Unprincipled Principals: Co-opted Bureaucrats and Corruption in Ghana[*]

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Abstract

Do higher levels of political oversight reduce corruption? It is often argued that ensuring that politicians have the necessary tools to oversee bureaucrats can reduce administrative malfeasance. In contrast, I theorize that political oversight tools can increase corruption when the electorate only weakly holds politicians to account. In such contexts, politicians can use their ability to control bureaucrats to extract rents from the state. Using data from an original survey of bureaucrats (N=864) across 80 local governments in Ghana, I show that bureaucrats are more likely to facilitate politicians' corrupt behavior when politicians are empowered with higher levels of discretionary control. Using qualitative data and a list experiment to demonstrate the mechanism, I show that politicians enact corruption by threatening to transfer non-compliant officers. My findings provide new evidence on the sources of public administrative deficiencies in developing countries and qualify the presumption that greater political oversight improves governance.

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Worldwide, trillions of dollars of public money are lost in corrupt deals each year (Transparency International, 2014). Corruption is a symptom of weak institutions and is especially prevalent in poorer countries (Svensson, 2005). Corruption impairs development by increasing the cost of public goods and services (Di Tella and Schargrodsky, 2003; Bandiera, Prat and Valletti, 2009) and decreasing their quality (Olken, 2007). While previous explanations of corruption focus on institutional (Gingerich, 2013; Schwindt-Bayer and Tavits, 2016) and cultural (Treisman, 2000) factors, more recent scholarship analyzes individual agents' incentives to misappropriate public funds. For example, micro-level theories of corruption focus on the relationship between politicians and bureaucrats (Banerjee, Hanna and Mullainathan, 2013), which helps explain variation in corruption *within* countries in ways that country-level covariates cannot. This article presents a micro-theory of corruption that considers the incentives of politicians and civil servants to steal from the state.

Agency theory recognizes that bureaucrats and politicians often have different goals. Thus a primary concern of public administration scholars has been to show that politicians have tools to control bureaucrats' behavior (McCubbins, Noll and Weingast, 1987). Previous studies have shown that politicians use a range of *ex ante* and *ex post* mechanisms to limit bureaucratic shirking and the distortion of policy away from the intent of the politicians who delegated its implementation (McCubbins and Schwartz, 1984). These models assume that bureaucrats are the source of agency loss. Applied to corruption, this suggests that politicians want to stop administrative corruption, while bureaucrats wish to engage in it.

When democracy is working as it should, electoral pressures align the preferences of politicians with those of voters. However, weak accountability between voters and elected officials means that politicians' preferences are often not closely aligned with those of citizens in many developing democracies due to politicians' need to fund their campaigns. This pressure gives incumbent politicians an incentive to steal from the state (Golden, 2003; Bussell, 2013; Kapur and Vaishnav, 2013). Interference in public procurement offers an attractive source of funding

to politicians (Mironov and Zhuravskaya, 2015). However, politicians who want to capture rents in this way must secure the co-operation of bureaucrats in order to manipulate procurement processes. Oversight tools enable politicians to co-opt bureaucrats and force them to engage in illicit practices. While bureaucrats can engage in corruption for themselves, this is difficult in work environments where political higher-ups closely monitor their activities. In such settings, I argue that bureaucrats often engage in corruption on behalf of their political principals.

I analyze subnational variation in corruption and demonstrate a positive relationship between politicians' ability to control bureaucrats and corruption in local governments in Ghana. The oversight tool I focus on is geographic transfers – politicians' ability to transfer bureaucrats from one location to another.[1] I investigate corruption in public procurement. To analyze corruption, I conduct an original survey of bureaucrats (N=864) across 80 local governments. To measure corruption, I use a randomized-response (RR) survey method.[2] This technique aims to solicit honest responses, and has been shown to produce unbiased estimates of sensitive outcomes (Rosenfeld, Imai and Shapiro, 2015; Blair, Imai and Zhou, 2015). While existing empirical work uses audits to investigate corruption among local governments (Ferraz and Finan, 2008, 2011), such data are only reliable when these audits are conducted by bureaucrats who are themselves independent. These conditions do not hold in Ghana, where local politicians bribe auditors to refrain from reporting misconduct. The result is that the local governments that look the most corrupt on paper may be the least corrupt in practice, and vice versa.

Controlling for other factors that might influence corruption, my results show that bureaucrats' propensity to engage in corruption varies according to the extent to which politicians have control over their careers. Specifically, when bureaucrats believe politicians can easily transfer them, there is a 52 percent chance that a bureaucrat will report that there is corruption in public procurement in their local government. This figure drops by 24 percentage points when politicians

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[1]I focus on transfers because Ghanaian politicians cannot fire bureaucrats who resist their demands.
[2]I discuss this method and my implementation of it in detail in Section 3.

have low levels of control over transfers. I assess the proposed mechanism using qualitative data and a list experiment, which confirm that bureaucrats think that indiscriminate transfers impose significant costs on them and that exposing corruption is likely to cause politicians to transfer them.

This article makes at least three significant contributions to the literature. First, it brings to the forefront the idea that the real problem caused by bureaucratic delegation in developing countries has less to do with politicians' ability to control bureaucrats, and more to do with voters' inability to ensure that the politicians themselves are accountable. Indeed, the premise that politicians make good principals may be very inappropriate in developing settings. Accordingly, policymakers who seek to improve public service delivery must consider the need to protect bureaucrats from political oversight.

Second, I show how survey techniques designed to measure sensitive behavior can be used to estimate levels of corruption. Perhaps surprisingly, this article is among the first empirical studies on corruption that uses original data collected from bureaucrats. The advantage of surveying bureaucrats is that the data come from the actors involved in political corruption themselves, rather than from second-hand reports from country experts, private firms or civil society activists. Building on the work of Gingerich (2013), this article demonstrates the applicability of the RR-method in a low-income setting. The article also complements a growing body of research that measures corruption using violations in procurement practices (Charron, Dijkstra and Lapuente, 2015; Di Tella and Schargrodsky, 2003; Lewis-Faupel et al., 2016; Bobonis, Fuertes and Schwabe, 2016).

Third, scholars often highlight the adoption of meritocratic recruitment practices as a critical component of public sector professionalization, and a potential strategy to reduce corruption (Geddes, 1994; Grindle, 2012; O'Dwyer, 2006). Fewer studies have explored how politicians exercise control over bureaucrats *after* they have been hired. My research implies that even when professional bureaucrats are recruited based on merit, they may still have incentives to be corrupt.

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In short, my results explain the weak relationship between meritocracy and corruption in low- and middle-income countries.

1 Theory: Politicians, bureaucrats and corrupt procurement

1.1 Politicians' incentives to be corrupt

Modern accounts of delegation discuss the advantages of granting politicians tools to control bureaucrats in order to limit civil servants' ability to shirk, steal or distort policies. Scholars justify granting politicians the upper hand over bureaucrats in three ways. First, politicians are elected by the people, and therefore have a democratic mandate to determine policies. Second, electoral institutions punish politicians who divert from voters' policy preferences, since such institutions are supported by a range of horizontal institutions, such as independent judiciaries, that punish (and thereby deter) wrongdoing.[3] Third, politicians have policy ideal points that are close to the median voter's preferences. Since bureaucrats are not elected, and may have policy preferences that are far from those of the median voter, citizens cannot hold them to account if they implement unpopular policies (Prendergast, 2008).

While scholars argue that politicians should control the policy agenda, the literature on delegation acknowledges that politicians can gain by delegating policy implementation to bureaucrats, who are generally better informed about how to achieve specific policy outcomes. Much of the literature on delegation theorizes about the trade-off between delegation and the risk of bureaucratic non-compliance. A central focus of this literature is explaining the conditions under which politicians grant more or less discretion to bureaucrats.[4]

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[3]In developed democracies, political corruption remained rampant until corruption tribunals were handed over to independent courts (Eggers and Spirling, 2014).

[4]Theoretical models suggest that politicians grant bureaucrats more discretion when they are ideologically aligned (Epstein and O'Halloran, 1994), when the policy area is more complex (Bawn, 1995), when they are more uncertain about which policy will yield the best outcome, and when politicians have more opportunities for *ex post* monitoring and sanctioning. Considering the last point, the literature on delegation identifies multiple ways in which elected officials can contain agency losses through a combination of *ex ante* and *ex post* activities, such as screening and

I build on the literature on bureaucrat–politician relationships to examine this relationship in developing democracies. I argue that in young democracies, assumptions that justify high levels of political control over bureaucrats often do not hold. While politicians have a democratic mandate by virtue of being elected, developing democracies generally have low levels of accountability between voters and politicians. Weak judicial systems and legislatures mean that political wrongdoing, including financial misappropriation, goes undetected and unpunished. Without the threat of punishment, politicians are not deterred from engaging in corruption.

This lack of deterrence is not a problem if politicians do not have an incentive to be corrupt. However, in low- and middle-income countries, politicians often have strong incentives to extract state resources to bolster their election campaigns. Previous studies have found that the need to finance election campaigns drives corruption in many developing democracies (Gingerich, 2013; Bussell, 2013). For example, Golden (2003) asserts that a change to Italian law in 1974 that made it illegal for public companies to donate money to political parties resulted in increased levels of corruption: politicians gave public contracts to firms in exchange for campaign finance (209-210). Politicians running in local races may be especially likely to supplement their campaign expenses with public funds due to their limited access to alternative sources of funding (Wade, 1982).

Given that politicians have strong incentives to capture public funds, what is the optimal level of bureaucratic autonomy? Huntington, following Weber, recognized that autonomy is a critical component of an institutionalized political system (Huntington, 1968). Historical accounts of the professionalization of the public sector in Britain and the United States describe the process of taking power out of politicians' hands (Carpenter, 2001; Richards, 1963). Some scholars recommend exercising caution when contemplating isolating the bureaucracy in developing states. For example, Fukuyama argues that the lower the capacity of the state, the less autonomy civil servants should have (Fukuyama, 2013). Policy prescriptions along these lines have led to an emphasis on

selection mechanisms and monitoring and reporting requirements (Kiewiet and McCubbins, 1991; McCubbins and Schwartz, 1984).

political oversight.[5] Thus Fukuyama writes that "For the past decade, international donors have been advising developing countries to decrease the amount of discretion in the behavior of their bureaucracies" (Fukuyama, 2013, 361). These policy prescriptions are buttressed by seminal models of corruption in which scholars model bureaucrats as bribe seekers who require monitoring (Shleifer and Vishny, 1993; Olken and Pande, 2012).

There are two potential problems with policy prescriptions that emphasize bureaucratic subordination in developing countries. First, if bureaucrats are to be constrained by rules, who should develop and enforce these rules? Politicians usually create these rules, but in environments where the judiciary struggles to assert itself against the executive branch, bureaucrats are at risk of becoming subject to the whims of corrupt politicians. For example, in other contexts scholars have shown that politicians sometimes create rules or regulations that deliberately undermined administrative efficiency for their own political gain (Fiorina and Noll, 1978; Fiorina, 1989; Golden, 2003).

The second problem is that models of corruption that treat bureaucrats as bribe seekers assume that individual bureaucrats can always solicit bribes. While this may be the case when bureaucrats are service providers who have direct contact with citizens – those who distribute state documents and permits (e.g., driving licenses, passports or building permits), for example – this may not be the case for other types of bureaucrats, such as planning officers, engineers or budget analysts. I focus here on the behavior of the latter kind of bureaucrat. I argue that an overlooked risk of bureaucratic subordination in developing countries is that politicians will act as unprincipled principals, and coerce bureaucrats into engaging in corrupt acts on their behalf.

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[5]For innovative experimental work that investigates the relationship between oversight and corruption, and between political oversight and bureaucratic monitoring, see Olken (2007) and Raffler (2017), respectively. Gulzar and Pasquale (2017) also demonstrate that when local bureaucrats in India answer to a single politician, as opposed to multiple politicians, public programs operate more effectively. Their article demonstrates the potential positive role that politicians can play in motivating bureaucrats to work hard.

1.2 Bureaucrats' incentives to be corrupt

While politicians have an incentive to capture rents to fund their campaigns, bureaucrats have an incentive to use their positions in the public sector to advance their careers. The predictability of career advancement is a key indicator of meritocracy (Weber, 1978; Evans and Rauch, 1999). Research shows that promotions in the public sector are often politicized. In Europe, civil servants lament that promotions are often based on luck and connections rather than hard work (Charron, Dahlström and Lapuente, 2015). In India, bureaucrats' propensity to obtain prestigious posts depends on both their ability as well as their loyalty to elected officials (Iyer and Mani, 2012).[6] Bureaucrats who want to advance in their careers may have to satisfy the demands of politicians, including by helping them steal from the state. Prior qualitative research documents politicians' coercive use of transfers. Discussing bureaucrats working in the irrigation sector in India, Wade (1982, 309-312) writes, "the pressures on any one individual to behave in a 'corrupt' manner, whether in response to demands from superiors in the irrigation hierarchy or to satisfy the expectations of politicians and farmers, are very strong...punishment for not being corrupt or for being too corrupt is transfer out of department and to the worst possible location." In short, the degree to which politicians can influence bureaucrats' career advancement is likely to influence civil servants' propensity to direct public funds to politicians.

Bureaucrats in developing countries generally prefer to live and work in areas with relatively high levels of economic development (Dal Bó, Finan and Rossi, 2013), in part to access higher-quality public services such as schools, which gives politicians leverage.[7] While politicians often cannot hire and fire bureaucrats or alter their wages (Evans, 1995), in many cases they have discretionary control over where bureaucrats work (Wade, 1982, 1985).

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[6]Iyer and Mani (2012) find that sharing a caste group with the chief minister's party supporters increases an officer's probability of working in a prestigious post by roughly 7 percentage points.

[7]A recruitment experiment in Mexico, where public agencies randomized advertised wages for the same job, shows that candidates are attracted to positions in poorer communities only when they are compensated with high wages (Dal Bó, Finan and Rossi, 2013).

In addition to advancing their careers and working in more economically developed locations, bureaucrats may also seek to use their positions to capture illicit rents for themselves. The literature on petty corruption indicates that bureaucrats are often willing to forgo public welfare, such as road safety, for personal gains (Bertrand et al., 2007). A bureaucrat's propensity to engage in corruption depends on both *motive* and *opportunity*: when they are not closely monitored and work independently, they have more opportunities to engage in corruption compared to bureaucrats who work in teams or are monitored by higher-ups. Front-line service workers, such as doctors, work independently and are not usually closely monitored. Under such conditions, bureaucrats have opportunities to extract bribes from clients. Bureaucrats in local governments usually work in teams and do not directly sell outputs or products (e.g., licenses or medicines) to citizens; corruption requires coordination, which limits bureaucrats' opportunities to capture rents.

Politicians also closely oversee the work of civil servants working in local governments. For example in Ghana, mayors (rather than bureaucrats) chair the committees that grant procurement contracts to firms. I therefore do not argue that bureaucrats have *no motive* to be corrupt, but rather that they have far fewer *opportunities* than local politicians.[8]

Given the incentives of bureaucrats outlined above, politicians' ability to transfer personnel serves as an extremely powerful tool of discretionary oversight. Transfers impose costs on bureaucrats on both of the dimensions discussed above – career progression and quality of life. Not only can politicians manipulate the transfer process to move bureaucrats to undesirable locations; bureaucrats who are frequently moved are likely to develop a reputation as "bad" officers, which may damage their opportunities for career advancement. Politicians can therefore use transfers to micro-manage bureaucrats or force them to capture illicit rents on their behalf.

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[8]This discussion highlights the need to disaggregate between different types of bureaucrats when considering their propensity to engage in corruption. Focusing on petty corruption, and on bureaucrats who work independently to provide private services to citizens (driving licenses, drugs, electricity connections, etc.) likely exaggerates their capacity to engage in corruption in developing countries.

I test the hypothesis that higher levels of political oversight lead to higher levels of corruption. I measure political oversight as politicians' ability to transfer bureaucrats to offices in other towns or cities.

2 Local governments and corrupt procurement in Ghana

Political power in Ghana is decentralized to 216 local governments. These institutions, one per district, are known as District Assemblies.[9] Local governments are responsible for the development of districts, including the provision of basic infrastructure and public works and services. The president appoints a District Chief Executive (DCE) (akin to a mayor) to head each local government, in consultation with the local branch of the ruling party. Thus all mayors are members of the ruling party, regardless of the partisanship of the majority of voters in the district. In this article, when I discuss local politicians, I am referring to mayors/DCEs. Each local government consists of both a political and a bureaucratic arm. The head civil servant is the District Coordinating Director (DCD), who is a career bureaucrat. Since the mayor's office is in the same building as the bureaucrats' offices, he or she can closely oversee the work of bureaucrats.

Each local government operates with a budget of 1–2 million USD, the majority of which is dedicated to the provision of local public goods. To construct public works, district assemblies award contracts to private firms following a public procurement process. Ghana's Public Procurement Act (2003) guides this process, which involves a number of steps. First, the assembly places an advertisement in a national newspaper which provides the details of the project and instructions on how firms can apply.[10] Interested companies then purchase tender documents from the local government and submit their proposals.[11] At the close of the tender period, the assembly opens the

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[9]When the population of a district is over 95,000 the assembly becomes a Municipal Assembly. Districts with a population over 250,000 are represented by a Metropolitan Assembly.

[10]The assembly must post the advertisement at least 28 days before the specified closing date.

[11]The typical cost of the tender application documents is around $50–60 US dollars (equivalent to 200–250 Ghana cedi).

secret bids in public. An evaluation committee, usually composed of three or four local bureaucrats,[12] then evaluates and ranks the bids. Once the committee completes its evaluation, it reports to the District Tender Committee, chaired by the mayor; the members of this committee have an opportunity to ask questions and provide feedback. Finally, the local government sends an award letter to the winning contractor.

2.1 How politicians manipulate public procurement processes

In this section, I describe the strategies politicians and bureaucrats use to manipulate public procurement processes, based on conversations with bureaucrats and politicians working in local governments, and bureaucrats working in various public institutions in Ghana during multiple field-work trips between 2014 and 2018. I interviewed over 50 local bureaucrats and politicians, as well as more than 30 experts on local governance.

Two methods allow bureaucrats and politicians to rig the procurement process, which I call *restricting sales* and *secret information*. The first method involves mayors controlling which firms are able to purchase tender application documents. To restrict sales, bureaucrats print only three copies of the application documents and sell them to a single contractor favored by the mayor.[13] When other contractors try to purchase application documents, bureaucrats inform them that the documents are not available. The favored contractor then submits all three bids either in the name of three companies he owns or companies that his friends or colleagues own. In the latter case, the contractor would ask his colleague to submit an incomplete application or to inflate the project budget to ensure they would not win the bid.[14]

The secret information method involves an unrestricted tendering process, but politicians tip the field in favor of their preferred contractor by providing them secret information to ensure

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[12]Typically, the district engineer, and the planning, budget and procurement officers serve on the evaluation committee.

[13]By law, districts must evaluate the bids of three or more companies before they award a contract.

[14]The favored contractor normally has to pay his colleagues a fee to complete and submit the application.

they submit the lowest bid. Usually, the favored contractor gets access to internally produced cost estimates for the project. This allows the contractor to submit a low-cost budget in line with the estimate produced by the engineering department of the local government. Contractors who do not have access to official estimates present higher bids, as they are unsure of the exact specifications required by the local government; erring on the side of caution, they pad their budgets.[15] If contracts are awarded to the lowest bidder, one may assume that this method results in value for money and limits the size of the kickback that politicians receive. However, in practice this is usually not the case. While the contracted sum is low, once the favored firm has won the contract, the contractor can inform the local government that prices for raw materials have increased and ask for additional funds. Projects can end up costing more than three times the contracted sum.

Mayors tend to favor firms owned by constituency executives of the ruling political party. Party executives win contracts because of their past contributions to the election campaign of the governing party, or in exchange for promises of future financing. When mayors award contracts to party executives, these contractors are often not qualified to do the work. As one DCD noted:

> "They [the DCE] tell you "give it to this contractor." They [the DCE] don't think about development, they think about how to win elections and they need funds. The contractor needs to recoup what he has spent on the party. The contractors are all party financiers."

I verify this insight using a survey experiment implemented when I conducted the main survey discussed in this article. In the experiment, I presented audio vignettes to bureaucrats about different types of firms that were bidding for a contract to construct a new classroom block in the district.[16] I randomly manipulated two variables: (i) the party affiliation of the contractor (allied with the incumbent party vs. independent) and (ii) their experience in construction work. Figure

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[15]One interviewee likened this method to taking an exam and one person being given the questions in advance. As he noted, "It's like you are going to write exams and the one [favored firm] knows the questions coming. You will learn the answers and pass well."

[16]This is the most common project undertaken by local governments.

1 displays the results and demonstrates that partisanship trumps experience in determining which firms are likely to win contracts from the local government.

These experimental results complement recent empirical work by Williams (2017), who shows that one-third of local government infrastructure projects go unfinished in Ghana. While he does not blame problems in the contracting process for the unfinished projects,[17] awarding contracts to partisan contractors is likely to result in unfinished projects because these contractors generally lack either the necessary building experience or funds to finish the job. The latter can occur when the contractor and the mayor pillage the money to fund the ruling party's election campaign.[18]

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[17]He instead argues that unfinished projects result from mismatches in the partisanship of mayors and local assembly members (councillors) that occur because the mayor is always aligned with ruling party and in opposition districts the majority of assembly members are aligned with the challenger party.

[18]My account of mayors manipulating local procurement to fund election campaigns is also similar to qualitative accounts provided by Luna (2015), who conducted in-depth interviews with party executives, bureaucrats, mayors and contractors in a number of local governments in Ghana.

Figure 1: Survey experimental results: which types of contractors are likely to obtain public contracts

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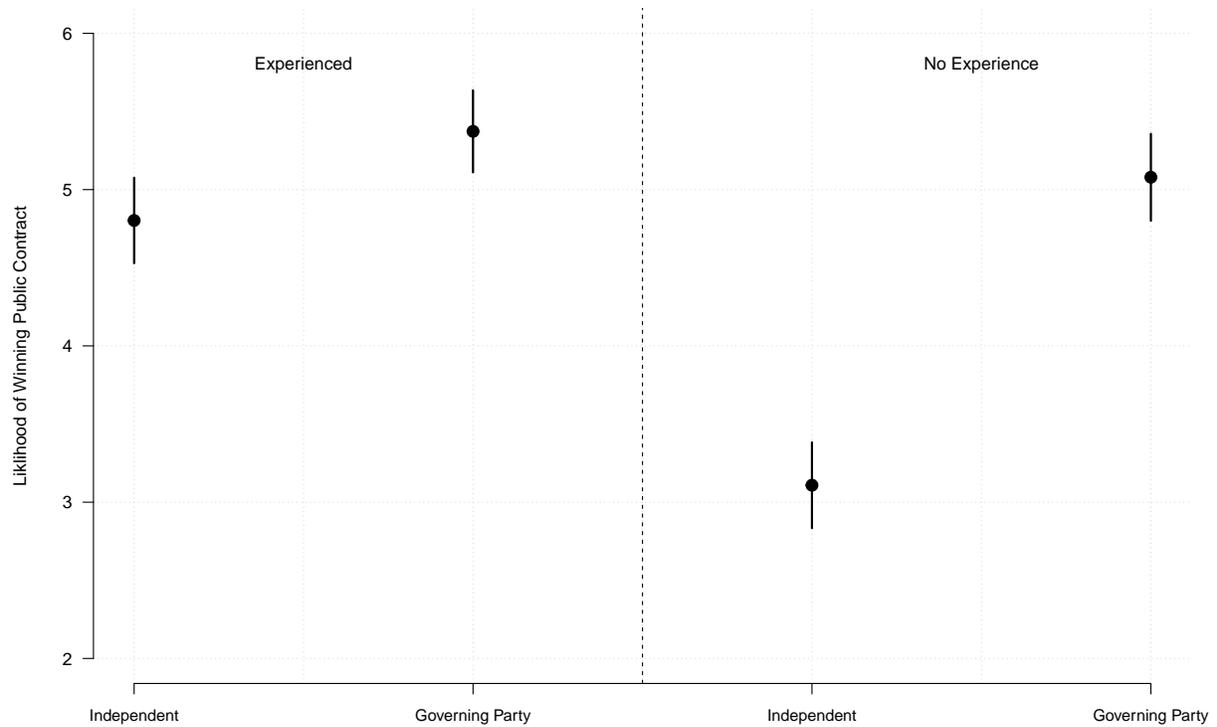
Notes: I presented the experimental vignettes to respondents as a conversation between two colleagues (also bureaucrats). Respondents listened to this conversation privately on a phone using headphones. They then recorded how likely the firm they heard about was to win the hypothetical contract to construct a new classroom block. Higher values (from 1 to 7) indicate a greater likelihood of the contractor receiving the contract. I randomly manipulated the two variables of interest using the following sentences: *Experience of contractor* (a) "The contractor has a lot of experience in construction" or (b) "The contractor does not have a lot of experience in construction." *Affiliation to political party* (a) "From what I know, the contractor is independent" or (b) "From what I know, the contractor is a party executive of the ruling party."

The bureaucrats I interviewed made it clear that mayors are much more likely to award a contract to a firm that offers political benefits rather than a more qualified but less politically connected competitor. Respondents frequently reported being concerned about the quality of construction work for local development projects awarded to unqualified contractors. As one top bureaucrat noted:

> In less than 6 months the project crumbles. We buy furniture and weevils are in the furniture showing that it wasn't properly treated. The door locks and windows, everything [comes] off. You would be saving up to 60 percent of resources if there was competitive procurement. After building it should be 5 years before something goes wrong, but sometimes it [the building] doesn't last 6 months. At certain times the cost of repair is more then the first one – it costs much more to rehabilitate than to start a fresh project.

To engage in *restricting sales* or *secret information* strategies, mayors must rely on the co-operation of bureaucrats. Regarding the former, it is the job of procurement officers to print and sell tender applications to contractors. The procurement officer must therefore agree to restrict the sale of application documents. Budget and finance officers who work for local governments have an incentive to increase the sales of applications, as these sales generate revenue for the local government. Therefore, the budget and finance officers usually know when the procurement officer limits sales. As regards the latter strategy, while the district engineer may not directly provide a copy of his estimates to the preferred contractor, the engineer will know whether the mayor does this, as it is obvious when one of the contractors submits a proposal that matches the internal documents. Again, the planning officer and other members of the evaluation panel are likely to be aware when secret information has been provided, as they also have access to the internal documents.

2.2 How politicians control bureaucrats through transfers

Bureaucrats who work in Ghana's local government are hired by the Local Government Service (LGS), which has offices in the capital city, Accra. The recruitment process for professional positions involves candidates passing a set of written exams or interviews. Individual jobs are not advertised by the LGS; applicants can submit an application at any time. Recent empirical analysis suggests that most local bureaucrats are hired meritocratically, with patronage hiring confined to low-ranked positions (Brierley, 2018).

Once recruited, bureaucrats have limited control over where the LGS posts them to work. Bureaucrats can specify which region/s they prefer, but their final posting depends on vacancies at the time of hiring. Over the course of their careers, bureaucrats typically work in a number of local governments. My survey shows that 70 percent of bureaucrats have been transferred at least once. On average, bureaucrats spend about 4 years working in a particular local government, although a significant minority (16 percent) spends less than 2 years in a district. The vast majority of bureaucrats (79 percent) agree that *they can be transferred at any time*, and that such relocations do not follow a schedule. I cite these statistics from the survey that I conducted because empirical data on the regularity and destinations of transfers for each bureaucrat currently do not exist.[19]

Two different institutions control the transfer process: the LGS is the final authority on transfers that occur across regions, while the country's ten regional ministers (who are appointed by the government) authorize transfers *within* regions. Transfers within regions are more common, because mayors usually find it easier to communicate with the regional minister than the head of the LGS. Considering the politicization of transfers, a significant majority of bureaucrats that I surveyed (61 percent) agreed that transfers are more likely in the years following an election than in other years. This suggests that bureaucratic postings are not free from political considerations.

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[19]The first dataset on the composition of Ghana's local government bureaucracy was constructed after this study was complete. Additionally, the new dataset does not document the geographic movement of bureaucrats over time.

Transfers present a threat to bureaucrats because of the significant costs associated with being transferred. Bureaucrats interviewed for this study highlighted two main costs of transfers. First, there are financial costs associated with being posted to an undesirable, usually rural, district. These costs result from civil servants having to live apart from their families, and include additional accommodation, communication and travel expenses. In rural towns, spouses who work outside the public sector struggle to obtain permanent employment. Rural schools are also often of low quality, and have high teacher absenteeism rates.[20] For these reasons, civil servants who work in remote districts often have to live alone during the week and see their families only on weekends.

Second, bureaucrats discussed the psychological costs of being tagged by a politician as a noncompliant (or "stubborn") officer, which include not being given work to do and being treated as an outsider. Bureaucrats also referred to the tight networks that mayors operate in, especially within regions. Mayors relay information through these networks about bureaucrats – especially those who refuse to assist them in their corrupt deals. One bureaucrat noted the costs of being labeled as a noncompliant officer:

> "They [the DCE] will go to the regional minister and transfer you. Next district they will say you aren't a team player. It's very difficult to apply the rules. This is how they put fear in you. You crawl back into your shell. If they see you as someone who moves around a lot you are tagged as a bad officer. Meanwhile, you are trying to inject some sanity into the whole system. You are branded."

Bureaucrats also report being transferred to a new local government and the mayor of the new district not accepting them to work there. In such cases, bureaucrats can be without work for weeks or months until an agreement is made between the LGS and a mayor who is willing to accept the civil servant who has been tagged as "difficult" to work with.

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[20]One bureaucrat noted: "When they transfer you, you have to adjust easily and get accommodation for your family, this can double your bills. Family stability and children's education is compromised." Another bureaucrat noted, "It [transfers] disrupts the entire family system and children's education."

Table 1: Item lists for control and treatment groups

Control	Treatment
(1) Skills needed in another district	(1) Skills needed in another district
(2) Bad relationship with mayor	(2) Bad relationship with mayor
(3) Dislike the local area	**(3) Attempt to expose misconduct**
	(4) Dislike the local area

Notes: This table displays the items in the control and treatment lists. The sensitive item is in bold here for reference only; this was not the case in the actual experiment. The question read: *Please tell me how many of these are likely reasons for a bureaucrat to be transferred to work in another district? Don't tell me which ones, just indicate how many of them are likely reasons.*

To more systematically assess the validity of the mechanism for corruption that I propose in this article, I conducted a list experiment with local bureaucrats. The results of the list experiment support my argument that politicians exploit their power to control where bureaucrats work in order to co-opt them into engaging in corrupt practices. The survey experiment involved asking bureaucrats to identify behavior that is likely to cause them to be moved to a different local government. I exposed half of the respondents at random to the treatment list and half to the control list. On the treatment list, I included "Attempt to expose misconduct" as the sensitive item. Table 1 displays the items on both lists. Appendix Section A.2 discusses how I implemented the list experiment in more detail.

Figure 2: Mean responses and average treatment effect (ATE) for sensitive item
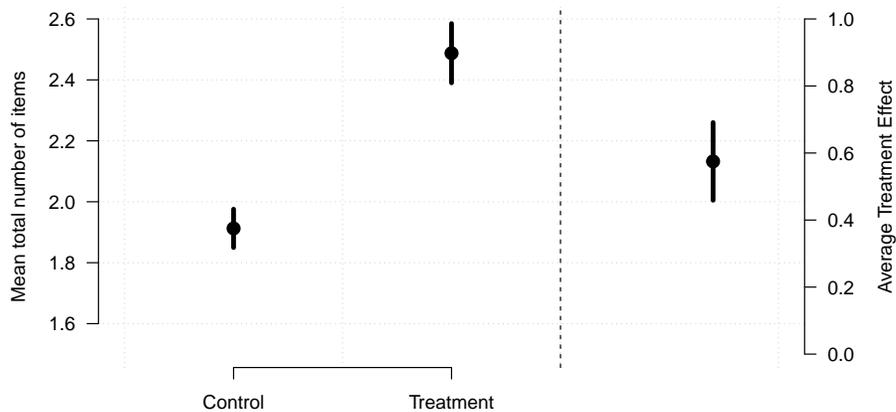
Notes: This two points on the left displays the mean number of items for the control and treatment lists, respectively (N= 864). The far right point displays the Average Treatment Effect.

Figure 2 displays the results of the experiment. The estimate on the left shows the mean number of items respondents agreed are reasons for transfers in the control list (1.91, compared to 2.49 for the treatment list).[21] These results show that 58 percent of bureaucrats agreed that speaking up about corruption can cause them to be transferred. These results give strong support to the mechanism that I propose on the relationship between corruption and bureaucratic transfers. They complement the qualitative data and, importantly, show that such sentiments are widespread and not confined to a small minority of bureaucrats. I next test the hypothesis that higher levels of political discretion result in higher levels of corruption. First, I describe in detail how I measure corruption using data from 864 bureaucrats in 80 local governments in Ghana in the next section.

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[21]The confidence intervals around these estimates are 1.85 and 1.98, and 2.39 and 2.59, respectively.

3 Data and measurement

3.1 Sampling of districts and respondents

I surveyed individual bureaucrats to measure corruption. The bureaucrats surveyed hold top professional positions, which are consistent across districts: District Co-ordinating Director, Assistant Director, Budget Officer, Finance Officer, Auditor, Planning Officer, Procurement Officer, District Engineer, Head of Education, Head of Health, Head of Works, and Head of Social Development.[22] These bureaucrats are involved in the everyday implementation of public procurement processes: selling tender documents, evaluating bids, planning and designing local public goods projects, issuing contracts to firms, and monitoring and paying contractors. Roughly 74 percent of respondents in the sample are members or observers of their district's tender committee. Enumerators conducted interviews with 10 to 12 of these bureaucrats in each district.[23]

This procedure generated a sample of 864 bureaucrats. Figure 3 displays the demographic characteristics of the bureaucrats in the sample. The typical survey respondent was 43 years old and had spent 13 years working in the public sector. The vast majority of respondents are males. Slightly less than half of the sample held a bachelor's degree (49 percent), while a significant minority held a master's degree (39 percent).

3.2 Dependent variable

Corruption is difficult to measure. Every data collection method has advantages and disadvantages in terms of reliability. The advantage of getting data from civil servants directly is that these actors have better knowledge of corruption in the public sector than entrepreneurs or experts, who

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[22] In many districts the District Engineer and the Head of Works are the same person. However, as this was not always the case, and given the importance of these positions, I kept these as two district categories.

[23] If after three visits to the local government the enumerator did not meet ten of these bureaucrats, they instead interviewed a bureaucrat with a different position, usually the assistant of the original position. Enumerators conducted the surveys between December 11, 2015 and January 13, 2016.

Figure 3: Demographic characteristics of bureaucrats in the sample
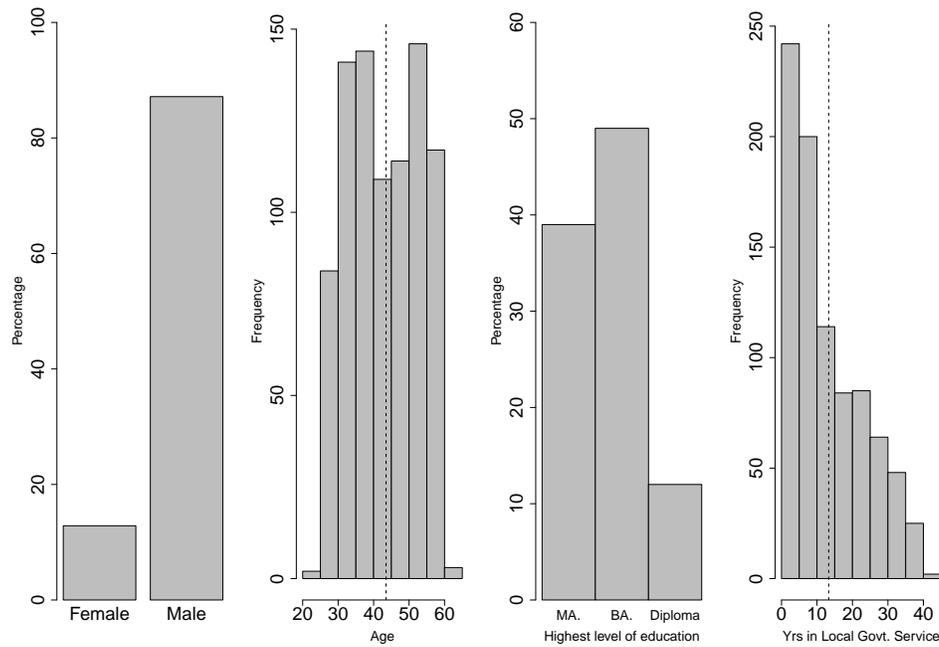
many research organizations rely upon for data on corruption.[24] In countries with reliable audit data, scholars can use these data to measure sub-national variation in corruption. However, Ghana does not have such data. Instead, it is an open secret that mayors and bureaucrats bribe auditors not to report corruption. The disadvantage of surveying local bureaucrats is that they may have an incentive to underreport illegal behavior. Fear of admitting to corruption could stem from a concern that the government will punish them for revealing financial misappropriation. Alternatively, it could result from their desire not to admit to socially undesirable acts in public.

To mitigate these concerns, I used a randomized-response (RR) indirect survey technique to uncover unbiased estimates of corrupt practices (Blair, Imai and Zhou, 2015). Researchers have shown that the estimates derived using this method are much closer to observed actual rates of

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[24]For example, Transparency International's Corruption Perceptions Index and the World Bank's World Business Environment Survey.

sensitive behavior compared to direct survey techniques (Rosenfeld, Imai and Shapiro, 2015). The RR method attempts to solicit honest answers about sensitive behavior by providing respondents with plausible deniability.

To do so, researchers give respondents a randomization device, such as a die or coin, which they use to determine whether they should provide an honest or predetermined ("forced") response. When using a die, the enumerator does not observe what number the respondent rolls. By introducing random noise to responses, individuals are protected because enumerators do not know if a positive response is because of the roll or because it is the respondent's honest answer.

I used a die to randomize responses. Each respondent rolled the die and followed a simple set of instructions. If they rolled a "1" they answered "Yes" regardless of whether this was their truthful answer. If they rolled a "6" they answered "No." If they rolled any other number, they were instructed to answer honestly.[25] Critics of this method suggest that it is not an appropriate technique to use on respondents with low levels of education. Yet given that almost all of the bureaucrats in the survey have a bachelor's or master's degree (see Figure 3), this is not a significant concern in this study. In addition, before answering the outcome question on corruption, the survey included questions to check that respondents understood the RR technique. The survey enumerators were instructed to continue to explain the technique if the respondent did not understand.[26]

The dependent variable is a binary (yes = 1; no = 0) response to the following question: *In this district, are contracts granted to contractors who are likely to give part of the money to the election campaign of the incumbent party?* As the discussion above suggests, bureaucrats are key actors in the procurement process and have intimate knowledge of how and when politicians attempt to circumvent competitive procedures. In this question, I refrain from asking respondents directly whether they personally engage in corruption, but ask more generally whether corruption occurs in their district. I use this approach for two reasons. First, I anticipated that framing the

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[25]Respondents were provided both verbal and written instructions.

[26]Appendix Table A.4 shows that the results are robust to only including respondents (78 percent) who answered the test question correctly the first time.

question more generally would solicit more honest responses. Second, it is somewhat misleading to ask bureaucrats if they engage in corruption themselves. As the strategies that I discuss in Section 2.1 highlight, there are usually many steps that ultimately result in an uncompetitive transaction. No single individual is to blame, and therefore many individuals may not think they are individual perpetrators of corrupt acts.

Once I collected the data, I used the following equations to calculate the actual proportion of respondents who reported corruption. Z_i represents the latent binary response to the sensitive question for each respondent, i. The observed response represents the dependent variable, Y_i, (1 for "yes" and 0 for "no"). R_i denotes a latent random variable that can take one of the three possible values; $R_i = 1$ ($R_i = -1$) indicating that respondent i is forced to answer "yes" ("no"), and $R_i = 0$ indicating that the respondent is providing a truthful answer Z_i. Then, the forced design implies the following equality,

$$Pr(Y_i = 1) = p_1 + Pr(Z_i = 1)(1 - p_1 - p_0) \tag{1}$$

where p_0 is the probability of a forced "no" response ($p_0 = Pr(R_i = -1)$), and p_1 is the probability of a forced "yes" response ($p_1 = Pr(R_i = 1)$). Rearranging equation 1 allows us to derive the probability that a respondent truthfully answers 'yes' to the sensitive question,

$$Pr(Z_i = 1) = \frac{Pr(Y_i = 1) - p_1}{(1 - p_1 - p_0)}. \tag{2}$$

Applying equation 2 to the data shows that just under half of bureaucrats, 46.0 percent, engage in corruption, with a 95 percent confidence interval of 40.9 and 50.8 percent.[27]

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[27]I calculate the confidence interval applying a bootstrapping technique, in which I resample the original sample 1,000 times with replacement. The sample size for each bootstrapped sample is equal to the original sample, N=864.

3.3 Explanatory variables

I argue that when politicians have the ability to transfer bureaucrats, civil servants are more likely to engage in corruption. To test this hypothesis, I asked bureaucrats how much influence the mayor has over the transfer of bureaucrats in their districts. I asked this question at the start of the survey to guard against potential bias. Respondents answered on a four-point scale (1 = *No influence*; 4 = *A lot of influence*). Variation in responses, which I label *Political oversight*, stems from the local politician's standing in the ruling party. Mayors who are better connected to regional and national party elites find it easier to transfer bureaucrats, because political higher-ups must authorize transfers. While the majority of respondents report that the mayor has a lot of influence in determining transfers in their districts, a small minority reports that they have no influence. On average, respondents agree that mayors have a lot of control over the transfer process – the mean is 3.4 on a four-point scale.

4 Main results

In this section, I examine when bureaucrats are most likely to engage in corruption. Specifically, I test my hypothesis that corruption is positively associated with the degree of oversight that local politicians have over the careers of bureaucrats. I conduct a multivariate logistic regression analysis that takes into account the fact that the outcome variable is derived using an RR technique.[28] I first analyze the bivariate relationship between corruption and political discretion. I find that this relationship is positive, and statistically significant below the 2 percent level (Column 1). I next introduce a series of demographic controls – gender, years in the public sector, and highest level of education (Column 2).[29] I next add region dummies (Column 3), and finally district-level controls (Column 4). I control for the total population of the district (logged) and the level of poverty, which I measure as the share of houses made of natural materials. The regression

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[28]For further details of the exact model specification, see Blair, Imai and Zhou (2015).
[29]I do not include age in this regression, as it is highly correlated (0.723) with years in the public sector.

results show that the relationship between political discretion and corruption remains positive and statistically significant below the 5 percent level in each of the columns.[30] I present the coefficients and standard errors in Appendix Table A.1. As individual responses may be correlated within districts, I also run the same analysis using a block bootstrap approach. The bootstrapped results (presented in Appendix Table A.2) are consistent with the main results.

To demonstrate the substantive significance of the positive association that I find between political discretion and corruption, and to provide a more intuitive interpretation of the results, I calculate the predicted probability of a "yes" response varying the mayors' ability to transfer bureaucrats. Figure 4 displays these probabilities. The estimate on the far left is the predicted probability for bureaucrats who report that their mayors have "no influence" on transfers. The right-hand estimate displays the same estimate for bureaucrats who say their mayor has "a lot" of influence. The results show that more than half of bureaucrats (52 percent) report corruption when politicians have a lot of discretionary control, compared to just over a quarter (28 percent) when politicians have limited influence. This is equivalent to a 46 percent decrease in the probability of corruption. The larger confidence interval around the far left-hand point estimate results from the fact that the distribution of the explanatory variable is right-skewed: fewer bureaucrats report that politicians have no influence than those who say they have a lot of influence. Overall, these results support the hypothesis, that higher levels of corruption are associated with higher levels of political discretion.[31]

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[30]A potential concern in using the RR technique is that respondents will not follow the rules. Instead, they may provide their honest response or simply deny engaging in the activity due to fear. While some respondents may not have followed the rules, the main result will hold as long as respondents' propensity to not follow the instructions is not correlated with their perceptions of the power of the mayor/DCE.

[31]This analysis assumes a linear relationship between the independent variable and level of corruption. I verify this assumption by conducting the analysis with each category entering the regression as a dummy variable. As an additional robustness check, I also conduct the analysis on the sub-sample of the 78 percent of respondents (N = 671) who answered the RR comprehensive test question correctly the first time. I instructed survey enumerators to keep explaining the method when respondents got the answer wrong. When I conduct my analysis on this sub-sample, the results remain the same: the main explanatory variable is positive and significant (see Appendix Table A.4).

Figure 4: Predicted probabilities from randomized-response logistic regression.
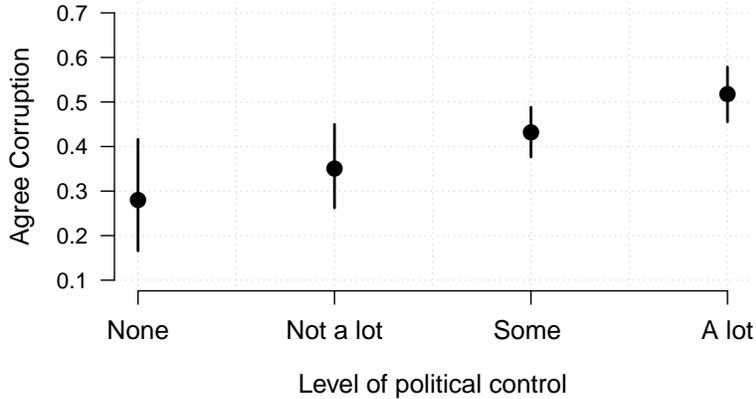
Notes: This figure displays the predicted probability of a "yes" response to the RR question on corruption. I estimate these probabilities from the model that controls for demographic characteristics of bureaucrats and includes district control and region dummies (column 4 of Table A.1).

4.1 Alternative explanations

An alternative explanation of the positive association between political oversight and corruption is that more perceptive bureaucrats are likely to know that mayors can control bureaucrats, and that mayors award contracts to contractors who offer to fund the ruling party. Bureaucrats' perceptiveness is then a potential confounding variable. I attempt to quell this concern by controlling for bureaucrat characteristics that may serve as a proxy for their perceptiveness or knowledge of the operation of local governments. My results already control for level of education, which may be a proxy for perceptiveness. In addition, I add a control for whether the bureaucrat is a member of the district procurement committee, which may indicate that they are more aware of politicians' informal controls and desires to capture illegal rents. Controlling for bureaucratic perceptiveness, I continue to find a positive association between political discretion and corruption (see Appendix Table A.3 (Column 1)).

Another rival hypothesis is that local politicians may have characteristics that drive both their ability to transfer bureaucrats and their propensity to engage in corruption. This would also lead to a positive association between these two variables, but political discretion in this case would not be the *cause* of corruption. In the theory section, I argue that politicians' need to obtain election campaign funds drives their propensity to be corrupt. This would suggest that politicians who are actively seeking higher-level political offices are more likely to engage in corruption. These politicians, who are aggressively seeking to advance their political careers, may also have more influence on bureaucratic transfers, perhaps because they have been involved in politics longer than those who are not seeking higher office. I attempt to rule out this concern by collecting data on which of the 80 mayors in the sample were parliamentary aspirants in 2015.[32] I then control for this indicator of political ambition in my regression analyses and continue to find a positive association between political discretion and corruption (see Appendix Table A.3 (Column 2)).

Finally, readers may ask why unelected mayors need to capture illicit rents to fund election campaigns. There are two main reasons. First, mayors are the main representatives of the ruling party in each district. They are expected to campaign on behalf of the presidential flag bearer of their party. Mayors also have strong incentives to campaign because their reappointment is conditional on the incumbent president retaining power. Second, as discussed above, many mayors use the position as a springboard into Parliament: about a quarter of mayors in the sample sought parliamentary office in 2015.[33]

5   Conclusion

The abuse of public resources by elected politicians through rent seeking and corruption is a problem that plagues developing democracies. To engage in corruption, politicians must often co-opt

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[32]Specifically, which mayors ran in the NDC's parliamentary primaries in 2015.

[33]In the hierarchy of political positions, Members of Parliament are generally seen as one rank above the DCE (mayor) position.

the bureaucrats who are intimately involved in the administrative processes that politicians seek to manipulate to capture state resources. In this article, I examine the conditions under which bureaucrats are likely to engage in corruption. Using data from an original survey of local bureaucrats across 80 local governments in Ghana, I document a positive association between political control and bureaucrats' propensity to engage in corruption. This relationship is robust to a variety of specifications.

Overall, the results suggest that greater levels of political discretion can increase corruption, and that oversight tools are subject to abuse by politicians. This raises the critical question of how to make local politicians and bureaucrats more accountable. This study is not the first to discuss the negative effects of political control over transfers. In India, local politicians also use transfers to punish bureaucrats who do not capture sufficient rents on behalf of politicians (Wade, 1982). The abuse of transfers by politicians is also not confined to bureaucrats working in administrative offices – police officers in India also face frequent transfers, which leaves them with low morale and few incentives to develop ties with the communities they serve (Banerjee et al., 2012).

There are two possible policy responses to this problem, both of which seek to protect bureaucrats from threats of discretionary oversight. The first option is to place strict rules on the movement of civil servants. Bureaucrats, for example, could be contracted to work in a local government for a fixed period of time. This approach would impose some logistical difficulties, as positions are bound to open as workers go on leave or retire. However, so long as each individual bureaucrat is operating on his or her own fixed calendar, it should always be the case that an appropriately trained individual is available to fill a vacant position. The second option is to use transfers to incentivize public servants to work hard. Using transfers as a reward was found to increase the performance of police officers in Rajasthan, India (Banerjee et al., 2012). In this field experiment, police officers were promised a transfer to "field" positions instead of "headquarter" positions conditional on good performance. Common to both of these policy options is the addition of greater structure and uniformity of movement both across positions and between locations. Until

there is greater predictability in bureaucrats' future careers, they are likely to be remain susceptible to satisfying the short-term, often selfish, ambitions of their political principals.

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Online Appendix

A Appendix

A.1 Regression results

All of the regression results that I present in this section are multi-variate logistic regressions that consider that the dependent variable is a randomized response variable. To run these regressions I use the *RR* package in R. The version of R I use to run these regression models is version 3.1.2.

A.1.1 Main regression results: Full Sample

Table A.1: Main regression results

Variable	1	2	3	4
Intercept	-1.14	-1.12	-1.52	-5.61
	(0.44)	(0.65)	(0.71)	(3.59)
Political Discretion	0.30**	0.36***	0.35**	0.38***
	(0.13)	(0.13)	(0.14)	(0.14)
Male		-0.38	-0.31	-0.38
		(0.35)	(0.36)	(0.37)
Years in service		0.03**	0.03**	0.03**
		(0.01)	(0.01)	(0.01)
Level of Education		-0.16	-0.19	-0.18
		(0.17)	(0.17)	(0.17)
Region dummies	No	No	Yes	Yes
District controls	No	No	No	Yes

Notes: N=864 bureaucrats. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$; dependent variable is a "Yes" (1) or "No (0) response to the following question: *In this district, are contracts granted to contractors who are likely to give part of the money to the election campaign of the incumbent party?* I report standard errors in parentheses.

A.1.2 Replication of main results using a block bootstrap

There is a concern that individual responses are correlated within districts. I check that my results are robust to analyses that consider the clustered nature of my sampling procedure using a block bootstrap approach, with districts defining the blocks. To create the bootstrapped samples, I sample with replacement the 80 districts. When a district is selected, all of the individuals in this district join the new sample. Individual respondents will appear in the bootstrapped samples the same number of times as the district is selected. I create 650 random samples. I then re-run the regressions in Columns (1)-(3) of Table A.1. I present the bootstrapped results in Table A.2. The table displays the mean size of the coefficients and associated standard errors across the 650 samples.

Table A.2: Main regression results using block bootstrap

Variable	1	2	3
Intercept	-1.14	-1.15	-1.57
	(0.45)	(0.67)	(0.74)
Political Discretion	0.29**	0.36***	0.36***
	(0.13)	(0.14)	(0.14)
Male		-0.38	-0.32
		(0.36)	(0.38)
Years in service		0.03**	0.03**
		(0.01)	(0.01)
Level of Education		-0.15	-0.19
		(0.17)	(0.18)
Region dummies	No	No	Yes

Notes: *** p < 0.01, ** p < 0.05, * p < 0.1; dependent variable is a "Yes" (1) or "No (0) response to the following question: *In this district, are contracts granted to contractors who are likely to give part of the money to the election campaign of the incumbent party?* This table replicates Columns (1) - Column (3) in Table A.1. I report standard errors in parentheses.

A.1.3 Alternative Explanations: Additional Control Variables

Table A.3: Regression results: Additional controls

Variable	1	2
Intercept	-5.04	-5.48
	(3.62)	(3.64)
Political discretion	0.38***	0.39***
	(0.14)	(0.14)
Male	-0.39	-0.39
	(0.37)	(0.37)
Years in service	0.04***	0.04***
	(0.01)	(0.01)
Level of Education	-0.25	-0.25
	(0.18)	(0.18)
Member of tender committee	-0.57**	-0.59**
	(0.26)	(0.26)
Political ambition		-0.18
		(0.25)
Region dummies	Yes	Yes
District demographics	Yes	Yes

Notes: N=864 bureaucrats. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$; dependent variable is a "Yes" (1) or "No (0) response to the following question: *In this district, are contracts granted to contractors who are likely to give part of the money to the election campaign of the incumbent party?* I report standard errors in parentheses.

Table A.4: Robust regression results (restricted to those who answered RR-test right first time)

Variable	1	2	3	4
Intercept	-1.09	-1.50	-1.52	-5.63
	(0.52)	(0.77)	(0.71)	(4.03)
Political Discretion	0.27*	0.31**	0.35**	0.34**
	(0.15)	(0.16)	(0.14)	(0.17)
Male		0.22	-0.31	0.20
		(0.43)	(0.36)	(0.46)
Years in service		0.03**	0.03**	0.03**
		(0.01)	(0.01)	(0.01)
Level of Education		-0.17	-0.19	-0.24
		(0.19)	(0.17)	(0.21)
Region dummies	No	No	Yes	Yes
District controls	No	No	No	Yes

Notes: N=671 bureaucrats. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$; dependent variable is a "Yes" (1) or "No (0) response to the following question: *In this district, are contracts granted to contractors who are likely to give part of the money to the election campaign of the incumbent party?* I report standard errors in parentheses.

A.2   Methodology for list experiment

Survey list experiments (originally called the "item count technique") aim to elicit truthful responses to sensitive behavior. Political scientists have used the method to study the prevalence of a variety of sensitive behavior and attitudes such as the prevalence of vote-buying in Nicaragua (Gonzalez-Ocantos et al., 2012); public support for international military forces in Afghanistan (Blair, Imai and Lyall, 2014); and citizens' attitudes towards affirmative action in the United States (Gilens, Sniderman and Kuklinski, 1998). More applicable to this study, a recent paper by Malesky, Gueorguiev and Jensen (2015) implements a series of list experiments on business owners in an analysis of bribe-taking by public officials in Vietnam.

A list experiment uses a control and treatment list. Each respondent sees one of these lists. The only difference between the two lists is the addition of a sensitive item on the treated list. Respondents are asked to report how many items (not which items) on the list are true; this shields the respondent from having to directly admit to engaging in the sensitive activity. In my case, the control group received a list of three non-sensitive items. The treatment group received a list of four items; the control list plus the sensitive item.

My list experiment is slightly different from other examples because I use it to test the viability of a mechanism as opposed to testing whether the respondent themselves engage in the sensitive behavior. I felt that if I asked bureaucrats directly whether politicians would transfer them for resisting corruption they may be inclined to say "no" in order to protect their political bosses. The list experiment allows me to report the proportion of bureaucrats who agree that resistance to corruption is a likely reason for transfer.

Critics of list experiments suggest that when an item is truly sensitive, respondents figure out what is going on and do not comply with the treatment.[34] To avoid making the treatment item

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[34]See, for example, Andrew Gelman (2014) `http://andrewgelman.com/2014/04/23/` `thinking-list-experiment-heres-list-reasons-think/.`

overly sensitive, I used the word "misconduct" instead of "corruption."[35] To further induce compliance with the treatment, respondents inputted their responses on a cell phone. Concerns about the sensitivity of the item are also somewhat obviated by the fact that in this case the respondent is not the one engaging in the sensitive behavior. Instead, the respondent is reporting about sensitive behavior carried out by politicians.

I implemented the list experiment using cell phones. I programmed a survey that was compatible with the free Android-based survey application *Open Data Kit* (ODK). To assign bureaucrats to control and treatment groups, I use a random number function. This function generates a random number between 0 and 1. I then program the survey to display a list with three items (control list) for respondents who received exactly 0.5 or less, and to display the four-item list (treatment list) to respondents who received move than 0.5. In total, this procedure assigned 458 bureaucrats to the control list and 406 to the treatment list.

The wording of the question was as follows: *Please look at the list. [Which enumerators presented to respondents on a cell phone.] Please tell me how many of these are likely reasons for a bureaucrat to be transferred to work in another district? Don't tell me which ones, just indicate how many of them are likely reasons using the phone.* Table 1 displays the exact wording of the treatment and control list.

Because I assign respondents to treatment and control groups at random, in expectation the group means of the treatment and control groups with respect to the non-sensitive items are the same. As a result, the difference in means between the number reported by the treatment and control groups provides an estimate of the population proportion for which the sensitive item is true. Table A.5 demonstrates that the randomization procedure was successful; on average, participants are almost identical across a range of individual and district-level characteristics.

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[35]During the pilot of the survey, which I conducted with bureaucrats in four local governments, bureaucrats confirmed that they understood misconduct to be synonymous with corruption. All surveys were conducted in English, the national language in Ghana.

Table A.5: Balance table repoting mean values in control and treatment groups

	Control	Treatment	Difference	P-Value
Individual level covariates				
Age	43.23	43.82	0.59	0.37
Gender	0.87	0.88	0.01	0.66
Masters	0.38	0.40	0.02	0.48
Years in Service	3.42	3.30	-0.12	0.57
NDC Supporter	0.25	0.24	-0.01	0.69
District-level covariates				
Cement Walls	0.47	0.47	-0.01	0.64
Electricity	0.52	0.52	0.004	0.68
Rural Population	0.62	0.63	0.01	0.60

Notes: Table A.5 displays the mean values of covariates for respondents in both the treatment and control groups. The unit of analysis is individual bureaucrats. 458 bureaucrats were randomly assigned the control list and 406 the treatment list ($N = 864$).

The results (Figure 2) show that the mean in the treatment group is 1.91. In comparison, the mean for respondents who receive the treatment list is 2.49. These findings show that 58 percent of bureaucrats agree that politicians transfer bureaucrats who attempt to stand up to corruption.

Table A.6 displays estimates of respondent types. To calculate respondents' type, I use the following equations,[36]

$$\pi_{y0} = Pr(Y_i \leq Y | T_i = 1) - Pr(Y_i \leq Y - 1 | T_i = 0)$$

$$\pi_{y1} = Pr(Y_i \leq Y | T_i = 0) - Pr(Y_i \leq Y - 1 | T_i = 1)$$

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Where Y_i is individual i's response, y is the total number of affirmative control items, 0 is a negative response to the sensitive item, and 1 is a positive response to the sensitive item. T_i

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[36]These equations can be found on page 52 of Blair and Imai (2012).

Table A.6: Estimated respondant types for list experiment

y value	Control (Freq.)	Treatment (Freq.)	π_{y0} (%)	π_{y1} (%)
1	130	74	18.23	10.16
2	238	138	23.83	28.13
3	90	116	0.43	19.21
Total (%)			42.49	57.50
N	458	406		

Notes: Table A.6 displays the frequency of responses for individuals in both the treatment and control groups. In the table, y is the total number of affirmative answers to the control items. 1 indicates an affirmative response to the sensitive item, and 0 indicates a negative response to the sensitive item. N includes those in the treatment group whose response, Y_i, was 4 (N=78).

indicates the treatment status of each respondent, where 1 indicates being in the treatment group, and 0 in the control group.