capital | 2430 | 0.08 | 0.27 | 0 | 1 |
| Revenue | | | | | |
| total | 2411 | 2.14 | 2.21 | 0.27 | 37.49 |
| main grant (DAU) | 2338 | 1.21 | 1.23 | 0.00 | 35.82 |
| tax sharing | 2316 | 0.20 | 0.56 | 0.00 | 15.55 |
| natural resource sharing | 2430 | 0.31 | 1.05 | 0.00 | 12.67 |
| own sources | 2332 | 0.13 | 0.17 | 0.00 | 2.33 |
| Expenditure | | | | | |
| total | 2149 | 2.06 | 2.02 | 0.01 | 21.41 |
| personnel | 2145 | 0.85 | 0.62 | 0.01 | 6.69 |
| capital | 2133 | 0.65 | 0.97 | 0.00 | 11.05 |
| goods and services | 2133 | 0.40 | 0.47 | 0.00 | 7.45 |
| other | 2092 | 0.18 | 0.25 | 0.00 | 3.45 |
| administration | 2063 | 0.71 | 0.96 | 0.01 | 16.30 |
| education | 2046 | 0.55 | 0.53 | 0.00 | 18.19 |
| infrastructure | 2043 | 0.43 | 0.82 | 0.00 | 17.35 |
| Local GDP | 2430 | 14.18 | 19.92 | 1.13 | 373.17 |
| Civil servants (stock) | | | | | |
| All | 2430 | 5145.75 | 2903.88 | 619 | 21536 |
| Top Bureaucrats | 2430 | 287.74 | 163.47 | 32 | 1283 |
| Administrative bureaucrats | 2430 | 1405.44 | 701.76 | 240 | 5949 |
| Front-line service providers | 2430 | 3452.88 | 2200.81 | 244 | 17185 |
| Civil servants (flow) | | | | | |
| Admin. bureaucrats (recruits) | 2430 | 109.62 | 138.99 | 0 | 1477 |
| Front-line providers (recruits) | 2430 | 143.42 | 199.91 | 0 | 1759 |
| Demotions Top bureaucrats | 2430 | 3.08 | 2.73 | 0.00 | 20.59 |
| Promotions Admin. bureaucrats | 2430 | 5.75 | 5.80 | 0.00 | 41.92 |
| Promotions Front-line providers | 2430 | 0.22 | 0.33 | 0.00 | 4.68 |
| Corruption (number of offences) | | | | | |
| Any | 2430 | 0.69 | 1.34 | 0 | 17 |
| Politicians | 2430 | 0.07 | 0.31 | 0 | 4 |
| Bureaucrats | 2430 | 0.46 | 0.95 | 0 | 8 |
| Top Bureaucrats | 2430 | 0.14 | 0.43 | 0 | 4 |
| Administrative bureaucrats | 2430 | 0.23 | 0.60 | 0 | 6 |
| Front-line service providers | 2430 | 0.09 | 0.37 | 0 | 7 |
| Private agents | 2430 | 0.22 | 0.65 | 0 | 13 |
| Unclear | 2430 | 0.03 | 0.21 | 0 | 3 |
| Corruption (Suryadarma 2013, JDE) | | | | | |
| Missing funds | 1668 | 0.73 | 1.00 | 0.00 | 10.90 |
| Missing funds (weighted) | 1668 | 0.82 | 1.23 | 0.00 | 12.62 |

Note: revenue, expenditure and local GDP are in real per capita terms; demotions and promotions of civil servants are percentages over the population of civil servants with five or more years of experience. The missing fund indicators from Suryadarma (2013, JDE) are the lower bound versions. Using the upper bound indicators provides similar differences.

*** p<0.01, ** p<0.05, * p<0.1

Table 5: SUMMARY STATISTICS DISTRICTS 3 YEARS BEFORE ELECTIONS

| | 1st mandate | 2nd mandate | diff | t-stat | Observations |
|--|-------------|-------------|---------|-------------|--------------|
| Population | 527 064 | 578 202 | -51 138 | (-0.818) | 320 |
| Urban district | 0,16 | 0,27 | -0,11 | (-2.335) ** | 320 |
| District with province capital | 0,06 | 0,09 | -0,03 | (-1.009) | 320 |
| Revenue | | | | | |
| total | 1,60 | 1,62 | -0,02 | (-0.130) | 315 |
| main grant (DAU) | 0,96 | 0,93 | 0,03 | (0.374) | 296 |
| tax sharing | 0,13 | 0,14 | -0,01 | (-0.649) | 296 |
| natural resource sharing | 0,23 | 0,24 | -0,01 | (-0.121) | 320 |
| own sources | 0,09 | 0,10 | -0,01 | (-0.781) | 296 |
| Expenditure | | | | | |
| total | 1,45 | 1,44 | 0,00 | (0.024) | 296 |
| personnel | 0,61 | 0,59 | 0,02 | (0.415) | 296 |
| capital | 0,36 | 0,38 | -0,02 | (-0.243) | 292 |
| goods and services | 0,33 | 0,35 | -0,03 | (-0.402) | 292 |
| other | 0,17 | 0,13 | 0,03 | (1.061) | 291 |
| administrative | 0,54 | 0,55 | -0,01 | (-0.111) | 292 |
| education | 0,40 | 0,38 | 0,03 | (0.952) | 289 |
| infrastructure | 0,21 | 0,24 | -0,03 | (-0.709) | 288 |
| Local GDP | 10,26 | 13,76 | -3,50 | (-1.466) | 320 |
| Civil servants (stock) | | | | | |
| All | 3 984 | 4 182 | -198 | (-0.714) | 320 |
| Top Bureaucrats | 179,29 | 176,78 | 2,51 | (0.268) | 320 |
| Administrative bureaucrats | 1 040 | 1 091 | -51 | (-0.860) | 320 |
| Teacher/Doctor/Nurse | 2 765 | 2 915 | -150 | (-0.684) | 320 |
| Civil servants (flow) | | | | | |
| Recruits (admin bureaucrats) | 13,80 | 20,81 | -7,02 | (-1.852) * | 320 |
| Recruits (teacher/doctor/nurse) | 32,08 | 48,73 | -16,65 | (-1.924) * | 320 |
| Demotions Top Bureaucrats* | 3,07 | 2,94 | 0,12 | (0.434) | 320 |
| Promotions Admin Bureaucrats* | 2,38 | 2,67 | -0,29 | (-1.151) | 320 |
| Promotions Teacher/Doctor/Nurse* | 0,09 | 0,09 | 0,00 | (-0.248) | 320 |
| Number of corruption offences | | | | | |
| All | 0.23 | 0.18 | 0.049 | (0.778) | 320 |
| Politicians | 0.02 | 0.04 | -0.015 | (-0.752) | 320 |
| Bureaucrats | 0,15 | 0,09 | 0,06 | (1.372) | 320 |
| Top Bureaucrats | 0,03 | 0,04 | -0,01 | (-0.355) | 320 |
| Administrative bureaucrats | 0,11 | 0,04 | 0,08 | (2.161) ** | 320 |
| Front-line service providers | 0,01 | 0,02 | -0,01 | (-0.675) | 320 |
| Private agents | 0,06 | 0,07 | -0,01 | (-0.254) | 320 |
| Unclear | 0,02 | 0,00 | 0,02 | (1.684) * | 320 |
| Missing funds (Suryadarma 2013) | | | | | |
| Missing funds | 0,77 | 0,71 | 0,06 | (0.462) | 220 |
| Missing funds, weighted | 0,80 | 0,84 | -0,03 | (-0.200) | 220 |
| Timing elections | | | | | |
| in 2005 | 0,41 | 0,37 | 0,03 | (0.572) | 320 |
| in 2006 | 0,18 | 0,17 | 0,02 | (0.342) | 320 |
| in 2007 | 0,17 | 0,09 | 0,08 | (2.014) ** | 320 |
| in 2008 | 0,17 | 0,28 | -0,11 | (-2.301) ** | 320 |
| in 2009 | 0,07 | 0,09 | -0,02 | (-0.586) | 320 |
| in 2010 | 0,01 | 0,00 | 0,01 | (1.187) | 320 |
| Number of districts | 133 | 187 | | | |

Note: This table presents a comparison of the mean characteristics of the districts between first- and second-term mayors. These statistics were computed only for the 320 districts included in the regression analysis 3 years before the 2005-2009 elections. Column 1 reports the means for the districts with a first-term mayor. Column 2 reports the mean for the districts with second-term mayors. Column 3 reports the difference in means. Column 4 shows the t-statistic associated with the diff-in-mean test. Revenue, expenditure and local GDP are in real per capita terms; demotions and promotions of civil servants are percentages over the population of civil servants with five or more years of experience. The missing fund indicators from Suryadarma (2013, JDE) are the lower bound versions. Using the upper bound indicators provides similar differences.

*** p<0.01, ** p<0.05, * p<0.1

Table 6: THE EFFECT OF REELECTION INCENTIVES ON CORRUPTION

| Dependent variable Officer | number of corruption offences committed by | | | | |
|--|--|-------------------|----------------------|-------------------|-------------------|
| | All (1) | Politician (2) | Bureaucrat (3) | Private (4) | Unclear (5) |
| $M_{edt} \times I_d$ | -0.280** (0.135) | -0.005 (0.029) | -0.256*** (0.085) | -0.058 (0.069) | -0.012 (0.015) |
| $M_{edt}^{-1} \times I_d$ | 0.047 (0.143) | 0.023 (0.033) | 0.017 (0.113) | -0.035 (0.054) | -0.001 (0.022) |
| $M_{edt}^{-2} \times I_d$ | -0.001 (0.086) | 0.024 (0.026) | -0.057 (0.067) | -0.006 (0.027) | 0.014 (0.017) |
| F-test: $M_{edt} \times I_d = M_{edt}^{-1} \times I_d$ | 7.086 | 0.754 | 6.875 | 0.119 | 0.298 |
| P-value | 0.008 | 0.386 | 0.009 | 0.731 | 0.586 |
| Observations | 2,430 | 2,430 | 2,430 | 2,430 | 2,430 |
| R-squared | 0.149 | 0.030 | 0.116 | 0.073 | 0.063 |
| Mean | 0.707 | 0.074 | 0.459 | 0.218 | 0.035 |
| Number of districts | 320 | 320 | 320 | 320 | 320 |
| Control for $M_{edt}, M_{edt}^{-1}, M_{edt}^{-2}$, | YES | YES | YES | YES | YES |
| Year-“election year” FE | YES | YES | YES | YES | YES |
| District FE | YES | YES | YES | YES | YES |

The dependent variable is the number of corruption offences committed by any or a specific type of agent. M_{edt} is a time-varying indicator for the political mandate started with the 2005-2009 elections. I_d is a time-invariant indicator for first-term politicians elected in 2005-2009. M_{edt}^{-1} is a binary indicator for the year preceding the 2005-2009 elections. M_{edt}^{-2} is a binary indicator taking value 1 two years before the 2005-2009 elections. The F-test (and P-value) below the coefficient estimates show the test for equality between the main coefficient (γ) and the effect of reelection incentives the year before the elections (γ_{-1}). The sample covers the political mandate starting between 2005 and 2008 and three years before it. Robust standard errors in parentheses are clustered at the district level.

*** p<0.01, ** p<0.05, * p<0.1

Table 7: THE EFFECT OF REELECTION INCENTIVES ON CORRUPTION: BUREAUCRATS ONLY

| Dependent variable | number of corruption offences committed by | | | |
|--|--|-----------------------|-----------------------|-------------------------------------|
| | Any bureaucrat (1) | Top Bureaucrat (2) | Administrative (3) | Front-line service providers (4) |
| $M_{edt} \times I_d$ | -0.256*** (0.085) | -0.079** (0.036) | -0.155*** (0.055) | -0.023 (0.037) |
| $M_{edt}^{-1} \times I_d$ | 0.017 (0.113) | -0.023 (0.056) | 0.009 (0.066) | 0.031 (0.036) |
| $M_{edt}^{-2} \times I_d$ | -0.057 (0.067) | -0.030 (0.035) | -0.010 (0.050) | -0.017 (0.022) |
| F-test: $M_{edt} \times I_d = M_{edt}^{-1} \times I_d$ | 6.875 | 0.862 | 5.487 | 1.888 |
| P-value | 0.009 | 0.354 | 0.020 | 0.170 |
| Observations | 2,430 | 2,430 | 2,430 | 2,430 |
| R-squared | 0.116 | 0.046 | 0.082 | 0.042 |
| Mean | 0.459 | 0.139 | 0.233 | 0.088 |
| Number of districts | 320 | 320 | 320 | 320 |
| Control for $M_{edt}, M_{edt}^{-1}, M_{edt}^{-2}$, | YES | YES | YES | YES |
| Year-“election year” FE | YES | YES | YES | YES |
| District FE | YES | YES | YES | YES |

The dependent variable is the number of corruption offences committed by any or a specific type of agent. M_{edt} is a time-varying indicator for the political mandate started with the 2005-2009 elections. I_d is a time-invariant indicator for first-term politicians elected in 2005-2009. M_{edt}^{-1} is a binary indicator for the year preceding the 2005-2009 elections. M_{edt}^{-2} is a binary indicator taking value 1 two years before the 2005-2009 elections. The F-test (and P-value) below the coefficient estimates show the test for equality between the main coefficient (γ) and the effect of reelection incentives the year before the elections (γ_{-1}). The sample covers the political mandate starting between 2005 and 2008 and three years before it. Robust standard errors in parentheses are clustered at the district level.

*** p<0.01, ** p<0.05, * p<0.1

Table 8: EFFECT OF CORRUPTION ON REELECTION

| Offences committed by | Politicians | | | | | Bureaucrats | | | | |
|---|---------------------|----------------------|-------------------|-------------------|----------------------|-------------------|-------------------|--------------------|-------------------|--------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| PANEL A: POLITICAL MANDATE STARTED IN 2000-2004 | | | | | | | | | | |
| Number of offences | 0.006 (0.010) | | | | | -0.019 (0.013) | | | | |
| ..prosecuted before elections | | -0.051 (0.093) | | | -0.096 (0.210) | | 0.052 (0.270) | | | 0.041 (0.251) |
| ..prosecuted during elections | | | -0.046 (0.083) | | -0.033 (0.185) | | | -0.036 (0.068) | | -0.031 (0.067) |
| ..prosecuted after elections | | | | 0.010 (0.011) | 0.019* (0.010) | | | | -0.018 (0.014) | -0.018 (0.014) |
| Observations | 320 | 320 | 320 | 320 | 320 | 320 | 320 | 320 | 320 | 320 |
| R-squared | 0.154 | 0.154 | 0.154 | 0.155 | 0.160 | 0.158 | 0.153 | 0.154 | 0.158 | 0.158 |
| Mean dep. | 0.578 | 0.578 | 0.578 | 0.578 | 0.578 | 0.578 | 0.578 | 0.578 | 0.578 | 0.578 |
| Mean expl. | 0.556 | 0.025 | 0.041 | 0.491 | | 1.025 | 0.013 | 0.078 | 0.934 | |
| PANEL B: POLITICAL MANDATE STARTED IN 2005-2009 | | | | | | | | | | |
| Number of offences | -0.030** (0.012) | | | | | -0.005 (0.008) | | | | |
| ..prosecuted before elections | | -0.109*** (0.025) | | | -0.138*** (0.036) | | -0.014 (0.011) | | | -0.006 (0.016) |
| ..prosecuted during elections | | | -0.042 (0.064) | | 0.126 (0.084) | | | -0.054* (0.031) | | -0.062 (0.045) |
| ..prosecuted after elections | | | | -0.040 (0.035) | -0.034 (0.055) | | | | 0.023 (0.019) | 0.036** (0.016) |
| Observations | 132 | 132 | 132 | 132 | 132 | 132 | 132 | 132 | 132 | 132 |
| R-squared | 0.022 | 0.047 | 0.003 | 0.008 | 0.058 | 0.002 | 0.006 | 0.015 | 0.007 | 0.032 |
| Mean dep. | 0.538 | 0.538 | 0.538 | 0.538 | 0.538 | 0.538 | 0.538 | 0.538 | 0.538 | 0.538 |
| Mean expl. | 0.682 | 0.242 | 0.174 | 0.265 | | 2.568 | 1.235 | 0.538 | 0.795 | |
| Province FE | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| “Election-year” FE | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |

Note: The dependent variable is a binary indicator equal to one if the first-term politician is reelected in the forthcoming elections. In Panel A, the politicians were elected in 2000-2004 and could run for reelection in 2005-2009. In Panel B, the politicians were elected in 2005-2009 and could run for reelection in 2010-2014. Prosecuted “before”, “during” and “after” refers to the forthcoming elections. Robust standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Table 9: THE EFFECT OF REELECTION INCENTIVES ON CORRUPTION CONTROLLING FOR PROSECUTORS' ACTIVITY

| Dependent variable Officer | number of corruption offences committed by | | | | | | | | | | | |
|--|--|---------|-----------|----------------|---------|----------|----------------|---------|-----------|------------------------------|---------|---------|
| | Any bureaucrat | | | Top Bureaucrat | | | Administrative | | | Front-line service providers | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| $M_{edt} \times I_d$ | -0.034* | -0.033 | -0.117*** | -0.008 | -0.009 | -0.043** | -0.021* | -0.021* | -0.069*** | -0.005 | -0.003 | -0.006 |
| | (0.019) | (0.021) | (0.038) | (0.009) | (0.010) | (0.018) | (0.011) | (0.012) | (0.026) | (0.007) | (0.008) | (0.018) |
| $M_{edt}^{-1} \times I_d$ | 0.014 | 0.014 | -0.001 | 0.002 | 0.002 | -0.016 | 0.006 | 0.006 | -0.001 | 0.005 | 0.005 | 0.015 |
| | (0.024) | (0.025) | (0.050) | (0.014) | (0.015) | (0.027) | (0.012) | (0.013) | (0.031) | (0.006) | (0.006) | (0.017) |
| $M_{edt}^{-2} \times I_d$ | -0.008 | -0.008 | -0.030 | -0.004 | -0.004 | -0.017 | -0.002 | -0.002 | -0.006 | -0.003 | -0.003 | -0.007 |
| | (0.014) | (0.015) | (0.031) | (0.011) | (0.012) | (0.019) | (0.008) | (0.009) | (0.023) | (0.004) | (0.004) | (0.010) |
| F-test: $M_{edt} \times I_d = M_{edt}^{-1} \times I_d$ | 5.659 | 5.036 | 6.362 | 0.588 | 0.624 | 0.855 | 5.000 | 4.389 | 4.472 | 2.023 | 1.385 | 1.375 |
| P-value3 | 0.018 | 0.026 | 0.012 | 0.444 | 0.430 | 0.356 | 0.026 | 0.037 | 0.035 | 0.156 | 0.240 | 0.242 |
| Observations | 13,445 | 13,445 | 5,067 | 13,445 | 13,445 | 5,067 | 13,445 | 13,445 | 5,067 | 13,445 | 13,445 | 5,067 |
| R-squared | 0.026 | 0.272 | 0.238 | 0.011 | 0.213 | 0.185 | 0.018 | 0.281 | 0.249 | 0.009 | 0.302 | 0.262 |
| Mean | 0.090 | 0.090 | 0.220 | 0.030 | 0.030 | 0.068 | 0.044 | 0.044 | 0.110 | 0.016 | 0.016 | 0.042 |
| Number of districts | 320 | 320 | 244 | 320 | 320 | 244 | 320 | 320 | 244 | 320 | 320 | 244 |
| Control for $M_{edt}, M_{edt}^{-1}, M_{edt}^{-2}$, | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| Year-“election year” FE | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| District FE | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| “Prosecution year” FE | YES | | | YES | | | YES | | YES | YES | | YES |
| “Prosecution year”-district FE | | YES | YES | | YES | YES | | YES | YES | | YES | YES |
| Drop “Prosecution year”-district with no offence | | | YES | | | YES | | | YES | | | YES |

The dependent variable is the number of corruption offences committed in district d , time t and prosecuted in year p . M_{edt} is a time-varying indicator for the political mandate started with the 2005-2009 elections. I_d is a time-invariant indicator for first-term politicians elected in 2005-2009. M_{edt}^{-1} is a binary indicator for the year preceding the 2005-2009 elections. M_{edt}^{-2} is a binary indicator taking value 1 two years before the 2005-2009 elections. The F-test (and P-value) below the coefficient estimates show the test for equality between the main coefficient (γ) and the effect of reelection incentives the year before the elections (γ_{-1}). The main difference from Table 7 and 8 is the inclusion of “prosecution year” (Υ_{pt}) or “prosecution year”-district ($\Upsilon_{ed,pt}$) FE. See equation (2) and explanations in the text. The last line indicates specifications dropping district-prosecution year combinations associated with no prosecution. The sample covers the political mandate starting between 2005 and 2008 and three years before it. Robust standard errors in parentheses are clustered at the district level.

*** p<0.01, ** p<0.05, * p<0.1

Table 10: THE EFFECT OF REELECTION INCENTIVES ON CORRUPTION OVER THE ELECTORAL CYCLE

| Dependent variable Officer | number of corruption offences committed by | | | |
|---|--|-----------------------|-----------------------|-------------------------------------|
| | Any bureaucrat (1) | Top Bureaucrat (2) | Administrative (3) | Front-line service providers (4) |
| $M_{edt}^{+4} \times I_d$ | -0.069 (0.127) | -0.012 (0.061) | -0.047 (0.100) | -0.010 (0.053) |
| $M_{edt}^{+3} \times I_d$ | -0.332** (0.144) | -0.053 (0.067) | -0.219** (0.089) | -0.060 (0.057) |
| $M_{edt}^{+2} \times I_d$ | -0.311** (0.132) | -0.140*** (0.053) | -0.202*** (0.076) | 0.031 (0.077) |
| $M_{edt}^{+1} \times I_d$ | -0.283*** (0.100) | -0.117** (0.048) | -0.099 (0.064) | -0.068* (0.037) |
| $M_{edt}^0 \times I_d$ | -0.233** (0.102) | -0.049 (0.050) | -0.178** (0.072) | -0.006 (0.037) |
| $M_{edt}^{-1} \times I_d$ | 0.017 (0.113) | -0.023 (0.056) | 0.009 (0.066) | 0.031 (0.036) |
| $M_{edt}^{-2} \times I_d$ | -0.057 (0.067) | -0.030 (0.035) | -0.010 (0.050) | -0.017 (0.022) |
| P-value: $M_{edt}^{+4} \times I_d = M_{edt}^{-1} \times I_d$ | 0.544 | 0.888 | 0.607 | 0.476 |
| P-value: $M_{edt}^{+3} \times I_d = M_{edt}^{-1} \times I_d$ | 0.032 | 0.719 | 0.026 | 0.124 |
| P-value: $M_{edt}^{+2} \times I_d = M_{edt}^{-1} \times I_d$ | 0.012 | 0.109 | 0.024 | 0.996 |
| P-value: $M_{edt}^{+1} \times I_d = M_{edt}^{-1} \times I_d$ | 0.014 | 0.172 | 0.151 | 0.025 |
| P-value: $M_{edt}^0 \times I_d = M_{edt}^{-1} \times I_d$ | 0.043 | 0.697 | 0.017 | 0.339 |
| Observations | 2,430 | 2,430 | 2,430 | 2,430 |
| R-squared | 0.118 | 0.048 | 0.085 | 0.044 |
| Mean | 0.459 | 0.139 | 0.233 | 0.088 |
| Number of districts | 320 | 320 | 320 | 320 |
| Control for $M_{edt}^{0,1,2,3,4}$, M_{edt}^{-1} , M_{edt}^{-2} | YES | YES | YES | YES |
| Year-“election year” FE | YES | YES | YES | YES |
| District FE | YES | YES | YES | YES |

The dependent variable is the number of corruption offences committed by any or a specific type of agent. M_{edt} is a time-varying indicator for the political mandate started with the 2005-2009 elections (“0” indicates the election year, “1” indicates the 1st year of the mandate and so on). I_d is a time-invariant indicator for first-term politicians elected in 2005-2009. M_{edt}^{-1} is a binary indicator for the year preceding the 2005-2009 elections. M_{edt}^{-2} is a binary indicator taking value 1 two years before the 2005-2009 elections. The F-test (and P-value) below the coefficient estimates show the test for equality between the main coefficient (γ) and the effect of reelection incentives the year before the elections (γ_{-1}). The sample covers the political mandate starting between 2005 and 2008 and three years before it. Robust standard errors in parentheses are clustered at the district level.

*** p<0.01, ** p<0.05, * p<0.1

Table 11: THE EFFECT OF REELECTION INCENTIVES ON REVENUE, TOTAL AND SECTORAL EXPENDITURE

| Dep. variable Category Sub-category | Revenue | | Expenditure | | | | | | |
|---|-------------------|--------------------|-------------------|-------------------|---------------------------|-------------------|--------------------|-------------------|-----------------------|
| | Total (1) | Total (2) | Economic | | | | Functional | | |
| | | | Personnel (3) | Capital (4) | Goods and Services (5) | Other (6) | Admin (7) | Education (8) | Infrastructure (9) |
| $M_{edt}^{+4} \times I_d$ | 0.129 (0.111) | 0.261** (0.122) | 0.093 (0.058) | 0.094 (0.063) | 0.041 (0.038) | 0.023 (0.023) | 0.150** (0.071) | 0.024 (0.036) | 0.081 (0.062) |
| $M_{edt}^{+3} \times I_d$ | 0.078 (0.110) | 0.152 (0.138) | 0.025 (0.061) | 0.130 (0.088) | -0.003 (0.036) | -0.001 (0.021) | -0.048 (0.096) | -0.081 (0.096) | 0.062 (0.117) |
| $M_{edt}^{+2} \times I_d$ | 0.066 (0.095) | 0.097 (0.129) | 0.039 (0.047) | 0.029 (0.095) | 0.021 (0.032) | -0.003 (0.019) | 0.081 (0.051) | -0.007 (0.037) | 0.074 (0.094) |
| $M_{edt}^{+1} \times I_d$ | 0.022 (0.092) | 0.190 (0.126) | 0.046 (0.047) | 0.110 (0.078) | 0.045 (0.038) | -0.029 (0.025) | 0.048 (0.078) | 0.023 (0.034) | 0.117* (0.069) |
| $M_{edt}^0 \times I_d$ | -0.057 (0.205) | 0.084 (0.112) | 0.013 (0.031) | 0.025 (0.084) | 0.049 (0.039) | -0.015 (0.022) | 0.024 (0.073) | 0.023 (0.027) | -0.002 (0.069) |
| $M_{edt}^{-1} \times I_d$ | 0.076 (0.068) | 0.084 (0.083) | -0.015 (0.030) | 0.086* (0.044) | 0.030 (0.037) | -0.027 (0.023) | -0.000 (0.056) | 0.026 (0.023) | 0.039 (0.041) |
| $M_{edt}^{-2} \times I_d$ | -0.006 (0.051) | -0.051 (0.058) | -0.030 (0.026) | -0.019 (0.033) | 0.006 (0.017) | 0.001 (0.023) | -0.053 (0.044) | -0.017 (0.016) | 0.002 (0.038) |
| $M_{edt}^{+4} \times I_d = M_{edt}^{-1} \times I_d$ | 0.654 | 0.168 | 0.053 | 0.891 | 0.769 | 0.086 | 0.030 | 0.959 | 0.459 |
| $M_{edt}^{+3} \times I_d = M_{edt}^{-1} \times I_d$ | 0.987 | 0.647 | 0.493 | 0.576 | 0.346 | 0.225 | 0.648 | 0.268 | 0.832 |
| $M_{edt}^{+2} \times I_d = M_{edt}^{-1} \times I_d$ | 0.916 | 0.925 | 0.212 | 0.541 | 0.763 | 0.278 | 0.126 | 0.370 | 0.667 |
| $M_{edt}^{+1} \times I_d = M_{edt}^{-1} \times I_d$ | 0.509 | 0.366 | 0.181 | 0.727 | 0.670 | 0.953 | 0.514 | 0.919 | 0.164 |
| $M_{edt}^0 \times I_d = M_{edt}^{-1} \times I_d$ | 0.496 | 0.997 | 0.248 | 0.412 | 0.431 | 0.448 | 0.664 | 0.908 | 0.457 |
| Observations | 2,451 | 2,248 | 2,244 | 2,232 | 2,232 | 2,191 | 2,153 | 2,136 | 2,133 |
| R-squared | 0.158 | 0.363 | 0.418 | 0.291 | 0.076 | 0.074 | 0.052 | 0.157 | 0.127 |
| Mean | 2.162 | 2.082 | 0.872 | 0.644 | 0.401 | 0.178 | 0.707 | 0.566 | 0.428 |
| Number of districts | 320 | 320 | 320 | 320 | 320 | 320 | 315 | 320 | 320 |
| Control for $M_{edt}^{0,1,2,3,4}$, M_{edt}^{-1} , M_{edt}^{-2} | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| Year-“election year” FE | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| District FE | YES | YES | YES | YES | YES | YES | YES | YES | YES |

The dependent variable is total revenue, total or sectoral expenditure. All budget indicators are per capita and in real terms. M_{edt} is a time-varying indicator for the political mandate started with the 2005-2009 elections (“0” indicates the election year, “1” indicates the 1st year of the mandate and so on). I_d is a time-invariant indicator for first-term politicians elected in 2005-2009. M_{edt}^{-1} is a binary indicator for the year preceding the 2005-2009 elections. M_{edt}^{-2} is a binary indicator taking value 1 two years before the 2005-2009 elections. The F-test (and P-value) below the coefficient estimates show the test for equality between the main coefficient (γ) and the effect of reelection incentives the year before the elections (γ_{-1}). The sample covers the political mandate starting between 2005 and 2008 and three years before it. Robust standard errors in parentheses are clustered at the district level.

*** p<0.01, ** p<0.05, * p<0.1

Table 12: THE EFFECT OF REELECTION INCENTIVES ON BUREAUCRATS' PROMOTIONS AND DEMOTIONS

| Dep. variable Sub-Category | Demotions | Promotions | |
|---|------------------------|-----------------------|-------------------------------------|
| | Top Bureaucrats (1) | Administrative (2) | Front-line service providers (3) |
| $M_{edt}^{+4} \times I_d$ | -0.269 (0.359) | -0.446 (0.784) | -0.031 (0.053) |
| $M_{edt}^{+3} \times I_d$ | 0.073 (0.392) | 0.557 (0.698) | 0.080* (0.041) |
| $M_{edt}^{+2} \times I_d$ | 0.538 (0.359) | 1.015* (0.557) | 0.097** (0.043) |
| $M_{edt}^{+1} \times I_d$ | 0.963*** (0.362) | 1.335** (0.570) | 0.044 (0.032) |
| $M_{edt}^0 \times I_d$ | 0.986** (0.390) | 0.926 (0.585) | 0.068* (0.041) |
| $M_{edt}^{-1} \times I_d$ | 0.102 (0.340) | 0.071 (0.382) | 0.038 (0.031) |
| $M_{edt}^{-2} \times I_d$ | -0.341 (0.363) | -0.338 (0.336) | -0.014 (0.018) |
| P-value: $M_{edt}^{+4} \times I_d = M_{edt}^{-1} \times I_d$ | 0.309 | 0.542 | 0.195 |
| P-value: $M_{edt}^{+3} \times I_d = M_{edt}^{-1} \times I_d$ | 0.934 | 0.513 | 0.356 |
| P-value: $M_{edt}^{+2} \times I_d = M_{edt}^{-1} \times I_d$ | 0.225 | 0.141 | 0.075 |
| P-value: $M_{edt}^{+1} \times I_d = M_{edt}^{-1} \times I_d$ | 0.017 | 0.033 | 0.874 |
| P-value: $M_{edt}^0 \times I_d = M_{edt}^{-1} \times I_d$ | 0.032 | 0.245 | 0.485 |
| Observations | 2,430 | 2,430 | 2,430 |
| R-squared | 0.276 | 0.443 | 0.197 |
| Mean | 3.075 | 5.746 | 0.217 |
| Number of districts | 320 | 320 | 320 |
| Control for $M_{edt}^{0,1,2,3,4}$, M_{edt}^{-1} , M_{edt}^{-2} , | YES | YES | YES |
| Year-“election year” FE | YES | YES | YES |
| District FE | YES | YES | YES |

The dependent variable is promotion or demotions per capita. M_{edt} is a time-varying indicator for the political mandate started with the 2005-2009 elections (“0” indicates the election year, “1” indicates the 1st year of the mandate and so on). I_d is a time-invariant indicator for first-term politicians elected in 2005-2009. M_{edt}^{-1} is a binary indicator for the year preceding the 2005-2009 elections. M_{edt}^{-2} is a binary indicator taking value 1 two years before the 2005-2009 elections. The F-test (and P-value) below the coefficient estimates show the test for equality between the main coefficient (γ) and the effect of reelection incentives the year before the elections (γ_{-1}). The sample covers the political mandate starting between 2005 and 2008 and three years before it. Robust standard errors in parentheses are clustered at the district level.

*** p<0.01, ** p<0.05, * p<0.1

Table 13: THE EFFECT OF REELECTION INCENTIVES ON THE NUMBER OF BUREAUCRATS

| Dependent variable | Number of bureaucrats who are | | | | |
|---|-------------------------------|---------------------|------------------------------|---------------------|------------------------------|
| | At least 5 years in office | | | New Recruits | |
| | Top Bureaucrat | Administrative | Front-line service providers | Administrative | Front-line service providers |
| Officer | (1) | (2) | (3) | (4) | (5) |
| $M_{edt}^{+4} \times I_d$ | 10.124 (13.058) | -18.427 (27.532) | -44.996 (64.233) | -3.379 (13.322) | -7.286 (14.438) |
| $M_{edt}^{+3} \times I_d$ | 3.563 (10.765) | -27.235 (24.324) | -74.576 (56.427) | -10.741 (12.779) | -35.671 (27.760) |
| $M_{edt}^{+2} \times I_d$ | -5.443 (9.078) | -21.541 (19.696) | -96.643* (49.793) | -7.602 (16.380) | 2.490 (23.113) |
| $M_{edt}^{+1} \times I_d$ | -4.272 (7.009) | -17.031 (17.331) | -61.958 (41.583) | -3.356 (10.574) | 33.412* (18.479) |
| $M_{edt}^0 \times I_d$ | -8.478 (5.253) | 3.068 (13.328) | -38.150 (34.197) | 7.636 (10.546) | 20.392 (22.528) |
| $M_{edt}^{-1} \times I_d$ | -4.534 (3.305) | 11.793 (8.766) | -10.010 (26.701) | -4.090 (9.904) | -5.528 (15.684) |
| $M_{edt}^{-2} \times I_d$ | -1.237 (2.182) | 1.502 (6.376) | -1.157 (19.973) | -1.797 (5.207) | -9.774 (7.087) |
| P-value: $M_{edt}^{+4} \times I_d = M_{edt}^{-1} \times I_d$ | 0.237 | 0.252 | 0.571 | 0.960 | 0.916 |
| P-value: $M_{edt}^{+3} \times I_d = M_{edt}^{-1} \times I_d$ | 0.399 | 0.0874 | 0.210 | 0.680 | 0.335 |
| P-value: $M_{edt}^{+2} \times I_d = M_{edt}^{-1} \times I_d$ | 0.906 | 0.0654 | 0.0427 | 0.840 | 0.772 |
| P-value: $M_{edt}^{+1} \times I_d = M_{edt}^{-1} \times I_d$ | 0.964 | 0.0628 | 0.111 | 0.942 | 0.0811 |
| P-value: $M_{edt}^0 \times I_d = M_{edt}^{-1} \times I_d$ | 0.339 | 0.409 | 0.203 | 0.185 | 0.102 |
| Observations | 2,430 | 2,430 | 2,430 | 2,430 | 2,430 |
| R-squared | 0.840 | 0.220 | 0.274 | 0.648 | 0.427 |
| Mean | 282.5 | 913.4 | 2744 | 109.6 | 143.4 |
| Number of districts | 320 | 320 | 320 | 320 | 320 |
| Control for $M_{edt}^{0,1,2,3,4}$, M_{edt}^{-1} , M_{edt}^{-2} , | YES | YES | YES | YES | YES |
| Year-“election year” FE | YES | YES | YES | YES | YES |
| District FE | YES | YES | YES | YES | YES |

The dependent variable is the number of bureaucrats with at least 5 years in office or the number of new recruits. M_{edt} is a time-varying indicator for the political mandate started with the 2005-2009 elections (“0” indicates the election year, “1” indicates the 1st year of the mandate and so on). I_d is a time-invariant indicator for first-term politicians elected in 2005-2009. M_{edt}^{-1} is a binary indicator for the year preceding the 2005-2009 elections. M_{edt}^{-2} is a binary indicator taking value 1 two years before the 2005-2009 elections. The F-test (and P-value) below the coefficient estimates show the test for equality between the main coefficient (γ) and the effect of reelection incentives the year before the elections (γ_{-1}). The sample covers the political mandate starting between 2005 and 2008 and three years before it. Robust standard errors in parentheses are clustered at the district level.

*** p<0.01, ** p<0.05, * p<0.1

Appendix

Additional tables

Table A1: THE EFFECT OF REELECTION INCENTIVES CONTROLLING FOR EXPERIENCE AND ABILITY

| Dependent variable | number of corruption offences committed by | | | | | | | | | | | |
|--|--|---------------------|--------------------|---------------------|-------------------|-------------------|----------------------|---------------------|---------------------|-----------------------------|-------------------|-------------------|
| | Bureaucrat | | | Top Bureaucrat | | | Administrator | | | Front-line service provider | | |
| | All | Future winners | | All | Future winners | | All | Future winners | | All | Future winners | |
| Officer | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| Restriction | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| $M_{edt} \times I_d$ | -0.256*** (0.086) | -0.213** (0.108) | -0.214* (0.109) | -0.079** (0.037) | -0.053 (0.043) | -0.052 (0.044) | -0.160*** (0.056) | -0.143** (0.071) | -0.152** (0.072) | -0.018 (0.037) | -0.017 (0.046) | -0.010 (0.046) |
| $M_{edt}^{-1} \times I_d$ | 0.010 (0.113) | 0.090 (0.158) | 0.078 (0.159) | -0.023 (0.056) | 0.035 (0.077) | 0.036 (0.078) | 0.005 (0.066) | 0.025 (0.094) | 0.019 (0.093) | 0.028 (0.037) | 0.030 (0.049) | 0.023 (0.049) |
| $M_{edt}^{-2} \times I_d$ | -0.060 (0.068) | -0.017 (0.087) | -0.023 (0.087) | -0.030 (0.036) | -0.004 (0.044) | -0.004 (0.044) | -0.012 (0.050) | 0.017 (0.066) | 0.014 (0.066) | -0.018 (0.022) | -0.030 (0.023) | -0.033 (0.023) |
| Number of years in office | -0.100 (0.153) | | -0.146 (0.206) | -0.007 (0.063) | | | 0.017 (0.077) | -0.094 (0.108) | | -0.134 (0.149) | 0.000 (0.065) | -0.029 (0.093) |
| Number of years in office ² | 0.014 (0.016) | | 0.020 (0.020) | 0.001 (0.006) | | | -0.002 (0.007) | 0.008 (0.010) | | 0.010 (0.013) | 0.006 (0.008) | 0.012 (0.012) |
| F-test: $M_{edt} \times I_d = M_{edt}^{-1} \times I_d$ | 6.453 | 4.866 | 4.445 | 0.843 | 1.151 | 1.130 | 5.471 | 3.642 | 3.700 | 1.394 | 0.820 | 0.404 |
| P-value | 0.012 | 0.028 | 0.036 | 0.359 | 0.284 | 0.289 | 0.020 | 0.057 | 0.056 | 0.239 | 0.366 | 0.526 |
| Observations | 2,430 | 1,966 | 1,966 | 2,430 | 1,966 | 1,966 | 2,430 | 1,966 | 1,966 | 2,430 | 1,966 | 1,966 |
| R-squared | 0.116 | 0.118 | 0.119 | 0.046 | 0.053 | 0.053 | 0.083 | 0.081 | 0.082 | 0.044 | 0.046 | 0.049 |
| Mean | 0.459 | 0.476 | 0.476 | 0.139 | 0.149 | 0.149 | 0.233 | 0.237 | 0.237 | 0.088 | 0.091 | 0.091 |
| Number of districts | 320 | 259 | 259 | 320 | 259 | 259 | 320 | 259 | 259 | 320 | 259 | 259 |
| Control for $M_{edt}, M_{edt}^{-1}, M_{edt}^{-2}$ | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| Year-“election year” FE | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| District FE | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |

The dependent variable is the number of corruption offences committed by a specific agent. The restriction “Future Winners” indicates that the group of first-term politicians is restricted to those who will be reelected. M_{edt} is a time-varying indicator for the political mandate started with the 2005-2009 elections (“0” indicates the election year, “1” indicates the 1st year of the mandate and so on). I_d is a time-invariant indicator for first-term politicians elected in 2005-2009. M_{edt}^{-1} is a binary indicator for the year preceding the 2005-2009 elections. M_{edt}^{-2} is a binary indicator taking value 1 two years before the 2005-2009 elections. The F-test (and P-value) below the coefficient estimates show the test for equality between the main coefficient (γ) and the effect of reelection incentives the year before the elections (γ_{-1}). The sample covers the political mandate starting between 2005 and 2008 and three years before it. Robust standard errors in parentheses are clustered at the district level.

*** p<0.01, ** p<0.05, * p<0.1

Table A2: THE EFFECT OF REELECTION INCENTIVES ON CORRUPTION CONTROLLING FOR PROSECUTORS' ACTIVITY, EXPERIENCE AND ABILITY

| Dependent variable Officer | number of corruption offences committed by | | | | | | | | | | | |
|---|--|---------|---------|----------|----------------|---------|---------|---------|----------------|---------|----------|---------|
| | Any bureaucrat | | | | Top Bureaucrat | | | | Administrative | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| $M_{edt} \times I_d$ | -0.036* | -0.089* | -0.036* | -0.101** | -0.007 | -0.025 | -0.007 | -0.028 | -0.025* | -0.060* | -0.026** | -0.068* |
| | (0.021) | (0.049) | (0.021) | (0.049) | (0.009) | (0.021) | (0.009) | (0.022) | (0.013) | (0.035) | (0.013) | (0.035) |
| $M_{edt}^{-1} \times I_d$ | 0.021 | 0.036 | 0.018 | 0.022 | 0.011 | 0.013 | 0.012 | 0.012 | 0.004 | 0.008 | 0.003 | 0.005 |
| | (0.029) | (0.069) | (0.029) | (0.069) | (0.018) | (0.035) | (0.019) | (0.035) | (0.015) | (0.044) | (0.015) | (0.043) |
| $M_{edt}^{-2} \times I_d$ | 0.003 | -0.012 | 0.002 | -0.019 | 0.005 | -0.005 | 0.005 | -0.005 | 0.003 | 0.006 | 0.002 | 0.004 |
| | (0.019) | (0.040) | (0.020) | (0.041) | (0.015) | (0.023) | (0.015) | (0.023) | (0.011) | (0.030) | (0.011) | (0.030) |
| Number of years in office | | | -0.025 | -0.274** | | | 0.002 | -0.044 | | | -0.022 | -0.117 |
| | | | (0.038) | (0.127) | | | (0.015) | (0.041) | | | (0.026) | (0.087) |
| Number of years in office ² | | | 0.004 | 0.031* | | | -0.000 | 0.003 | | | 0.002 | 0.008 |
| | | | (0.004) | (0.016) | | | (0.001) | (0.005) | | | (0.002) | (0.009) |
| F-test: $M_{edt} \times I_d = M_{edt}^{-1} \times I_d$ | 4.863 | 4.241 | 4.368 | 4.053 | 1.081 | 0.979 | 1.055 | 1.085 | 3.757 | 2.877 | 3.717 | 3.175 |
| P-value | 0.028 | 0.041 | 0.038 | 0.045 | 0.300 | 0.324 | 0.305 | 0.299 | 0.054 | 0.091 | 0.055 | 0.076 |
| Observations | 10,886 | 4,135 | 10,886 | 4,135 | 10,886 | 4,135 | 10,886 | 4,135 | 10,886 | 4,135 | 10,886 | 4,135 |
| R-squared | 0.026 | 0.234 | 0.026 | 0.235 | 0.011 | 0.187 | 0.011 | 0.187 | 0.018 | 0.245 | 0.018 | 0.246 |
| Mean | 0.089 | 0.229 | 0.089 | 0.229 | 0.030 | 0.074 | 0.030 | 0.074 | 0.043 | 0.112 | 0.043 | 0.112 |
| Number of districts | 259 | 199 | 259 | 199 | 259 | 199 | 259 | 199 | 259 | 199 | 259 | 199 |
| Control for $M_{edt}^{0,1,2,3,4}$, M_{edt}^{-1} , M_{edt}^{-2} | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| Year- "election year" FE | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| District FE | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| "Prosecution year" FE | YES | | YES | | YES | | YES | | YES | | YES | |
| "Prosecution year"-district FE | | YES | | YES | | YES | | YES | | YES | | YES |
| Drop "Prosecution year"-district with no offence | | YES | | YES | | YES | | YES | | YES | | YES |

The dependent variable is the number of corruption offences committed by a specific agent in district d at time t and prosecuted at time p . All specifications are estimated only on the sample of "Future Winners," i.e., either second-term politicians either first-term politicians who will be reelected. M_{edt} is a time-varying indicator for the political mandate started with the 2005-2009 elections ("0" indicates the election year, "1" indicates the 1st year of the mandate and so on). I_d is a time-invariant indicator for first-term politicians elected in 2005-2009. M_{edt}^{-1} is a binary indicator for the year preceding the 2005-2009 elections. M_{edt}^{-2} is a binary indicator taking value 1 two years before the 2005-2009 elections. The F-test (and P-value) below the coefficient estimates show the test for equality between the main coefficient (γ) and the effect of reelection incentives the year before the elections (γ_{-1}). The sample covers the political mandate starting between 2005 and 2008 and three years before it. Robust standard errors in parentheses are clustered at the district level.

*** p<0.01, ** p<0.05, * p<0.1

Table A3: THE EFFECT OF REELECTION INCENTIVES OVER THE ELECTORAL CYCLE CONTROLLING FOR EXPERIENCE AND ABILITY

| Dependent variable | number of corruption offences committed by | | | | | | | | | | | |
|---|--|--------------------|--------------------|----------------------|---------------------|---------------------|----------------------|------------------------------|---------------------|------------------------------|--------------------|--------------------|
| | Any Bureaucrat | | | Top bureaucrats | | | Administrative | | | Front-line service providers | | |
| | Officer | Any Bureaucrat | | Top bureaucrats | | Administrative | | Front-line service providers | | All | Future winners | |
| Mayor in first term | All | Future winners | All | Future winners | All | Future winners | All | Future winners | All | Future winners | Future winners | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| $M_{edt}^{+4} \times I_d$ | -0.068 (0.128) | -0.062 (0.151) | -0.062 (0.153) | -0.012 (0.061) | -0.005 (0.069) | -0.004 (0.069) | -0.052 (0.101) | -0.032 (0.121) | -0.040 (0.122) | -0.004 (0.053) | -0.026 (0.055) | -0.018 (0.055) |
| $M_{edt}^{+3} \times I_d$ | -0.332** (0.144) | -0.343* (0.177) | -0.344* (0.178) | -0.053 (0.067) | -0.023 (0.086) | -0.023 (0.086) | -0.224** (0.089) | -0.252** (0.107) | -0.261** (0.107) | -0.055 (0.057) | -0.067 (0.058) | -0.060 (0.058) |
| $M_{edt}^{+2} \times I_d$ | -0.311** (0.133) | -0.204 (0.169) | -0.205 (0.170) | -0.141*** (0.053) | -0.117** (0.057) | -0.117** (0.058) | -0.207*** (0.077) | -0.152 (0.092) | -0.161* (0.093) | 0.036 (0.077) | 0.065 (0.118) | 0.073 (0.118) |
| $M_{edt}^{+1} \times I_d$ | -0.283*** (0.101) | -0.227* (0.121) | -0.228* (0.123) | -0.117** (0.049) | -0.084 (0.054) | -0.083 (0.056) | -0.104 (0.064) | -0.069 (0.086) | -0.079 (0.087) | -0.063* (0.037) | -0.074* (0.038) | -0.066* (0.038) |
| $M_{edt}^0 \times I_d$ | -0.233** (0.103) | -0.195 (0.129) | -0.196 (0.130) | -0.049 (0.050) | -0.018 (0.059) | -0.017 (0.060) | -0.183** (0.072) | -0.185** (0.093) | -0.195** (0.093) | -0.001 (0.037) | 0.008 (0.044) | 0.016 (0.043) |
| $M_{edt}^{-1} \times I_d$ | 0.010 (0.113) | 0.090 (0.158) | 0.078 (0.159) | -0.023 (0.056) | 0.035 (0.077) | 0.036 (0.078) | 0.005 (0.066) | 0.025 (0.094) | 0.019 (0.094) | 0.028 (0.037) | 0.030 (0.049) | 0.023 (0.049) |
| $M_{edt}^{-2} \times I_d$ | -0.060 (0.068) | -0.017 (0.087) | -0.023 (0.087) | -0.030 (0.036) | -0.004 (0.044) | -0.004 (0.044) | -0.012 (0.050) | 0.017 (0.066) | 0.014 (0.066) | -0.018 (0.022) | -0.030 (0.023) | -0.033 (0.023) |
| Number of years in office | -0.102 (0.154) | | -0.148 (0.206) | -0.008 (0.063) | | | 0.015 (0.077) | -0.095 (0.108) | | -0.135 (0.149) | 0.001 (0.066) | -0.028 (0.093) |
| Number of years in officer ² | 0.015 (0.016) | | 0.021 (0.020) | 0.001 (0.006) | | | -0.001 (0.007) | 0.008 (0.010) | | 0.010 (0.014) | 0.006 (0.008) | 0.012 (0.012) |
| P-value: $M_{edt}^{+4} \times I_d = M_{edt}^{-1} \times I_d$ | 0.583 | 0.369 | 0.413 | 0.885 | 0.679 | 0.681 | 0.603 | 0.656 | 0.643 | 0.572 | 0.379 | 0.518 |
| P-value: $M_{edt}^{+3} \times I_d = M_{edt}^{-1} \times I_d$ | 0.036 | 0.037 | 0.043 | 0.722 | 0.592 | 0.594 | 0.026 | 0.022 | 0.022 | 0.158 | 0.123 | 0.184 |
| P-value: $M_{edt}^{+2} \times I_d = M_{edt}^{-1} \times I_d$ | 0.014 | 0.060 | 0.071 | 0.111 | 0.097 | 0.100 | 0.023 | 0.123 | 0.118 | 0.912 | 0.754 | 0.661 |
| P-value: $M_{edt}^{+1} \times I_d = M_{edt}^{-1} \times I_d$ | 0.018 | 0.055 | 0.066 | 0.177 | 0.186 | 0.191 | 0.148 | 0.350 | 0.336 | 0.037 | 0.077 | 0.122 |
| P-value: $M_{edt}^0 \times I_d = M_{edt}^{-1} \times I_d$ | 0.049 | 0.089 | 0.102 | 0.702 | 0.563 | 0.565 | 0.017 | 0.034 | 0.032 | 0.443 | 0.663 | 0.882 |
| Observations | 2,430 | 1,966 | 1,966 | 2,430 | 1,966 | 1,966 | 2,430 | 1,966 | 1,966 | 2,430 | 1,966 | 1,966 |
| R-squared | 0.118 | 0.120 | 0.120 | 0.048 | 0.055 | 0.055 | 0.085 | 0.084 | 0.085 | 0.047 | 0.050 | 0.053 |
| Mean | 0.459 | 0.476 | 0.476 | 0.139 | 0.149 | 0.149 | 0.233 | 0.237 | 0.237 | 0.088 | 0.091 | 0.091 |
| Number of districts | 320 | 259 | 259 | 320 | 259 | 259 | 320 | 259 | 259 | 320 | 259 | 259 |
| Control for $M_{edt}^{0,1,2,3,4}$, M_{edt}^{-1} , M_{edt}^{-2} | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| Year-“election year” FE | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| District FE | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |

The dependent variable is the number of corruption offences committed by a specific agent. The restriction “Future Winners” indicates that the group of first-term politicians is restricted to those who will be reelected. M_{edt} is a time-varying indicator for the political mandate started with the 2005-2009 elections (“0” indicates the election year, “1” indicates the 1st year of the mandate and so on). I_d is a time-invariant indicator for first-term politicians elected in 2005-2009. M_{edt}^{-1} is a binary indicator for the year preceding the 2005-2009 elections. M_{edt}^{-2} is a binary indicator taking value 1 two years before the 2005-2009 elections. The F-test (and P-value) below the coefficient estimates show the test for equality between the main coefficient (γ) and the effect of reelection incentives the year before the elections (γ_{-1}). The sample covers the political mandate starting between 2005 and 2008 and three years before it. Robust standard errors in parentheses are clustered at the district level.

*** p<0.01, ** p<0.05, * p<0.1

Table A4: THE EFFECT OF REELECTION INCENTIVES ON REVENUE, TOTAL AND SECTORAL EXPENDITURE CONTROLLING FOR EXPERIENCE AND ABILITY

| Dep. variable Category Sub-category | Revenue | | | | Expenditure | | | | | | | | | | | | | |
|---|-------------------|-------------------|-------------------|--------------------|-------------------|--------------------|-------------------|--------------------|--------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|---------------------|------------------|--------------------|
| | | | | | Economic | | | | | | | | Functional | | | | | |
| | Total | | Total | | Personnel | | Capital | | Goods and Services | | Other | | Admin | | Education | | Infrastructure | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) |
| $M_{edt}^{+4} \times I_d$ | 0.126 (0.097) | 0.284 (0.238) | 0.252* (0.140) | 0.638** (0.316) | 0.106 (0.074) | 0.269** (0.134) | 0.093 (0.087) | 0.303 (0.199) | 0.035 (0.039) | 0.085 (0.064) | -0.003 (0.026) | -0.013 (0.052) | 0.139* (0.077) | 0.189 (0.129) | 0.013 (0.040) | 0.263*** (0.094) | 0.098 (0.083) | 0.329** (0.138) |
| $M_{edt}^{+3} \times I_d$ | 0.157 (0.113) | 0.310 (0.214) | 0.159 (0.167) | 0.447 (0.281) | 0.021 (0.066) | 0.116 (0.101) | 0.141 (0.128) | 0.335* (0.195) | -0.002 (0.037) | 0.027 (0.055) | -0.007 (0.029) | -0.008 (0.042) | -0.033 (0.098) | -0.001 (0.127) | -0.074 (0.092) | 0.098 (0.092) | 0.090 (0.143) | 0.275* (0.166) |
| $M_{edt}^{+2} \times I_d$ | 0.123 (0.117) | 0.272 (0.212) | 0.180 (0.172) | 0.360 (0.257) | 0.061 (0.060) | 0.086 (0.094) | 0.066 (0.133) | 0.237 (0.168) | 0.053 (0.038) | 0.060 (0.051) | -0.021 (0.027) | -0.013 (0.040) | 0.116* (0.063) | 0.128 (0.114) | 0.008 (0.040) | 0.098* (0.059) | 0.095 (0.128) | 0.235 (0.150) |
| $M_{edt}^{+1} \times I_d$ | 0.204* (0.118) | 0.347 (0.221) | 0.321* (0.163) | 0.402 (0.261) | 0.079 (0.061) | 0.036 (0.107) | 0.176 (0.108) | 0.329** (0.155) | 0.066* (0.040) | 0.051 (0.055) | -0.021 (0.027) | -0.006 (0.044) | 0.103 (0.092) | 0.095 (0.142) | 0.052 (0.043) | 0.065 (0.070) | 0.145 (0.091) | 0.239* (0.130) |
| $M_{edt}^0 \times I_d$ | 0.138 (0.125) | 0.276 (0.255) | 0.187 (0.149) | 0.162 (0.300) | 0.017 (0.037) | -0.096 (0.117) | 0.090 (0.114) | 0.221 (0.201) | 0.073 (0.047) | 0.037 (0.066) | -0.017 (0.027) | 0.006 (0.054) | 0.036 (0.087) | 0.007 (0.134) | 0.065* (0.039) | -0.003 (0.096) | 0.042 (0.083) | 0.089 (0.147) |
| $M_{edt}^{-1} \times I_d$ | 0.176* (0.094) | 0.174* (0.099) | 0.157 (0.107) | 0.141 (0.111) | -0.005 (0.029) | -0.005 (0.030) | 0.111* (0.066) | 0.104 (0.069) | 0.042 (0.043) | 0.038 (0.044) | -0.008 (0.026) | -0.014 (0.027) | 0.018 (0.064) | 0.022 (0.066) | 0.054** (0.027) | 0.052* (0.027) | 0.068 (0.055) | 0.073 (0.055) |
| $M_{edt}^{-2} \times I_d$ | 0.034 (0.061) | 0.034 (0.062) | -0.034 (0.070) | -0.038 (0.071) | -0.025 (0.028) | -0.024 (0.028) | -0.010 (0.042) | -0.011 (0.042) | 0.018 (0.020) | 0.015 (0.020) | -0.026 (0.023) | -0.029 (0.024) | -0.025 (0.051) | -0.027 (0.051) | -0.007 (0.020) | -0.008 (0.020) | 0.004 (0.046) | 0.003 (0.047) |
| Number of years in office | | 0.022 (0.078) | | -0.079 (0.091) | | -0.072 (0.044) | | 0.011 (0.062) | | -0.023 (0.022) | | 0.011 (0.020) | | -0.019 (0.050) | | -0.071* (0.040) | | -0.024 (0.047) |
| Number of years in office ² | | 0.001 (0.006) | | 0.010 (0.008) | | 0.007* (0.004) | | 0.002 (0.006) | | 0.002 (0.002) | | -0.001 (0.002) | | 0.002 (0.004) | | 0.008** (0.004) | | 0.005 (0.004) |
| P-value: $M_{edt}^{+4} \times I_d = M_{edt}^{-1} \times I_d$ | 0.649 | 0.647 | 0.511 | 0.116 | 0.114 | 0.036 | 0.826 | 0.310 | 0.815 | 0.449 | 0.783 | 0.978 | 0.078 | 0.163 | 0.284 | 0.025 | 0.683 | 0.044 |
| P-value: $M_{edt}^{+3} \times I_d = M_{edt}^{-1} \times I_d$ | 0.877 | 0.527 | 0.990 | 0.278 | 0.680 | 0.215 | 0.785 | 0.204 | 0.197 | 0.843 | 0.952 | 0.865 | 0.617 | 0.858 | 0.159 | 0.615 | 0.862 | 0.170 |
| P-value: $M_{edt}^{+2} \times I_d = M_{edt}^{-1} \times I_d$ | 0.635 | 0.629 | 0.905 | 0.409 | 0.206 | 0.298 | 0.730 | 0.402 | 0.742 | 0.699 | 0.527 | 0.967 | 0.120 | 0.376 | 0.204 | 0.418 | 0.807 | 0.200 |
| P-value: $M_{edt}^{+1} \times I_d = M_{edt}^{-1} \times I_d$ | 0.770 | 0.395 | 0.295 | 0.308 | 0.129 | 0.692 | 0.523 | 0.112 | 0.502 | 0.831 | 0.591 | 0.822 | 0.359 | 0.630 | 0.968 | 0.840 | 0.335 | 0.151 |
| P-value: $M_{edt}^0 \times I_d = M_{edt}^{-1} \times I_d$ | 0.660 | 0.656 | 0.794 | 0.943 | 0.371 | 0.424 | 0.820 | 0.522 | 0.221 | 0.981 | 0.560 | 0.663 | 0.789 | 0.912 | 0.617 | 0.543 | 0.687 | 0.903 |
| Observations | 1,991 | 1,974 | 1,837 | 1,820 | 1,834 | 1,817 | 1,824 | 1,807 | 1,823 | 1,806 | 1,791 | 1,774 | 1,775 | 1,760 | 1,750 | 1,734 | 1,748 | 1,732 |
| R-squared | 0.333 | 0.332 | 0.374 | 0.374 | 0.436 | 0.432 | 0.290 | 0.291 | 0.089 | 0.090 | 0.084 | 0.086 | 0.046 | 0.046 | 0.141 | 0.140 | 0.116 | 0.116 |
| Mean | 2.126 | 2.124 | 2.068 | 2.067 | 0.862 | 0.861 | 0.653 | 0.653 | 0.399 | 0.398 | 0.168 | 0.168 | 0.695 | 0.692 | 0.560 | 0.560 | 0.441 | 0.442 |
| Number of districts | 259 | 259 | 259 | 259 | 259 | 259 | 259 | 259 | 259 | 259 | 259 | 259 | 257 | 257 | 259 | 259 | 259 | 259 |
| Control for $M_{edt}^{0,1,2,3,4}$, M_{edt}^{-1} , M_{edt}^{-2} | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| Year-“election year” FE | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| District FE | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |

The dependent variable is total revenue, total or sectoral expenditure. All budget indicators are per capita and in real terms. All specifications are estimated only on the sample of “Future Winners,” i.e., either second-term politicians either first-term politicians who will be reelected. M_{edt} is a time-varying indicator for the political mandate started with the 2005-2009 elections (“0” indicates the election year, “1” indicates the 1st year of the mandate and so on). I_d is a time-invariant indicator for first-term politicians elected in 2005-2009. M_{edt}^{-1} is a binary indicator for the year preceding the 2005-2009 elections. M_{edt}^{-2} is a binary indicator taking value 1 two years before the 2005-2009 elections. The F-test (and P-value) below the coefficient estimates show the test for equality between the main coefficient (γ) and the effect of reelection incentives the year before the elections (γ_{-1}). The sample covers the political mandate starting between 2005 and 2008 and three years before it. Robust standard errors in parentheses are clustered at the district level.

*** p<0.01, ** p<0.05, * p<0.1

Table A5: THE EFFECT OF REELECTION INCENTIVES ON BUREAUCRATS' PROMOTIONS AND DEMOTIONS CONTROLLING FOR ABILITY AND EXPERIENCE

| Dep. variable Sub-Category Sample | Demotions | | | Promotions | | | | | |
|--|----------------------|--------------------|----------------------|--------------------|--------------------|--------------------|------------------------------|-------------------|-------------------|
| | Top Bureaucrats | | | Administrative | | | Front-line service providers | | |
| | All | Future winners | | All | Future winners | | All | Future winners | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| $M_{edt}^{+4} \times I_d$ | -0.358 (0.356) | -0.688* (0.402) | -0.807** (0.400) | -0.448 (0.782) | -1.177 (0.809) | -1.178 (0.807) | -0.032 (0.053) | -0.052 (0.064) | -0.052 (0.064) |
| $M_{edt}^{+3} \times I_d$ | -0.011 (0.384) | -0.151 (0.511) | -0.273 (0.496) | 0.552 (0.694) | 0.461 (0.843) | 0.457 (0.837) | 0.079* (0.041) | 0.069 (0.048) | 0.068 (0.049) |
| $M_{edt}^{+2} \times I_d$ | 0.449 (0.357) | 0.231 (0.411) | 0.103 (0.409) | 1.009* (0.555) | 1.186* (0.677) | 1.180* (0.678) | 0.097** (0.043) | 0.077 (0.054) | 0.076 (0.054) |
| $M_{edt}^{+1} \times I_d$ | 0.874** (0.362) | 0.778* (0.468) | 0.651 (0.465) | 1.328** (0.572) | 1.322** (0.665) | 1.316** (0.663) | 0.043 (0.032) | 0.021 (0.038) | 0.020 (0.039) |
| $M_{edt}^0 \times I_d$ | 0.897** (0.383) | 0.746 (0.502) | 0.618 (0.493) | 0.920 (0.577) | 1.342* (0.784) | 1.336* (0.774) | 0.068* (0.041) | 0.083 (0.053) | 0.082 (0.052) |
| $M_{edt}^{-1} \times I_d$ | 0.052 (0.341) | -0.254 (0.413) | -0.330 (0.419) | 0.031 (0.387) | -0.116 (0.467) | -0.156 (0.476) | 0.036 (0.031) | 0.047 (0.047) | 0.047 (0.048) |
| $M_{edt}^{-2} \times I_d$ | -0.368 (0.363) | -0.496 (0.458) | -0.534 (0.458) | -0.358 (0.334) | -0.512 (0.400) | -0.532 (0.395) | -0.015 (0.018) | -0.011 (0.025) | -0.011 (0.025) |
| Number of years in office | -1.424*** (0.403) | | -1.821*** (0.527) | -0.636 (0.729) | | -0.520 (0.937) | -0.037 (0.040) | | -0.000 (0.052) |
| Number of years in office ² | 0.100*** (0.037) | | 0.135*** (0.048) | 0.084 (0.072) | | 0.071 (0.091) | 0.005 (0.004) | | -0.001 (0.005) |
| P-value: $M_{edt}^{+4} \times I_d = M_{edt}^{-1} \times I_d$ | 0.264 | 0.269 | 0.226 | 0.574 | 0.233 | 0.251 | 0.208 | 0.125 | 0.124 |
| P-value: $M_{edt}^{+3} \times I_d = M_{edt}^{-1} \times I_d$ | 0.861 | 0.824 | 0.900 | 0.483 | 0.522 | 0.498 | 0.342 | 0.712 | 0.724 |
| P-value: $M_{edt}^{+2} \times I_d = M_{edt}^{-1} \times I_d$ | 0.270 | 0.253 | 0.307 | 0.130 | 0.109 | 0.103 | 0.070 | 0.417 | 0.431 |
| P-value: $M_{edt}^{+1} \times I_d = M_{edt}^{-1} \times I_d$ | 0.024 | 0.020 | 0.027 | 0.029 | 0.031 | 0.027 | 0.843 | 0.597 | 0.589 |
| P-value: $M_{edt}^0 \times I_d = M_{edt}^{-1} \times I_d$ | 0.039 | 0.056 | 0.068 | 0.228 | 0.142 | 0.134 | 0.463 | 0.497 | 0.504 |
| Observations | 2,430 | 1,966 | 1,966 | 2,430 | 1,966 | 1,966 | 2,430 | 1,966 | 1,966 |
| R-squared | 0.280 | 0.268 | 0.273 | 0.443 | 0.449 | 0.449 | 0.197 | 0.184 | 0.184 |
| Mean | 3.075 | 3.040 | 3.040 | 5.746 | 5.746 | 5.746 | 0.217 | 0.212 | 0.212 |
| Number of districts | 320 | 259 | 259 | 320 | 259 | 259 | 320 | 259 | 259 |
| Control for M_{edt} , M_{edt}^{-1} , M_{edt}^{-2} | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| Year-“election year” FE | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| District FE | YES | YES | YES | YES | YES | YES | YES | YES | YES |

The dependent variable is promotion or demotions per capita. The restriction “Future Winners” indicates that the group of first-term politicians is restricted to those who will be reelected. M_{edt} is a time-varying indicator for the political mandate started with the 2005-2009 elections (“0” indicates the election year, “1” indicates the 1st year of the mandate and so on). I_d is a time-invariant indicator for first-term politicians elected in 2005-2009. M_{edt}^{-1} is a binary indicator for the year preceding the 2005-2009 elections. M_{edt}^{-2} is a binary indicator taking value 1 two years before the 2005-2009 elections. The F-test (and P-value) below the coefficient estimates show the test for equality between the main coefficient (γ) and the effect of reelection incentives the year before the elections (γ_{-1}). The sample covers the political mandate starting between 2005 and 2008 and three years before it. Robust standard errors in parentheses are clustered at the district level.

*** p<0.01, ** p<0.05, * p<0.1