5

Partisan Extraction of Public Resources via Corrupt Public Procurement

Politicians can use career control tools to co-opt bureaucrats. Chapter 4 demonstrated that in Ghana, the primary means by which local politicians attempt to influence bureaucratic actions is through interfering in transfers: relocating (or threatening to relocate) bureaucrats to other locations. Demonstrating the potency of this form of career control, I find that bureaucrats who perceive that their mayor can easily interfere in transfers are more likely to report corruption in their local government.

Chapter 5 builds on those findings to further examine how career control affects public procurement. As outlined in Chapter 2, politicians' motivations to control bureaucrats' careers are driven by their desire to either engage in non-programmatic distribution or capture funds for election campaigns. These objectives are often intertwined: campaign funds are fungible and can be used to provide private benefits to voters during elections. Interference in public procurement is attractive to politicians due to the large sums of money involved, such that capturing a small percentage of these funds can yield significant political or personal benefits. Understanding financial malfeasance requires a closer look at how public procurement operates.

Public procurement can be defined as the awarding of public funds to private firms in return for goods, services, and the construction of public infrastructure. In all polities, public procurement represents a significant share of public spending, accounting for 10–25% of public spending globally, and 50% of government spending in African countries.[1] Public procurement is an area that is particularly vulnerable to corruption. This susceptibility is partly the result of the multi-stage nature of procurement processes, and the difficulty in eliminating human discretion from the evaluation of competing bids.[2]

[1] de Mariz, Ménard and Abeillé (2014, 22).
[2] World Bank (2020).

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Politicians and bureaucrats can exploit this discretion to steer contracts toward favored contractors.

Chapter 5 focuses specifically on procurement contracts issued by local governments to firms for the construction of new public infrastructure. Such construction is local governments' primary activity.[3] Drawing on qualitative, observational, and experimental data, I document high levels of political interference in public procurement. Such malfeasance typically involves mayors accepting kickbacks from firms in return for contracts or distributing contracts to firms owned by partisan elites, irrespective of whether these companies have the required equipment or experience to perform the task.

The findings of Chapter 5 align with the theoretical expectations outlined in Chapter 2. Specifically, I demonstrate that politicians are more likely to interfere in procurement processes in electorally competitive districts or districts where the mayor aspires to become an MP. These patterns reinforce the argument that electoral financing pressures are a key driver of procurement-related corruption.

Chapter 5 has four sections. Section 5.1 uses data from interviews with bureaucrats to provide a descriptive account of the precise ways in which mayors and bureaucrats manipulate the public procurement process. In all contexts, the aim of manipulation in public procurement is to steer the contract to the favored bidder.[4] The qualitative data I collected shows that the favored bidder is typically a firm selected by the mayor. Bureaucrats administer procurement processes and adopt discreet strategies to make the tendering process appear competitive to external observers or auditors.

Section 5.2 provides evidence that these processes undermine competition in the awarding of contracts. I use contract-level data to show that local governments award contracts to a fragmented and geographically concentrated set of contractors. Despite the fact that districts in Ghana are geographically small – the average distance between district capitals is 12 miles – 80 percent of firms only win contracts in a single district. These analyses suggest that contractors require strong connections to politicians and bureaucrats within a district to secure contracts.

In Section 5.3, I investigate the types of firms that local governments typically favor. I argue that firms that either give donations to politicians (*donating firms*) or are owned by party executives (*party firms*) are more likely than independent firms to win contracts. I assess this claim using contract-level observational data and data from a survey experiment with bureaucrats. Consistent with my theory, the contract data suggest that interference in contracting is more likely in districts that are electorally competitive and when mayors are politically ambitious. In these districts, mayors have a greater incentive to use contracts as part of a *quid pro quo* with donating or party

[3] See Chapter 3 for more details on the roles and responsibilities of local governments.

[4] Fazekas and Kocsis (2020).

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firms. Results from a survey experiment with bureaucrats also show that bureaucrats expect partisan firms to be favored, even when these firms do not have significant experience in construction. When combined, the qualitative, observational, and experimental data indicate highly politicized and non-competitive public procurement processes.

Section 5.4 considers the consequences of corruption in public procurement on the quality of public infrastructure.

5.1 HOW TO MANIPULATE PUBLIC PROCUREMENT

While mayors may want to predetermine the result of public procurement processes, they will still want bureaucrats to ensure that the process appears competitive. For example, multiple firms must bid for a contract to satisfy the basic tenants of the relevant procurement legislation. An extensive literature on procurement in regions beyond Africa highlights that politicians and bureaucrats use various techniques to undermine competitive procurement, and that these methods vary in how observable they are to onlookers.

Public procurement is a multi-stage process, and manipulation can occur at any stage. Figure 5.1 displays the four main stages of any procurement process: (i) project identification, (ii) pre-bid, (iii) bid evaluation, and (iv) post-bid. The precise stage and methods through which actors manipulate procurement processes vary across contexts. In the pre-bidding stage, interference can occur when advertising the tender and when firms submit their documents. Malfeasance can also occur when a contractor is selected in the bid evaluation stage; for example, certain firms may be unfairly disqualified. In the post-bidding stage, corruption can occur through budget renegotiations, overpayment, or the under-provision (or no provision) of infrastructure. Table 5.1 overviews various methods and provides empirical examples of countries where such manipulation has been documented to occur. I provide further details of some of these strategies below, highlighting some of these examples.

In the pre-bid stage, favoritism can occur in five main ways. Some of these strategies are reflected in formal procedures. In contrast, others are informal ways where politicians or bureaucrats can influence which firms submit bids or the information that firms submit. First, beginning with formal procedures, advertising periods can be set short. Short advertising periods limit the number of firms that are likely to find out about the contract. Politicians and bureaucrats can use this to their advantage by informing well-connected companies about upcoming contracts ahead of time.[5]

Second, the solicitation of firms can take non-competitive or non-transparent forms. For example, aiming to limit competition between firms, politicians in Colombia often opt to use "minimum value" contracting.[6] This

[5] Charron et al. (2017, 63).
[6] Gulzar, Rueda and Ruiz (2022).

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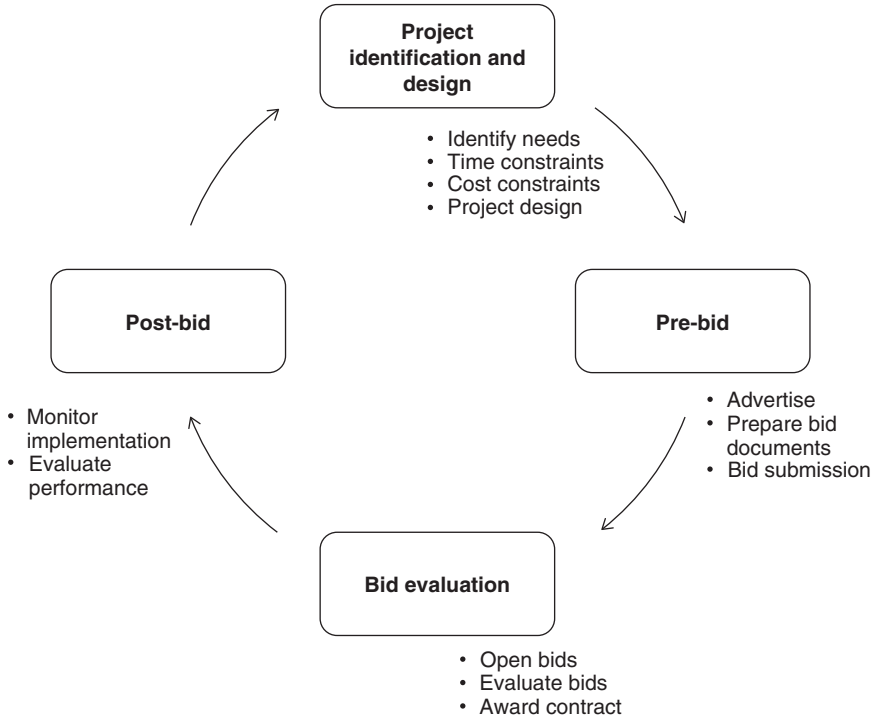


FIGURE 5.1 Main stages and activities in public procurement
Note: Figure adapted from Rose-Ackerman and Palifka (2016, 104) and Ware et al. (2007).

option is available in Colombia when contracts are below 10 percent of the municipal budget. Minimum value contracts also only need to be advertised for a single day, which results in few applicants. Similarly, it is reported that in Paraguay, corruption occurs through the "systematic use of an "exceptional" purchase mechanism, which bypasses legally required minimum standards of transparency and competition."[7]

Third, advertisements can be tailored to limit the number of firms who are eligible to apply. In the most extreme cases, only one firm may fulfill the eligibility criteria, effectively dictating that this firm will win the contract. Tailoring is documented as a widely used means of limiting competition in public procurement in Hungary.[8] The authors of the study note that "Tailoring the conditions to a single company is one of the most widely quoted means for corruptly limiting competition. Overly complex, hence lengthy, criteria are a typical sign that criteria were "overspecified," most likely excluding competitors."[9]

[7] Auriol, Straub and Flochel (2016, 395).
[8] Fazekas and Tóth (2016).
[9] Fazekas and Tóth (2016, 326).

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TABLE 5.1 *Methods of manipulating public procurement*

Stage	Method of malfeasance	Country/region example	Citation
Pre-bid	1. Short advertising period	Europe	Charron et al. (2017)
		Hungary	Fazekas and Tóth (2016)
	2. (a) Non-competitive solicitation	Paraguay	Auriol, Straub and Flochel (2016)
		Colombia	Gulzar, Rueda and Ruiz (2022), Ruiz (2017)
		Czech Republic	Titl and Geys (2019)
	2. (b) Non-transparent solicitation	Italy	Coviello and Mariniello (2014)
		Romania	Klašnja (2015)
		Russia	Tkachenko, Yakovlev and Kuznetsova (2017)
	3. Tailoring eligibility criteria	Hungary	Fazekas and Tóth (2016)
	4. Preferential information given to one bidder	Ghana	Brierley (2020)
		Lithuania	Baltrunaite (2020)
	5. Secret auctions	An Asian country	Tran (2009)
	6. Firm collusion	India	Davis (2004)
Bid evaluation	1. Subjective evaluation	Europe	Charron et al. (2017)
		Hungary	Fazekas and Tóth (2016)
	2. Short evaluation period	Europe	Charron et al. (2017)
		Hungary	Fazekas and Tóth (2016)
Post-bid	1. Modifying contract	Hungary	Fazekas and Tóth (2016)
	2. Budget renegotiated	Hungary	Fazekas and Tóth (2016)
		Colombia	Gulzar, Rueda and Ruiz (2022)
	3. Overpayment	Italy	Bandiera, Prat and Valletti (2009)
		Colombia	Ruiz (2017)
		UK, Hungary	Dávid-Barrett and Fazekas (2020)
		Russia	Tkachenko, Yakovlev and Kuznetsova (2017)

Fourth, a more informal way politicians and bureaucrats can manipulate the pre-bid stage is to leak information to a particular firm, which will favor them in the selection stage. Leaked information can include the identities and number of other bidders and the prices offered by competing firms. For example, as I describe below, politicians and bureaucrats in Ghana provide detailed information on project requirements to selected firms, which helps them submit low-cost and technically favorable bids to beat competitors. Information sharing is the primary way politically connected firms are favored in Lithuania.[10] Leaked information in Lithuania includes information on the number of participants or the identities of competitors.[11]

Fifth, in the pre-bid period, there may be collusion between groups of firms or between business-owners and public officials. For example, officials may run secret auctions before official auctions to identify which firms are willing to pay the largest bribes. After doing so, they then design tender requirements to suit that firm.[12] Secret auctions are noted to operate in an undisclosed Asian country where public servants solicit informal bids from firms, and firms indicate how much they are willing to bribe.[13] Once a firm is selected, the firm and procurement official tailor the tender advertisement to include "extremely specific requirements in the call for tenders to scare off or disqualify competing firms."[14] This example also shows how officials can combine malfeasance methods: in this example, a secret auction is combined with advert tailoring. Collusion may also occur across groups of firms to undermine competition. For example, in India, contractors explained that: "A group of [contractors] meet on the weekend in the office. We have a list of contracts being offered by [the public W&S [Water and Sanitation] agency]. We draw names out of a bag to see who will be the winner for each contract. That person decides what he will bid for the contract, and everyone else bids something higher than that."[15] The result is overpriced public infrastructure because competition does not drive costs down to the market rate.

Once bids have been submitted, manipulation can also occur at the bid evaluation stage. Two methods of manipulation are standard. First, evaluation criteria may be subjective. Subjective criteria promote discretion in selection, which can lead to politically favored firms being awarded contracts. Second, as with advertising, evaluation periods can be short. Short evaluation periods can signal that snap decisions are being made, which suggests that decisions are premeditated.[16] Thus, quick evaluation periods may be more a signal of corruption as opposed to a method of it.

[10] Baltrunaite (2020).
[11] Baltrunaite (2020, 27).
[12] Tran (2009).
[13] Tran (2009).
[14] Tran (2009, 10).
[15] Davis (2004, 57).
[16] Charron et al. (2017).

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Finally, manipulation can occur in the post-bid period. Three common methods are the (i) modification of contract conditions, (ii) budget renegotiation, and, relatedly, (iii) overpayment. There is evidence of overpayment to politically connected firms in Colombia. Specifically, when firms that donate to politicians receive public contracts, they provide goods under contract at above-average costs.[17] This suggests a *quid pro quo* between firms and politicians. Budgets can also be renegotiated or terms of the contract changed, which can allow for extra profits on behalf of the firm.

5.1.1 Public Procurement Legislation

Before describing how politicians and bureaucrats manipulate procurement processes in Ghana, it is important to outline how procurement processes should operate according to existing legislation. This discussion helps to understand why politicians and bureaucrats manipulate procurement processes in the ways they do. In most cases, the methods they adopt are invisible, and the resulting transactions appear to comply with legislation.

Public procurement is guided by detailed legislation set out principally in the Public Procurement Act of 2003 (Act 663) and the Public Procurement (Amendment) Act of 2016 (Act 914). My focus is on procurement transactions undertaken by local governments. However, procurement processes at the local level are similar to the processes used at the national level. The main difference is the size of contracts that national ministries versus local governments can authorize without approval from a higher procurement entity.[18] Below, I describe the steps of an open and competitive procurement process as per existing legislation. Most tenders for infrastructure projects (or "works") follow the process of national competitive tendering.

Local governments place an advertisement in a national daily newspaper with details of the infrastructure they plan to construct.[19] Contractors are given a minimum of two weeks and a maximum of six weeks to respond to the ad.

Contractors purchase standard tender documents from the local government. These documents cost approximately USD 35–50. Firms usually buy these documents from the district procurement officer. Before the close of the tender period, firms submit their bids in sealed envelopes. The proposals

[17] Ruiz (2017).

[18] Local governments can authorize contracts up to 550,000 Ghana cedi. The Regional Tender Review Committee must approve amounts higher than this. National ministries can authorize contracts up to 15,000,000 Ghana cedi. The Central Tender Review Committee must approve amounts higher than this.

[19] The amended Public Procurement Act in 2016 reduced the number of adverts required from two daily newspapers to one. Ads must also be placed on the website of the Public Procurement Authority.

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include details of the project specifications and costs, accompanied by the required certificates and documents. These certificates include one that verifies company registration (Company Registration Certificate), a bond security[20], labor and tax clearance certificates, and a contractor certificate from the Ministry of Works and Housing (MWH), which classifies the contractor's grade. In theory, firms are graded by the MWH based on the equipment they own and the value and success of previous contracts they have fulfilled. In practice, there is corruption in the process of firms registering with the MWH. It has been noted that the "complex, opaque and costly nature of the classification procedures increases opportunities for corruption."[21]

Upon delivery of a firm's bid, a bureaucrat at the local government gives the firm owner a receipt showing the date and time when the tender was received. On the advertised day, tender proposals are opened in a meeting at the local government. Company owners (or their representatives) are allowed to be present at these meetings. Firms' names, addresses, and quotes are read out at this meeting and immediately recorded. Before the Procurement Act was amended, evaluation criteria focused on the lowest price. However, the amended legislation provides a 10-item list that procurement entities may consider when evaluating bids, including price.[22] Whatever criteria the local government chooses must be documented in the tender documents.[23]

Upon opening each proposal, bureaucrats confirm that the required documents and certificates are enclosed. Firms that fail to submit the required documents should be disqualified. In terms of evaluating the submitted bids, the mayor serves as the chair of the District Tender Committee. The secretary is the head of the procurement unit. The other seven members include the district budget officer, DCD, a legal officer, two heads of departments, and two committee chairs.

As I note, this is the formal process of how all contracts should be awarded. In practice, genuinely open and competitive contracting by local governments is rare. A local bureaucrat who was interviewed as part of another study stated unequivocally, "In all my years in the public service, I have never seen a contract awarded on merit."[24] The selection of contractors is often personalized and politicized. Local mayors often go to great lengths to use public procurement to reward particular firms or individuals.

[20] Usually 2 percent of the contract sum.
[21] Eyiah (2004, 14).
[22] The last of these items is "any other matter the procurement entity considers relevant to the procurement."
[23] Arguably, the change in legislation opened up greater room for malpractices, even if this was not the intention of the changes.
[24] Luna (2020, 34).

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5.1.2 How to Manipulate Public Procurement in Ghana

Table 5.1 presents a range of methods that politicians and bureaucrats can use to manipulate procurement. To determine which, if any, of these methods occur, I conducted in-depth, semi-structured interviews with local bureaucrats and contractors who had previously won contracts from local governments.[25] To encourage honesty, these interviews were not recorded. Typically, I took notes using a laptop and typed respondents' responses verbatim where possible. I also typed up further notes at the end of the interview.

Almost all bureaucrats who I interviewed agreed that abuse in public procurement was a significant issue, and that interference was led by local mayors who attempt to steer outcomes toward a favored contractor. Hand-picking which contractor will win a contract violates the principles of transparency and competition that legislation sets out. Discussing the topic of corruption in public procurement, a senior regional level bureaucrat I interviewed asserted:

> It is a very deep concern. The Procurement Act is there, the process is there, but the abuse is huge. We know the processes and the regulations, but the abuse is too much . . . You don't get value for money, and on top of that you get an incompetent contractor. (Interview with author, February 16, 2016)

Such remarks were common during interviews, but these responses beg the question of how manipulation actually occurs in practice. The methods in Table 5.1 differ in how visible they are to outsiders. This visibility will depend on the specificities of the legislation that operates in each country. For example, Ghana's procurement laws mandate that local governments place adverts for new tenders in at least one national newspaper. If a local government sets the window of submission to be very short, this is highly visible; both contractors and bureaucrats who work in monitoring institutions, such as the country's Public Procurement Authority, can observe this behavior. Similarly, detailed and restrictive eligibility criteria visibly restrict competition. Because public procurement is inherently administrative, most strategies to limit competition require the co-operation of bureaucrats. Bureaucrats may only be willing to participate in corrupt behavior if it is invisible. My interviews demonstrated that politicians and bureaucrats use discreet methods to undermine competitive procurement. The two most common methods they use I call *restricted sales* and *secret information*.

Restricted sales involve mayors unofficially controlling which firms can purchase tender application documents. To restrict sales, bureaucrats print only three copies of the application documents and sell them to a single contractor that is favored by the mayor.[26] When other firms attempt to purchase application documents, bureaucrats inform them that the materials are unavailable.

[25] More information about these interviews can be found in Chapter 1.

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

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The favored contractor then submits all three bids either in the name of three companies they owns or in collusion with firms owned by their friends. In the latter case, the contractor would ask their colleague to submit an incomplete application or to inflate the project budget to ensure they would not win the contract. As one Planning Officer that I interviewed explained when discussing the sale of forms to contractors:

> DCEs [mayors] are the most powerful people when it comes to selection. They sell three or four copies [of the application documents], and then they get finished, and if I don't know the DCE, they [the contractor] won't go in for it [buying the form]. And then contractors do their own thing behind the scenes. (Interview with author, February 2, 2016)

Secret information involves an open tendering process. However, politicians tip the field in favor of their preferred contractor by providing them with non-disclosed information to ensure 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 provided 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. As one Internal Auditor that I interviewed explained:

> Before they start bidding, [the district] engineer will come out with the engineer's estimates . . . even before they start the publication [of the tender advertisement], they know who will get the contract . . . They will give you [the preferred contractor] the engineer's estimate; the rest will not have access to this information . . . It's like you are going to write an exam, and one knows the questions coming. (Interview with author, February 4, 2016)

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 may be low, once the preferred firm has won the contract, the contractor renegotiates the contract sum with the local government. For example, the contractor may claim that prices for raw materials have increased and ask for additional funds. Projects can end up costing more than three times the original contracted sum.

5.2 EVIDENCE OF FAVORITISM IN THE AWARDING OF CONTRACTS

To investigate potential personalism and the politicization of procurement contracts, in Section 5.2, I analyze individual-project-level data published by local governments. As I describe below, I analyze two complementary datasets. The first data set I constructed myself. It is restricted to the eighty local governments

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that I sampled to be part of this study and covers projects commissioned between 2008 and 2016. The second dataset includes projects from a nationwide sample of local governments but covers fewer years. This nationwide dataset was compiled by Martin Williams.[27]

Using these data, I construct two proxies of manipulation: *market fragmentation* and *geographic concentration*. I calculate *market fragmentation* as the number of contracts awarded by a local government divided by the number of unique firms that win these contracts. This indicator tells the average number of contracts won by a single firm. Higher numbers suggest less fragmentation, with each firm winning more projects. A market fragmentation level of one shows that every contract is awarded to a distinct firm. Low levels of market fragmentation are a good proxy for malfeasance because, over multiple years, we would expect to see market consolidation around reputable companies with a good track record in completing projects. If it is typical for firms to win only one contract, this can suggest that projects are awarded to small firms and potentially not based on past accomplishments. It may be argued that firms only have the financial capital to conduct one project at a time. However, given that the timeline for most projects is less than six months, across multiple years, we should see firms able to win multiple contracts.

It could also be argued that limited access to private finance, as opposed to political interference, restricts the number of contracts that a single contractor bids for and can win. While private finance constrains firm development in Ghana, firms do not need to show that they can access the entire proposed contract sum when bidding for a project. Local governments also give contractors a "mobilization fund" – usually 15 percent of the contract sum – once the project is awarded so they can purchase the required startup materials. After the mobilization fund is dispersed, firms continue building up to a certain level (e.g. 50%) and then ask for payment from the local government up to that value. Given these arrangements, access to private finance is unlikely to be an adequate explanation for the levels of market fragmentation shown in the data.

To measure *geographic concentration*, I calculate the number of distinct local governments where firms win contracts. Lower numbers suggest greater concentration; at minimum, firms are only awarded contracts by one local government. In an open and competitive market, if a private company was to submit bids for the same project to Districts A and B, the firm should have an equal chance to secure the contract at either. In other words, firms should be able to win contracts across geographic space. However, where firm owners need personal connections to win contracts, we would see geographic concentration. When it is common for firms to win contracts from only one local government, we can question whether procurement transactions are competitive.

[27] These data are available at the following website: https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/ZUMTTN. These data are analyzed in Williams (2017).

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Other scholars have used similar geographic indicators to signal malfeasance, for example, noting whether a contractor is from the region that awarded the contract or from outside the region.[28] The logic here is the same: when contracts are awarded to firms from outside the region, it suggests that personal connections are not necessary to win a public contract. Thus, in India and Indonesia, the introduction of an e-procurement system was partly judged to be effective because it resulted in firms from outside of regions winning public contracts.[29]

Geographic concentration is a relevant proxy for potential malfeasance in Ghana given the way political parties are structured. This structure can help to understand why firms only winning contracts in one district points to political interference. Each district represents either one or two electoral constituencies from which Members of Parliament are elected. Both of Ghana's two major parties operate constituency-level committees of party executives. If each mayor is incentivized to award contracts to a distinct set of constituency-level executives, we would expect to see firms only winning contracts in a single district. This structure also suggests why market fragmentation is a good proxy – mayors have an incentive to give contracts to each of the individual constituency-level party executives. As discussed further below, many interviewees note this strategy.

In terms of geographic concentration, it is also important to note that it is not the case that it would be financially inefficient for firms to work across multiple districts because of potentially vast distances between them. On average, the distance between a district capital and the next nearest district capital is 12 miles (19 km) or roughly 30 minutes in a car driving at 24 miles per hour.[30]

5.2.1 Dataset of Projects Compiled Across Local Governments in the Sample

I compiled an original dataset of infrastructure projects awarded by local governments across eighty local governments.[31] These projects were awarded between 2008 and 2016. This information is contained in documents called "Annual Progress Reports" (APR) that local governments submit each year to the country's national planning body. In terms of accuracy, there is little reason to think there is purposeful bias in the information that local governments submit. Local bureaucrats compile the APR and submit it to the National Development Planning Commission. This planning body does not scrutinize

[28] Lewis-Faupel et al. (2016).

[29] Lewis-Faupel et al. (2016). The authors also argue that this shows that e-procurement reduces the costs of submitting bids for those not physically present.

[30] There is some variation in the distance to the next nearest district capital: the standard deviation is 6.7 miles (11 km). The furthest distance that one district capital is from the next district capital is 32 miles (52 km).

[31] See Chapter 1 for a discussion of how these local governments were sampled.

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the content of the APRs. While it would be misleading to suggest that APRs are always comprehensive – for example, projects may be missed – there is no reason to expect that omissions are purposeful but instead result from human error. Furthermore, a project(s) accidentally missed off the list in one year will likely enter the report in the subsequent year. Thus, eventually, most projects will enter the data.

The dataset that I constructed includes 5,204 projects. These projects have a median expected time of completion of five months. Not all projects in the progress reports record the name of the contractor who won the contract. In my data, only 3,837 (73.7%) projects recorded include the name of the firm.[32] Of these projects, 105 (2.74%) note the contractor as the local government itself, as opposed to a private company.[33] This leaves 3,732 unique projects where the local government contracted with an identifiable private firm.[34]

5.2.2 Dataset of Projects Compiled Across All Local Governments

I also analyze an alternative dataset. This dataset was constructed by Martin Williams using the same reports. Williams' data has the advantage of covering local governments located in all regions in the country: his dataset includes projects across 162 districts. There are two disadvantages of his dataset. First, it covers a shorter period (2011–13) than the dataset I constructed. Second, in the data, contractor names are anonymized (assigned a numerical identification number). This meant that I could not independently verify whether each contractor was truly distinct.[35]

Given the advantages and disadvantages of both datasets, for most of the analyses below I present parallel analyses using both sets of data. In Williams' dataset, numerical firm IDs are available for 7,755 entries, corresponding to approximately 6,912 unique projects.[36]

Table 5.2 uses both datasets to display the types of projects that local governments typically execute.[37] By far the most common type of project is the construction of new school classrooms. Classroom projects represent

[32] One can conjecture that the omission of contractor name in itself may be related to corruption, and may be an attempt to hide malfeasance. If this is the case, my results may underreport the significance of the problem.

[33] In these instances, local governments typically engage community labor to construct the infrastructure.

[34] The median expected length of time of completion for a project remains five months among this subset of projects.

[35] This is a concern because in the dataset that I created, many contractors were the same contractor with the name of the firm spelled slightly differently across entries.

[36] The original dataset is at the project-year level. This means projects can enter the data multiple times. My focus is on unique projects. Before analyzing the data, I removed projects implemented by metropolitan assemblies as these were not part of my sampling frame. I also deleted duplicate projects.

[37] I display project categories for all categories of projects that represent 1 percent or more of the projects in either dataset.

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TABLE 5.2 *Infrastructure projects contracted by the local government across the two datasets*

	Restricted sample of districts		Nationwide sample of districts	
Project type	Number of projects	% of projects	Number of projects	% of projects
School classroom	1,375	36.84	2,577	37.28
Government offices or staff housing	474	12.70	1096	15.86
Toilet	453	12.14	664	9.61
Health clinic	307	8.23	309	4.47
Road, bridge, culvert	229	6.14	667	9.65
Borehole or water project	199	5.33	335	4.85
Market	191	5.12	286	4.14
School dining hall or dorm	96	2.57	146	2.11
Police station	65	1.74	72	1.04
Community center	53	1.42	94	1.36
Other	290		666	
Total	3,732	92.23	6,912	90.37

Note: I use project descriptions to classify projects. I use the "projtype" variable in the nationwide dataset to guide classification. To match my coding, I add two additional categories: (i) police and (ii) community center projects. I also collapse (i) road and culvert projects, (ii) borehole and water projects, and (iii) government offices and staff housing projects into single categories, as shown in this table.

37 percent of all projects in both datasets. The next most common type of projects are the construction of administrative offices and staff housing, which represent between 13% and 16% of projects. After this, common projects include the construction of new toilets (10–12%), health clinics (4–8%), roads (6–10%), and boreholes and water projects (5%).

5.2.3 Market Fragmentation

Analysis of the two datasets displays evidence of high levels of market fragmentation. Across the 80 local governments in my sample, 1,820 firms were awarded the 3,732 contractor-identified projects. In other words, firms received an average of 2.05 projects. In the dataset that uses the nationwide sample, 6,912 projects were awarded to 4,051 firms, which is equivalent to 1.71 projects per firm.

However, across both datasets, the median number of projects awarded to a firm is one. Indeed, the data show that between 60 and 70 percent of firms only win a single project during the periods considered. In general, the data suggests

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TABLE 5.3 *Market fragmentation across project categories*

Project type	Restricted sample of districts	Nationwide sample of districts
School classroom	1.58	1.50
Government offices or staff housing	1.32	1.36
Toilet	1.53	1.37
Health clinic	1.32	1.25
Road, bridge, culvert	1.38	1.49
Borehole or water project	1.51	1.44
Market	1.28	1.23
School dining hall or dorm	1.28	1.15
Police station	1.25	1.18
Community center	1.20	1.13

that local governments award contracts to small contractors who undertake a single project. As noted, this is not because projects are excessively time-consuming: the average (median) project is contracted to last a total of five months.

I also consider whether levels of market fragmentation are similar across different project categories. For example, it could be argued that fewer firms would have the necessary equipment to engage in road construction. Therefore, there may be greater market consolidation for projects in this category. Table 5.3 displays market fragmentation in each project category.[38] The figures in Table 5.3 show some variation in market fragmentation. Specifically, market fragmentation is between 1.13 projects per firm and 1.58 projects per firm across project categories. However, overall, there is little evidence of market consolidation across any type of project.

5.2.4 Geographic Concentration

To construct the indicator of geographic concentration, I aggregate project-level data to the level of individual firms. Table 5.4 displays the number of local governments that each firm wins contracts from. The first row shows that, across the districts in my sample, 82 percent of firms receive contracts from only one local government. In the nationwide dataset, 88 percent of firms receive projects from a single local government. The increase in this figure may partly be a product of the shorter time period considered. These figures also make sense given that most firms only win one project. A minority of firms won contracts from two local governments (the second row): 11.65% of firms across the eighty districts in my sample, and 8.91% of companies in

[38] The number of projects in this category divided by the total number of contractors awarded contracts. I present these figures for the most common types of projects (see Table 5.2).

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TABLE 5.4 *Distribution of the number of local governments from which firms are awarded contracts*

Number of local govts.	Restricted sample Number of firms	%	Nationwide sample Number of firms	%
1	1,496	82.20	3,571	88.15
2	212	11.65	361	8.91
3	71	3.90	65	1.60
4	21	1.15	27	0.67
5+	20	0.80	27	0.67
Total	1,820		4,051	

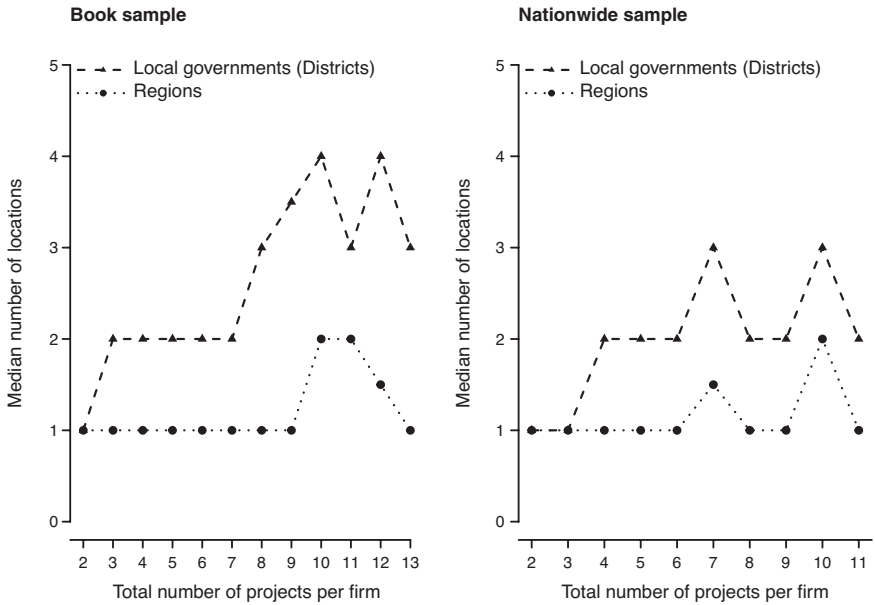


FIGURE 5.2 Geographic distribution of contracts awarded to firms

the nationwide sample. Very few firms win contracts at more than two local governments: about 5%.

Focusing on contractors who were awarded more than one contract, Figure 5.2 displays the median number of (i) local governments (districts) and (ii) regions where firms win projects. The plot on the left displays these statistics across eighty local governments, while the right-hand plot presents the data from the national sample. The *x*-axes end when there is only a single firm that won this many projects.

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Figure 5.2 displays two important findings. First, the vast majority of firms win contracts in only one region. The left-hand plot of Figure 5.2 shows that only firms that win ten or more contracts work across multiple regions. The right-hand plot of Figure 5.2 shows that even when firms win up to nine contracts, these are typically in a single region.

Second, considering districts, most firms are awarded contracts from at most two local governments. The left-hand plot shows that even when firms win up to seven contracts, these are from two local governments. The right-hand plot shows that even firms that win up to eleven do so at only two local governments. Overall, these data display high levels of geographic concentration in awarding contracts, which suggests that the distribution of contracts is not competitive and that firms need to develop personal connections within politicians and bureaucrats at a local government to win contracts.

5.2.5 What Type of Districts See the Highest Levels of Interference in Public Procurement?

Mayors who face stronger electoral pressures may be more likely to award contracts to firms in exchange for party donations or kickbacks. I re-analyze the contract-level data to assess whether personal connections appear more important in some districts than others. Mayors who operate in more electorally competitive districts are likely to be expected to raise more campaign funds during election campaigns than mayors in non-competitive constituencies. Accordingly, the incentive to reward firms that are politically connected may be stronger in competitive districts. Because mayors need additional funds to run in parliamentary primaries, the incentives for personalism in contracting should also be higher in districts where mayors are ambitious to become the local MP candidate.

As discussed earlier, the fact that a firm only wins contracts in one district may imply that these firm owners are personally connected to politicians and bureaucrats in that district. In other words, winning contracts in a single district may serve as a proxy for personal connections. I investigate whether projects are more likely to be allocated to "single-district firms" in electorally competitive districts. I interpret a positive association between electoral competition and contracts being awarded to single-district firms as evidence that competition incentivizes manipulation in public procurement.

I code a district as competitive when the electoral margin in the prior presidential election was less than 12 percent. This was the original operationalization of competition that I used to stratify districts to select the sample of districts. The dependent variable is the likelihood that a local government awards a contract for an infrastructure project to a single-district firm. For these analyses, I use the data from the nationwide sample of projects because it includes data from more local governments, which gives me greater leverage to analyze variation across different types of districts.

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As a first analysis, I calculate the mean share of contracts awarded to single-district firms in competitive and non-competitive districts. In these calculations, I classify districts as competitive or non-competitive using the election results in the prior elections, distinguishing between projects commissioned after the December 2008 election (in 2011 and 2012) and those commissioned after the December 2012 election (in 2013). Table 5.5 displays the mean share of projects awarded to single-district firms in competitive and non-competitive districts in each electoral period.

Table 5.5 shows that in the first period, on average 77.24 percent of projects were awarded to single-district firms in competitive districts. This number drops to 67.57 percent of contracts awarded to single-district firms in non-competitive districts. The difference between these two means is 9.67 and is statistically significant at less than the 1 percent level. These results support the idea that procurement is more likely to be politicized in competitive districts.

In the second period, I find that 74.28% of contracts were awarded to single-district firms in competitive districts and 69.00% in non-competitive districts. While the difference in these two means (5.28%) is not statistically significant at conventional levels (p-value of 0.14), the results point in the same direction. Overall, this initial analysis suggests that there is a positive association between electoral competition and contracts being awarded to single-district firms, and suggest that high levels of competition induce personalism in public contracting.

This difference-in-means analysis above does not consider potential confounding variables that may obscure the results. For example, competitive districts may also be more remote, which may account for the differences we see. To account for potential confounders, I next conduct a multivariate regression analysis. As firms may be less likely to bid for and win contracts in multiple districts when they are based in a rural locations, I control for how remote each district is using two proxies: (i) the distance to the nearest district

TABLE 5.5 *Share of contracts awarded to single-district firms in competitive and non-competitive districts*

	Period 1 (2011–12)		Period 2 (2013)	
District type	**Single-district firm**	**Multiple-district firm**	**Single-district firm**	**Multiple-district firm**
Competitive district	77.24	22.76	74.28	25.72
Non-competitive district	67.57	32.43	69.00	31.00
Difference	9.67 p-value = 0.00		5.28 p-value = 0.14	

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capital and (ii) the share of houses in the district with electricity. This analysis also controls for region and project sector, and include funding-source fixed effects.

My theory suggests that independent of district-level electoral competition, mayors' individual political ambitions may also increase their incentive to manipulate public procurement. I classify mayors as politically ambitious when they competed in the parliamentary primary. In the analysis, I also interact electoral competition and political ambition to see whether the combination of these two factors further perpetuates personalism in contracting. Again, in the regression analysis, I disaggregate projects between the two electoral periods, measuring district-level competition using results from the prior election.

Table 5.6 displays the results of the first set of linear probability models. This table includes projects awarded in 2011 and 2012, classifying competitive versus uncompetitive districts using the December 2008 election results. Column 1 is a bivariate regression and, similar to the difference-in-means analysis, demonstrates a positive relationship between electoral competition and the likelihood of a contract being awarded to a single-district firms. Moving from a non-competitive to a competitive districts increases the likelihood by 9.9 percentage points. Column 2 includes the two proxies for remoteness, and fixed-effects for region, project type, and funding source. Again, the results show a positive relationship between competition and single-district firms winning contracts, with competition increasing the likelihood by 7.6 percentage

TABLE 5.6 *Observational analysis predicting project won by a firm that operates in a single district (2011–12)*

	Dependent variable:			
	Single-district firm wins contract			
Independent variable	(1)	(2)	(3)	(4)
Competitive (margin < 12%) 2008 election	0.099*** (0.014)	0.076*** (0.017)	0.114*** (0.017)	0.058*** (0.021)
Mayor politically ambitious (2012 primary)			0.007 (0.020)	0.006 (0.021)
Mayor politically ambitious* competition			−0.047 (0.033)	0.061* (0.036)
Region fixed effects	N	Y	N	Y
Funding source fixed effects	N	Y	N	Y
Project sector fixed effects	N	Y	N	Y
Observations	4,167	4,103	4,121	4,057
R^2	0.011	0.064	0.012	0.068

Note: This table includes projects awarded in 2011 and 2012. *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$.

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points. Columns 3 and 4 include the indicator for political ambition. In these two columns again, the positive relationship between electoral competition and contracts to single-district firms remains. The results in column 4, which includes the fixed effects and holds constant proxies for remoteness also suggests an interactive effect between competition and mayoral ambition: when districts are both competitive and the mayor runs for a parliamentary seats the likelihood of contracts being awarded to single-district firms increases by 12.5 percentage points. Compared to districts that are not electorally competitive and the mayor is not politically ambitious. This suggests that political ambition interacts with electoral competition and further increases the likelihood of personalism in public procurement.

Table 5.7 displays the results of the next set of linear probability models. This table includes projects awarded in 2013, using the December 2012 election results to classify districts as electorally competitive or not. Column 1 displays a positive relationship between competition and the likelihood of a single-district firm being awarded a contract. This persists in column 2 with the inclusion of controls. The results are similar to those presented in Table 5.6 with the likelihood of a single-district firm being awarded a contract increasing by 9.0 percent. Columns 3 and 4 include a variable that indicates whether a mayor ran for the primary in 2015, which is taken as an indicator of political ambition. Once this variable is included, competition is no longer independently associated with single-district firms winning contracts. However, these analyses show that when districts are both electorally competition *and* the mayor is politically ambitious it is much more likely that contracts will be awarded to single-district firms. The average marginal effect (AME) of this interaction term signifies a 17.2 percentage point increase in the likelihood of contracts being awarded to single-district firms.

Overall, the analyses in Section 5.2 demonstrate the validity of using geographic concentration as a proxy for malfeasance in public procurement. Proxying personalism with the share of contracts awarded to single-district firms, I find that district-level electoral competition and mayoral ambition are positively associated with personalism. The districts with the highest levels of personalism in public procurement are those that are both electoral competitive and where the mayor is politically ambitious. An important question remains in terms of the types of connections that single-district firms may have, and to whom. Section 5.3 investigates the type of firms that typically win contracts issued by local governments.

5.3 WHAT TYPES OF FIRMS WIN CONTRACTS?

The project-level data presented above suggests that firm owners need to develop personal connections to local politicians and bureaucrats to win contracts, and that typically firm owners only build the required connections at a

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TABLE 5.7 *Observational analysis predicting project won by a firm that operates in a single district (2013)*

	Dependent variable:			
	Single-district firm wins contract			
Independent variable	(1)	(2)	(3)	(4)
Competitive (margin < 12%) 2012 election	0.078*** (0.018)	0.090*** (0.022)	−0.001 (0.023)	0.001 (0.029)
Mayor politically ambitious (2015 primary)			−0.090*** (0.024)	−0.019 (0.029)
Mayor politically ambitious* competition			0.192*** (0.036)	0.172*** (0.040)
Constant	0.663*** (0.012)	0.606*** (0.120)	0.696*** (0.015)	0.588*** (0.123)
Region fixed effects	N	Y	N	Y
Funding source fixed effects	N	Y	N	Y
Project sector fixed effects	N	Y	N	Y
Observations	2,710	2,635	2,710	2,635
R^2	0.007	0.066	0.017	0.076

Note: This table includes projects awarded in 2013. $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$.

single local government. In Section 5.3, I further consider the characteristics of firms that typically win public procurement contracts awarded by local governments. Above, I proposed that mayors seek to interfere in public procurement processes to ensure that two types of firms win contracts: *donating firms* and *party firms*. I discuss each type of firm in turn.

5.3.1 Donating Firms

Donating firms are contractors who donate either money or goods to a mayor or her party. Politicians have been shown to reward firms who donate to party coffers with public contracts across a range of contexts.[39] In Ghana, mayors use donations from companies to support presidential or parliamentary primary campaigns (or both), and to secure their appointment as mayor. Alongside money, donations can be in-kind. For example, common goods include campaign posters, food for party agents, or fuel for party vehicles. In addition to covering campaign costs, donations from firms can help mayors engage in relational clientelism, allowing them to assist voters and polling station executives who experience personal hardships. Indeed, mayors often give

[39] Boas, Hidalgo and Richardson (2014); Titl and Geys (2019); Baltrunaite (2020); Gulzar, Rueda and Ruiz (2022).

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money to individuals for expenses such as hospital bills, family funeral costs, or their children's school fees.

Most of the bureaucrats who I interviewed said that financiers had usually already donated to the party when they receive a contract from the local government. Thus, contracts are a way for politicians to pay them back for their prior contributions. Given that local firms cannot be sure which party will win the election, this suggests that financiers may donate to both major parties, or they may donate to a single party, confident that in the not-so-distant future this party will eventually win the presidency.

Explaining the awarding of contracts to donating contractors, one DCD that I interviewed claimed that:

> The Procurement Act gives us every step we need to take ... [But] they [mayors] tell you "give it to this contractor." They 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. They [winning contractors] are all party financiers. (Interview with author, February 19, 2016)

Another interviewee spoke about mayors repaying businesspeople who had supported their mayoral nomination. As noted in Chapter 3, while mayors are appointed by the president, they must receive the support of two-thirds of the members of the local council. Sometimes, mayoral nominees have to exchange money with local councilors to win their support. Thus, one bureaucrat noted: "When the DCE is nominated [by the president] they have to go through the mill. You have a businessman who has financed you. [When you become mayor] It is payback time for your sponsors" (Interview with author, February 16, 2016).

In short, as in other contexts, public contracts are often awarded as part of a *quid pro quo* between politicians and private companies. An alternative scenario is that contracts are awarded not to private businesspeople, but to companies that are headed by affiliates of the governing party.

5.3.2 Party Firms

Party firms are companies that local political party executives operate. Ghana's two major parties are organized hierarchically, with nearly identical organizational structures.[40] Standing committees of internally-elected executives serve at the national, regional, parliamentary constituency, and polling station levels.[41] Local party elites organize and engage in multiple voter mobilization events, including rallies, community meetings, and house-to-house

[40] Fobih (2010); Riedl (2014).

[41] At the constituency level, parties have committees of about ten elites: the constituency chairperson, the vice-chair (sometimes two), secretary, financial secretary, treasurer, organizer, youth organizer, and women's organizer. These executive positions are replicated at every polling station: the NPP has five polling station executive positions while the NDC has nine positions. The fact that three positions are "organizer" positions highlights the critical role of local party elites in mobilizing voters during election campaigns.

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canvassing. Each level of the party is tied to the one above through the internal promotion process. For example, local party executives form the selectorate in parliamentary primaries. Rising in either party relies on the formal (i.e. electoral) and informal support of party officials serving at lower levels in the party. Mayors' reliance on local party executives to advance in their careers often gives them an incentive to award contracts to local elites.

Most mayors seek to award contracts to constituency party executives, rather than polling station executives. This is because constituency executives are more powerful than polling station executives, and because there are fewer of them. Granting public contracts to constituency executives is an easy way for mayors to curry favor with them. Awarding contracts to constituency party executives can have three positive effects. First, considering campaign finance, awarding contracts to party officials often means putting money in the hands of the ruling party. Party executives will likely allocate a portion of the contract sum to party activities or donate directly to the mayor.

Second, awarding contracts to constituency party executives can buy and reward their activism. Awarding contracts to party executives can serve as a reward for prior activism and an incentive to work hard in-between elections. Constituency party executives are also organizational nodes connected to hundreds of polling station executives. Polling station executives are often the day-to-day face of the party that citizens see and interact with. Politicians thus distribute contracts to constituency party executives to gain access to their networks of polling station executives.

Third, mayors distribute contracts to constituency party executives to foster their loyalty. Conditional on the president being re-elected, the mayor needs the support of constituency executives to ensure that their name is put forward to the president for re-selection. Further, these constituency party executives help mayors mobilize the support of polling station executives during parliamentary primaries. Summarizing the trend for local government to award contracts to party executives, one senior bureaucrat noted:

> The party people have companies – the [Constituency] Chairman, Secretary, the Organizers … They use the money for themselves and for the party organization. DCEs [mayors] are under pressure from the party. If they don't yield to their demands, they will agitate to get them removed. (Interview with author, February 16, 2016)

Another senior bureaucrat noted:

> The executives of political parties have to be rewarded, and the easy way to reward them is to give them projects. First, they can take on the projects themselves. If they have the resources, they register a company and turn into contractors overnight. Second, they take the project and give it to a qualified contractor, a brother, or a friend. The DCE [mayor] is a political person from among the government party, and these party executives organize and campaign for the party to come to power. The contract is a reward, and second, the DCE wants to win the support of party members because they will be removed. Most DCEs who are removed are a product of agitation from among the party. (Interview with author, February 17, 2016)

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As discussed earlier, awarding contracts to local party executives explains why the vast majority of companies only win contracts awarded by a single local government because constituency-party executives only operate within a single district.

5.3.3 Empirical Evidence That "Party Firms" Are More Likely Than Non-party Firms to Win Contracts

To further investigate the potential role that firms owners' involvement in party politics plays in determining whether they win contracts, I conducted a survey experiment with local bureaucrats. The survey experiment manipulated two characteristics of firms: their status as party firms (firms owned by party executives) or not and their experience in the construction industry. I investigate whether these characteristics influence bureaucrats' perceptions regarding the likelihood of firms being awarded contracts. Specifically, the survey experiment followed a two-by-two design. Table 5.8 shows the four treatment conditions. I varied construction experience by stating whether the firm has *a lot* of experience or *not a lot* of experience. I signaled a firms partisan status by telling bureaucrats whether it was owned by a local executive of the ruling party or whether the firm owner was politically independent.

I administered the survey experiment as part of the survey with local bureaucrats that I discuss in Chapter 1. The sample includes bureaucrats working in local governments in highly-ranked positions ($N = 864$). The treatment was randomized at the level of individual bureaucrats.[42]

The treatment sentences were embedded in a roughly fifty-second conversation between two bureaucrats who were hypothetical colleagues working at a local government. To promote privacy, respondents listened to this conversation using headphones. During the conversation, the two bureaucrats discussed bids from firms to build a new school classroom block (the most common type of project). The script stated that three contractors were bidding on the contract, each had submitted the required certificates, and their budgets were similar. One of the bureaucrats in the script says that they know a little more

TABLE 5.8 *Experimental design for survey experiment on the public procurement contract allocation*

Firm type	No construction experience	Construction experience
Party firm	Treatment 1	Treatment 2
Independent	Treatment 3	Treatment 4

[42] In all cases, bureaucrats first listened to this experiment, followed by the experiment on selecting communities to receive an infrastructure project that I present in Chapter 6.

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about one of the firms. At this point, the treatment sentences are included, noting the firms' (non) partisan ties and their (lack of) experience in construction. After listening to the conversation, bureaucrats were asked: *How likely is the contractor that is being discussed to receive the project?* Responses were on a seven-point scale from "very likely" (7) to "very unlikely" (1). To solicit honest responses, respondents input their answers privately on a cell phone.

Results of the Survey Experiment with Bureaucrats

Table 5.9 displays the mean outcome response in each treatment condition. Figure 5.3 displays the same means graphically. The results show that for firms with both high and low levels of construction experience, being a party firm has a statistically significant positive effect on bureaucrats' perceptions of likelihood of selection. The positive effect is 1.97 points for contractors without construction experience, and 0.57 points for firms with construction experience. Pooling across conditions, the AME of being a party firm is 1.23 ($p < 0.001$).[43] Regarding construction experience, the means in Table 5.9 show that the average treatment effect of construction experience for party firms is 0.29 points, however, this is not statistically significant. In other words, bureaucrats perceive party firms as equally likely to receive a contract whether they have experience in construction or not. The same is not true for politically independent firms. Independent firms experience a significant positive increase when they have construction experience, with an average treatment effect of 1.69 points. Accordingly, pooling across conditions, the AME of construction experience is 0.97 points ($p < 0.001$).

To summarize, the firms that bureaucrats perceive as the most likely to receive contracts are party firms, independent of these firms' construction experience. There is no penalty for party firms that do not have construction experience. Further, the fact that the AME is higher for partisanship than for construction experience, suggests that in general, partisan cronyism overrides construction experience in determining contractor selection.

TABLE 5.9 *Bureaucrats' perceptions of likelihood of receiving a contract*

	No construction experience	**Construction experience**	**Average treatment effect**
Party firm	5.07	5.37	0.29
Independent	3.11	4.80	1.69***
Average treatment effect	1.97***	0.57**	

Note: The dependent variable is out of seven with higher numbers representing a higher likelihood of contractor selection. $^{**}p < 0.05$; $^{***}p < 0.01$

[43] Note that this is not simply the average of 1.97 and 0.57, because there are not exactly the same number of observations in each treatment conditions, per randomization.

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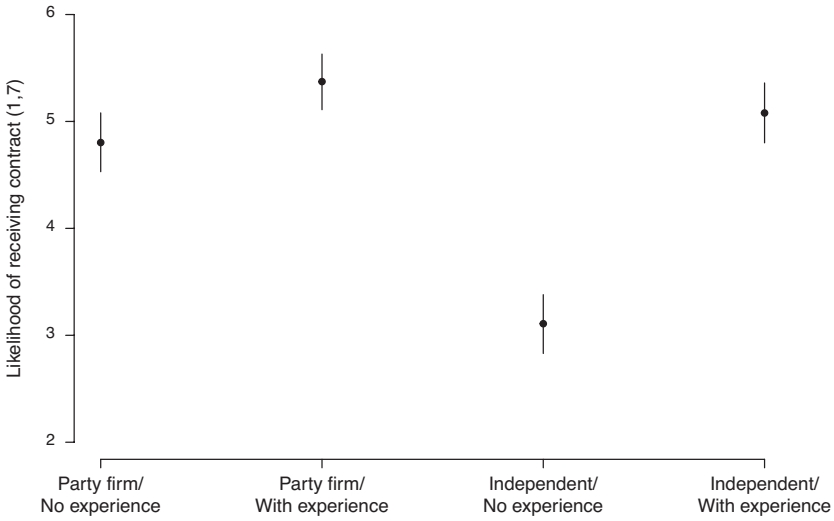


FIGURE 5.3 The mean outcome response in each treatment condition

I next focus on party firms, and consider whether bureaucrats who work in districts that are highly competitive or in districts where the mayor is politically ambitious are more likely to expect party-affiliated firms to win contracts. In this analysis, I calculate the AME of partisanship, subsetting the data across four types of districts. I estimate political ambition using a variable that indicates that the mayor ran for the parliamentary primary in 2015. Figure 5.4 presents the AMEs of the party firm treatment across each district.

Figure 5.4 shows the AME for party firms is positive and significant in every type of district, which suggests that bureaucrats expect some level of partisan contracting in every district. This is consistent with the results in Tables 5.6 and 5.7 which show a high share of contracts being awarded to single-district firms in all types of districts. However, the results below display important heterogeneity across districts. Bureaucrats are less likely to expect partisanship contracting in districts that are neither competitive nor where the mayor is politically ambitious. Figure 6.3 shows that when either of these conditions is true, bureaucrats are more likely to expect partisan bias in contracting. These results also demonstrate an interactive effect: partisan contracting is most likely in districts that are both competitive and where the mayor is ambitious. Again, this is consistent with the results in Tables 5.6 and 5.7. Taken together, these analyses provide compelling evidence that mayors' incentives drive public procurement outcomes. When mayors operate in competitive districts, they are compelled to capture public funds to help secure an electoral majority for their party's presidential candidate. These incentives interact with their own incentives to capture funds to support their parliamentary primary campaigns. While we see evidence of personalism in all districts, evidence of personalism is

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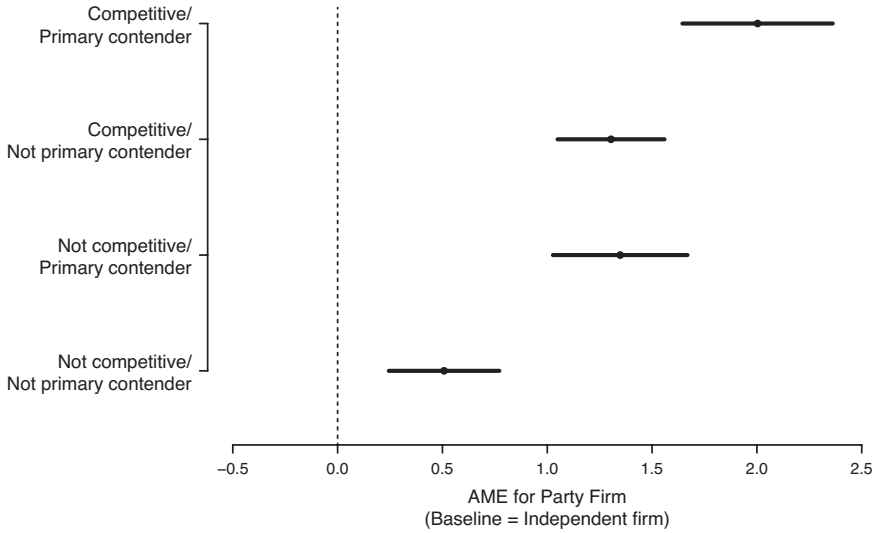


FIGURE 5.4 The AME for party firms in different types of districts

highest in districts that are both competitive and where the mayor themselves has ambitions to rise in politics.

How Do Firms with Limited Construction Experience Win Contracts?

The results from the survey experiment imply that local governments often award contracts to firms that have no experience or limited experience in construction. An important question to ask if how such firms win contracts given that contractors are required to present up-to-date certificates – including registration with the MWH – when they bid for projects?

The first possibility is that local governments turn a blind eye when firms do not present all the required certificates. Prior work has noted that local governments often award contracts to firms that do not submit the necessary certificates.[44] In this study, the author compiled an original dataset of 7,700 local government projects using APR from 2012. He found that approximately half of all projects were awarded to uncertified firms.[45] Furthermore, this data showed that in no district in the country where more than 25 percent of projects awarded to firms that were officially registered with the Ministry of Water Resources, Works and Housing, as required.[46] It should be noted that these figures may overestimate the share of contracts given to unregistered firms as they assume that the data obtained from the Ministry was truly a comprehensive record of all registered firms.

[44] Luna (2020).
[45] Luna (2020, 39).
[46] During this study, the relevant Ministry was the Ministry of Water Resources, Works and Housing. This ministry has since been divided into separate ministries.

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A second way for inexperienced firms to win contracts is for these firms to borrow documents from experienced firms. For example, a mayor might promise a project to a local party executive, irrespective of whether they operate a construction company or not. This individual will then pay a certified contractor to borrow their certificates. The tender application will be made in the name of the experienced firm, and payments will be made to their bank account. Bureaucrats are likely to know when this occurs, and thus know, in effect, that contracts are being awarded to inexperienced contractors. In the interviews that I conducted with contractors, many said that there have been occasions where they had been approached by individuals to lend them their certificates. Some contractors said that they had done so. A minority of contractors that I interviewed said that they are unwilling to lend out their certificates because they did not want their firm's name to be associated with low-quality work.

5.4 THE CONSEQUENCES OF CORRUPTION IN PUBLIC PROCUREMENT ON INFRASTRUCTURE QUALITY

In Section 5.4, I consider the downstream costs of corruption and personalism in public procurement decisions. All said and done, it is hard to overstate the implications of non-competitive procurement practices on local development outcomes. There are at least four ways in which manipulated procurement leads to inferior outcomes, including low-quality public infrastructure and a disrupted local economic market.

First, when personalism influences selection, hired contractors – experienced or inexperienced – immediately deduct the money they pay in bribes to politicians or bureaucrats from the contract sum. Thus, personalism in selection reduces the money available to spend on building materials and equipment. Across local governments, it is typical for firms to pay kickbacks to the value of 10 percent of the contract sum to local politicians, typically to mayors. If a firm owner was awarded the contract via a web of political connections, this 10 percent share may be repeated across multiple individuals. Accordingly, as much as 30% to 50% of the final contract sum can be spent on kickbacks alone.[47] To recover these expenses, contractors will are likely to use less expensive materials or instead of renting equipment will go ahead without it. For example, rather than hire a professional cement mixer they may mix cement manually. The size of projects may also be scaled down, for example, the size of school classrooms will be scaled down, or fewer kilometers of roads will be paved.

Referring to the need to pay bribes to secure a contract, one contractor I interviewed asserted that: "If they stopped taking this 'percentage-percentage,'

[47] Luna (2020, 57).

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maybe you will get a good job. This percentage, it leads to shoddy work" (Interview with author, February 27, 2018).

Second, manipulation can lead to inexperienced firms winning public contracts. This is obviously undesirable, because firms with no or limited experience in construction will struggle to do high-quality work independent of the financial resources that they dedicate to the project. Furthermore, these firms are unlikely to have the necessary tools or equipment to construct the new infrastructure to a high standard. The results will be low-quality infrastructure which can deteriorate quickly, but more alarmingly, it can lead to serious injuries: for example, school pupils have been killed while at school when classrooms have collapsed, or have died while using public toilets.

Third, it is difficult for bureaucrats to hold politically-connected contractors to account. Contractors can report bureaucrats to mayors if they complain of their workmanship, and local politicians may punish (or attempt to punish) bureaucrats for such behavior. In exchange for the kickback, a mayor has essentially given their protection to the firm that they award the contract. Should a bureaucrat complain either to the firm owner, other bureaucrats, or the politicians themselves of the low-quality of work, they can suffer negative consequences. As one Planning Officer noted: "Once the person has political linkages, when he is doing something substandard, it becomes very difficult to bring him to book, as then you become a political opponent and you are kicked out the district." (Interview with author, February 5, 2016).

Fourth, and finally, by increasing market uncertainty, personalism in public procurement decisions can lead rational firm owners to under-invest in their companies.[48] In a competitive marketplace firms rely on their professional reputation and track record to obtain future contracts. Firm owners have direct control over work quality. However, when firms win public contracts based on their personal connections there is uncertainty in terms of the firms future revenue stream. The biggest source of uncertainty results from changes in governments. Uncertain whether the party they are associated will remain in office in the future, firm owners underinvest in, for example, equipment, through fear that their future revenue streams will dry up. The result is a shortage of high-quality firms in the marketplace.

In summary, personalism in contracting has severe consequences on both individual project outcomes, and the broader health and growth of local economic marketplaces. These implications become more serious when personalism is the norm rather than the exception, and can lead to significant overall waste in public resources. One senior bureaucrat who I interviewed estimated that 60 percent of local government budgets would be saved if there was a competitive procurement process. In other words, personalism can lead to more public resources being diverted to personal and political purposes than dedicated to development.

[48] Luna (2020) raises this point.

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5.5 CONCLUSION

The results in Chapter 5 lead to several important conclusions. Data on actual contractor selection shows a highly fragmented and geographically localized market of contractors. Local governments award the majority of contracts to firms whose operations are limited to one or two districts. Most contractors win a single contract over the years studied. The results from the survey experiment with bureaucrats shed light on the types of firms that win contracts. These results suggest that partisan ties are very influential in determining which firms are awarded contracts. Bureaucrats believe that firms with partisan ties can win contracts with local governments irrespective of whether these firms have experience in construction. The implications for non-competitive procurement on development are the provision of low-quality public infrastructure.

Public procurement offers mayors an opportunity to line their campaign chests and advance their political careers. The evidence presented above suggests higher levels of interference in competitive districts and in districts where mayors have ambitions to rise in the internal party hierarchy to run for national political office. Local politicians use public contracts to capture campaign finance and to buy the support of local party elites.

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