From Elected to Appointed: The Economic Consequences of Local Authoritarian Takeovers*

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Abstract

Replacement of locally elected officials with centrally appointed executives has emerged as a political strategy in the recent global wave of democratic backsliding. This study shows how such authoritarian takeovers of local jurisdictions undermine the rule of law and economic efficiency in public procurement, using the universe of state contracts in Turkey and a staggered Difference-in-Differences design. Appointed mayors use competitive auctions nearly half as often as elected ones, favoring noncompetitive procedures almost three times more. This results in a 24% rise in contract prices and a 40% decline in value for money. Mechanism analysis underscores importance of local accountability.

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1 Introduction

Across the globe, an erosion of democratic values and institutions has marked the recent past. Regimes with authoritarian tendencies, often motivated by desires to curb dissent or enhance resource extraction, weaponize legal systems to repress their political dissidents both at the national and subnational levels (Varol, 2014; Dixon and Landau, 2021). A striking manifestation of this trend is the escalating efforts by central governments to remove locally elected officials, replacing them with centrally appointed representatives, referred to as *authoritarian* or *central takeover*.[1] However, despite the pervasive global trend towards autocratization (Lührmann and Lindberg, 2019) and its local manifestations, we lack a good understanding of how authoritarian agendas affect local jurisdictions.

This paper investigates how authoritarian takeovers of local jurisdictions affect the rule of law and economic efficiency at the local level. We examine the consequences of such takeovers within the context of public procurement, using a novel administrative dataset covering the universe of state contracts distributed in Turkey in 2014-19.[2] Focusing on contract awarding methods, we first document how centrally appointed and elected officials exploit legal provisions to increase their discretionary powers in public procurement. We then quantify the economic cost of such malpractices and assess the resulting economic inefficiencies. Finally, we delve into the potential mechanisms that may explain the differences between outcomes attained under appointed and elected officials, including the removal of local accountability and the potential benefits of coordination and increased discretion arising from a more centralized governance structure.

The authoritarian takeovers of local governments, facilitated by the central appointment of local officials, introduce several competing economic factors that significantly influence local economic outcomes. First, these takeovers modify incentive structures within local governments, leading to significant implications for policy outcomes in various domains ranging from public service delivery and municipal grants to sentencing decisions of judges (Lim, 2013; Martinez-Bravo, 2014; Hessami, 2018). In particular, they eliminate the downward accountability of local officials to local residents. Instead, they establish upward accountability to the central ruler, as the careers of appointed officials hinge on their relationships with the central ruler who controls their appointment, promotion, and dismissal (Toral, 2022).

[1] Prominent instances of central authorities seeking dominance over local jurisdictions are evident in China (Shen and Tian, 2020; Martinez-Bravo et al., 2022), Vietnam (Malesky et al., 2014), Russia (Beazer and Reuter, 2022; Gasparyan, 2022), and Turkey (Tutkal, 2022), to name a few.

[2] According to the World Bank, public procurement accounted for 12% of the global GDP in 2019 (Bosio et al., 2022) and has a significant impact on private sector development, economic efficiency, and social welfare (Ferraz et al., 2015). As an economic activity through which large sums of public funds flow into private hands, it is also particularly vulnerable to corruption through the diversion of funds by public officials (see, e.g., Di Tella and Schargrodsky, 2003; Olken, 2007; Ferraz and Finan, 2011; Titl and Geys, 2019; Baltrunaite, 2020; Colonnelli and Prem, 2022; Baranek and Titl, Forthcoming, among others).

While this upward accountability has the potential to discipline local officials, it could also cause a moral hazard problem wherein the central ruler fails to penalize underperforming or corrupt officials, particularly those who provide value to the regime (Myerson, 2021; Fang et al., 2023).

Second, by enhancing the control of the central ruler in the local region, central takeovers may yield economic advantages through coordination benefits resulting from more centralized governance. Specifically, a more centralized governance structure may be better equipped to account for geographical spillovers and leverage economies of scale when providing public goods as coordinating efforts become easier in a more centralized regime (Seabright, 1996; Arora et al., 2023).[3]

Finally, when centralization leads to more discretionary power for public officials, this can enhance service quality and procurement efficiency. According to this perspective, the so-called *efficient grease hypothesis*, officials who can circumvent cumbersome regulatory frameworks might expedite decision-making processes, reduce transaction costs, and select higher-quality contractors who could otherwise be excluded by stringent rules (Mironov and Zhuravskaya, 2016; Coviello et al., 2018; Decarolis et al., 2020). We investigate the presence of each of these mechanisms in our setting.

We empirically address these questions within the context of Turkey. With an increasingly authoritarian regime, Turkey has been providing a stream of examples of weaponization of law against dissidents,[4] making it an ideal setting to study the consequences of central takeovers. In September 2016, the country enacted an emergency decree amending municipal law, granting the central government the authority to replace elected mayors with appointed ones. Over the subsequent two years, the central government removed 95 elected municipal mayors (out of 254 in the region of interest) and appointed trustee mayors in their stead. Appointed trustee mayors were all mid-level bureaucrats in the state apparatus; they were governors/vice-governors of the same district/province as the municipality. These governors then serve as mayors in the affected municipalities until the next elections.

Using geographic variation across municipalities and staggered timing of trustee mayor appointments, we estimate a Difference-in-Differences (DiD) effect of central takeovers on public procurement practices and outcomes. Our analysis is based on a comparison of centrally appointed mayors with the elected ones in the same region. More specifically, we compare the state contracts granted by elected mayors with those granted by appointed trustee mayors in terms of *law abuse* and *contract terms*, the latter including winning prices

[3] A substantial body of theoretical and empirical work investigates the pros and cons of centralized governance. For theoretical contributions, refer to Seabright (1996), Bardhan and Mookherjee (2000), Lockwood (2002), Besley and Coate (2003), Bardhan and Mookherjee (2006), and Myerson (2021). For empirical studies, see Fisman and Gatti (2002a), Fisman and Gatti (2002b), Enikolopov and Zhuravskaya (2007), Mansuri and Rao (2012), Faguet (2014), Beazer (2015), and Cloutier (2017).

[4] See Amnesty International (2021) and Barkey and Cook (2020) for other instances.

and value for money.

Our main outcomes assess law abuse in public procurement, defined as public officials exploiting legal provisions beyond their intended scope. We measure this through three key indicators: the unjustified use of the *unforeseen event clause*[5], the avoidance of *sealed-bid auctions*[6], and the manipulation of the threshold clause. The unforeseen event clause is legally justified only during catastrophic events that could not be foreseen by the procuring entity-such as natural disasters and pandemics-and when immediate procurement action is necessary to prevent risk to lives or property. When invoked, this clause permits the procuring agency to use the more discretionary *negotiation* procedure allowing them to select which contractors to invite without the necessity to publicize the contract notice. When used inappropriately, this clause serves as a loophole to circumvent the more rigorous requirements of sealed-bid auctions, our second outcome measure. Our third outcome is the use of the *threshold* clause.[7] This clause is intended to facilitate a fast-track procedure with the negotiation method for small purchases under a threshold. However, officials can alter the contracts to stay below the threshold and gain more discretion in contract awarding. We investigate both how often public officials invoke this clause and whether it entails cost manipulation when they do so.

Our analyses reveal that the central takeover of local governments deteriorates the rule of law in public procurement. We observe that centrally appointed trustee mayors' procurement spending with the unforeseen event clause is 24 percentage points (pp) more than their elected counterparts-a surge amounting to nearly three times the level of elected mayors. This adverse effect comes at the expense of (more competitive) sealed-bid auctions. Under trustee mayors, the share of spending with sealed-bid auctions decreases by 21%, indicating a 32% reduction compared to levels observed under elected mayors. Furthermore, the use of the unforeseen event clause by trustee mayors pushes contract prices higher by 24% and reduces the rebate –or the value for money– by a substantial 40%. These effects translate into an economic waste of $100 million –equivalent to 6% of the total procurement spending in the affected municipalities– that could have been saved had the trustee mayors invoked the unforeseen event clause only in cases permitted under the law.[8]

Regarding the use of the threshold clause, our analysis reveals no statistically significant difference between elected and appointed mayors. Upon closer examination of the esti-

[5] A typical clause in procurement regulations intended to deal with cases of extreme urgency.

[6] Sealed-bid auctions are regarded as the most competitive auction method in public procurement since any potential contractor can compete in the contract awarding process, and a contract notice has to be published in advance.

[7] Another typical clause in procurement regulations allowing the use of the more discretionary negotiation method in contract awarding when the value of the purchase is below a certain threshold.

[8] This effect size is similar to what Brugués et al. (2024) estimate for the negative effect of political connections in public procurement in Ecuador (2-6% waste of procurement budget).

mated cost distribution of contracts, we find that both types of mayors engage in substantial and comparable levels of cost manipulation to gain discretionary power. Furthermore, our analysis of market concentration shows that contractors winning contracts with greater discretion—whether through the unforeseen event or threshold clause—have a Herfindahl-Hirschman Index (HHI) nearly three times higher than contractors winning through sealed-bid auctions. This marked increase in concentration indicates a pronounced recurrence of specific contractors and a consequent reduction in market competition.[9]

We test the robustness of our results to i) alternative econometric specifications, ii) an alternative specification of the control group (*not-yet-treated* control group instead of *never-treated*), and iii) an alternative baseline period choice (last four quarters before treatment instead of last quarter before treatment). Beyond these variations of our difference-in-differences approach, we further validate our findings through an entirely different empirical strategy: Regression Discontinuity in Time (RDiT). This approach enables within-municipality comparisons in affected areas, which effectively addresses potential concerns about control group selection.

In addition, we conduct a placebo analysis using administrations in the same geographic area that were not affected by trustee appointments. The resulting null effects in these placebo tests strengthen the causal interpretation of our estimates by confirming that our findings are not driven by region-specific trends unrelated to trustee appointments. Collectively, these complementary analyses provide strong support for our central finding that central takeovers lead to deterioration in procurement practices.

Next, we explore the potential mechanisms that might explain the observed disparities between elected and trustee mayors. The adverse effects of central takeovers as reported in our findings resonate well with the literature on electoral accountability and suggest the removal of local accountability as the effective mechanism.[10] We observe that elected mayors are less prone to engaging in the types of law abuses easily detectable by voters, such as the exploitation of the unforeseen event clause. Conversely, no such difference emerges in the case of less detectable types of law abuse –such as the cost manipulation in the case of much smaller contracts that are less likely to attract attention from the public–, giving further support to the local accountability mechanism. We also investigate whether centralized governance through appointed trustees yields coordination benefits or efficiency improvements. Our findings indicate that the increased discretion exercised by trustee mayors does not translate into improved procurement quality. There is also no supportive evidence for

[9]The Herfindahl-Hirschman Index for a set of contracts is calculated as the squared sum of the shares of individual contractors.

[10]See, e.g., Barro (1973), Ferejohn (1986), Besley and Case (1995), Persson and Tabellini (2002), List and Sturm (2006), De Janvry et al. (2008), Ferraz and Finan (2011), Ashworth (2012), Lim (2013), Hessami (2018), Aruoba et al. (2019), Lopes da Fonseca (2020), Finan and Mazzocco (2021), and Mehmood (2022), for studies on electoral accountability.

the existence of any gains from economies of scale. Section 6 provides a detailed discussion of these mechanisms, along with several alternative explanations, including the potential influence of natural disasters in trustee-appointed municipalities, regional violence necessitating procurement urgency, and adverse selection in the appointment of governors as trustee mayors.

This paper relates to two distinct literatures. First, although there has been an active literature on authoritarianism, systematic evidence on the weaponization of law and its sub-national manifestations are still scant (Varol, 2014; Dixon and Landau, 2021; Beazer and Reuter, 2022; Gasparyan, 2022; Martinez-Bravo et al., 2022). Our central contribution is thus providing causal evidence for the effects of increased authoritarianism at the local level. We provide a thorough analysis of local authoritarian takeovers by focusing on an amendment of municipal law allowing the central government to remove elected officials and replace them with centrally appointed representatives.

Crucially, in many scenarios involving central takeovers, myriad effects manifest through diverse channels, making it challenging to disentangle them (Treisman, 2007).[11] Our setting is unique in the sense that takeovers did not change the fiscal or administrative purview of the mayors; appointed mayors had the same powers as the elected ones. This streamlined scenario reduces the array of potential mechanisms to a select few, allowing for a comprehensive investigation of each.[12] We pinpoint local accountability as the pivotal mechanism in effect. By contrast, we show that the potential economic benefits of heightened centralization did not accrue in our setting, a topic that has been a subject of contention in the centralization literature (Seabright, 1996; Myerson, 2021).

Second, our findings regarding discretion in contract awarding tie our paper into an extensive literature on the role of politician discretion (Palguta and Pertold, 2017; Coviello et al., 2018; Duflo et al., 2018; Tulli, 2019; Decarolis et al., 2020; Tkachenko and Esaulov, 2020; Baltrunaite et al., 2021; Bandiera et al., 2021; Carril et al., 2021; Best et al., 2023; Hanspach, 2023; Szucs, 2023). Drawing on well-identified causal estimates from several settings, this literature seeks to understand whether discretion improves policy outcomes or strengthens rent-seeking behavior. However, these studies exclusively focus on a specific type of malprac-

[11] For instance, in numerous centralization or decentralization contexts, shifts in administrative, fiscal, and political authority tend to occur simultaneously. In Vietnam, for example, the central authority abolished the District People's Councils (DPCs), an elected body with administrative, political, and fiscal authority in 2009. Most of these powers and responsibilities were transferred upward to Provincial People's Committees, executive bodies at a higher administrative unit (Malesky et al., 2014).

[12] Our analysis compares trustee mayors appointed by President Erdoğan's government with elected mayors from President Erdoğan's *Justice and Development* Party (AKP hereafter). The restriction of elected mayors to elected AKP mayors –rather than including opposition mayors, too– ensures that we do not pick up any effect of typical horizontal accountability mechanisms such as judicial or media investigation. We relax this restriction only in certain analyses when a comparison of trustee and opposition mayors is of interest *per se*.

tice, namely cost manipulation through the threshold clause. This focus effectively limits the study samples to small purchases under a certain threshold. We expand the scope and analytical toolkit of this literature by introducing a novel measure of law abuse based on the unforeseen event clause, which can be used for all kinds of contracts regardless of the value of the procurement.[13] We demonstrate that this clause provides mayors with significant leeway to exploit their power, particularly in contexts with weak local accountability mechanisms. This suggests that the existing literature may have underestimated the extent of law abuse in procurement practices. Our second main contribution addresses this gap in the literature.

The remainder of the paper is organized as follows. Section 2 provides some background information on the empirical setting, public procurement in Turkey, and the legal framework that regulates it. Section 3 describes the data sources and variables used in the empirical analysis. Section 4 outlines the empirical strategy. Section 5 presents the empirical results and robustness checks, while Section 6 explores potential mechanisms. Section 7 concludes with policy implications drawn from our analysis of how authoritarian takeovers affect local governance.

2 Empirical Setting

In this section, we discuss the political background, the characteristics of trustee mayors, and the public procurement regulations in Turkey.

2.1 Political Background and Trustee Appointments

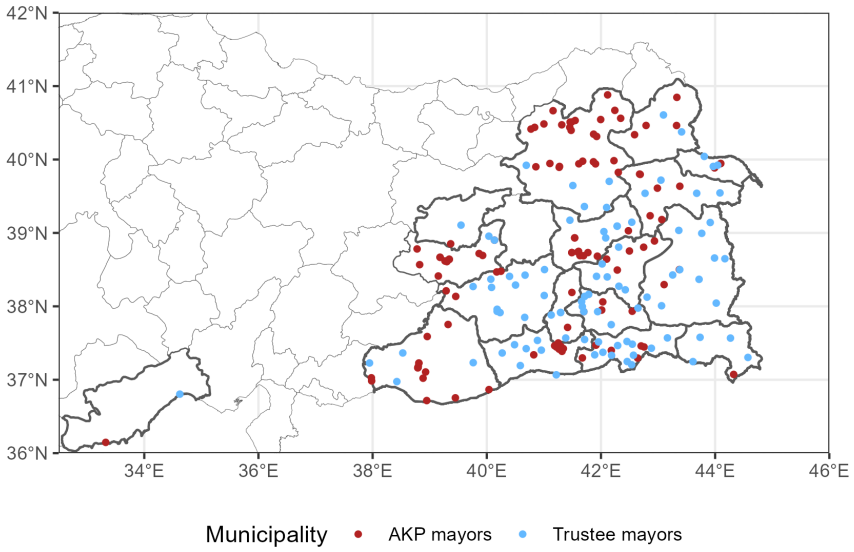
Dismissal of the elected mayors and the appointment of the trustee mayors were possible thanks to the state of emergency declared in the wake of the failed *coup d'état* attempt of July 15^{th}, 2016. During the state of emergency that continued for two years, the Turkish government legislated through emergency decree-laws, arguing that these were necessary to dismantle the "Gülenist network," which was behind the coup and had penetrated deeply into the Turkish state. However, the emergency decrees were also used to target the pro-Kurdish opposition, even though Gulenists and the pro-Kurdish opposition were known to be hostile against each other. People's Democratic Party (HDP) and its sister party, Democratic Regions Party (DBP), which held the majority of the municipal offices in the predominantly Kurdish provinces and demonstrated significant opposition to Erdoğan's rule, came under

[13] The unforeseen event clause we investigate is not specific to the public procurement regulation of Turkey. Similar versions can be found in the procurement regulations of the EU countries, the UK, the US, etc. See, for example, Article 32(c) that regulates the use of the negotiated procedure without prior call for competition for reasons of extreme urgency in the EU Procurement Directive (European Parliament and Council of the European Union, 2014).

attack with the emergency decree-law no. 674 of 1 September 2016.[14] This decree amended the municipal law, allowing the government to replace elected mayors, deputy mayors, or council members with trustees appointed by the state authorities if there were charges against them about offenses of aiding and abetting terrorism and terrorist organizations.[15]

The replacement of the elected mayors started on September 11^{th}, 2016, with 24 mayors being sacked and continued throughout the state of emergency, removing 95 elected mayors out of 102 in two years (see the full list of trustee appointments in Appendix A.1).[16] Figure 1 shows the geographical distribution of the mayoral offices taken over by trustee mayors and those held by elected (AKP) mayors. Our region of interest hosts 254 municipalities located within 168 districts in 18 provinces. Out of the 254 municipalities in the pre-trustee appointments era, 102 (%40) were held by the pro-Kurdish party DBP and 96 (%38) by AKP.[17]

Figure 1: Municipal offices held by trustee and elected (AKP) mayors



Notes: The map shows the geographical locations of the mayoral offices held by the elected AKP mayors (Red Dots) and the centrally appointed trustee mayors (Blue Dots). The borders shown correspond to provincial borders.

[14] Official Gazette, September 1, 2016: https://www.resmigazete.gov.tr/eskiler/2016/09/20160901M2-2.htm

[15] Most of these charges were made under the rather far-reaching anti-terrorism law of Turkey. Transnational observers have repeatedly criticized this law due to "its broad and excessively vague definition of terrorism, organized crime and propaganda," arguing that it acts as "an instrument for the repression of internal dissent" (EU, 2016).

[16] The remaining seven municipalities are very small and did not grant any procurement contracts during our period of interest.

[17] Out of 95 (96) trustee-appointed DBP (AKP-held) municipalities, we drop one (nine) of them as it did not grant any contracts during our period of interest.

Table 1 reports the characteristics of AKP –*control*– and trustee-appointed DBP –*treatment*– municipalities prior to trustee appointments. Although DBP municipalities tend to be slightly more populous on average and host more business enterprises, these differences are not statistically significant.

Table 1: Balance on observable characteristics

Variable	Mean (Treated)	Mean (Control)	Difference	P-value
Demographic and economic characteristics				
Population	111773	133574	-21801	0.673
Share of college educated	0.06	0.06	0	0.853
No. of enterprises	4943.81	6147.49	-1203.69	0.596
Nightlight	-0.22	-0.21	-0.01	0.463
Procurement statistics				
Procurement spending (TL)	4560932	4425104	135828	0.892
No. of contracts	5.81	5.65	0.16	0.837
Share of unforeseen events	0.09	0.09	0	0.976
Share of sealed-bid auction	0.64	0.68	-0.04	0.078
Share of threshold clause	0.27	0.23	0.04	0.056
No. of municipalities	94	87		

Finally, our main region of interest, Southeast Turkey, has experienced armed conflict between the Turkish state and Kurdish militia forces since the 1980s (Ozsoy, 2013; Yarkin et al., 2015; Yegen, 2016). The frequency of armed conflict events fluctuates over time, with periods of escalation followed by more peaceful intervals. The years of trustee appointments, 2016-18, was one such quiet episode. The trustee appointments were merely based on alleged offenses of aiding or abetting terrorism before any trials or court decisions were made (Tepe and Alemdaroğlu, 2021). Instead, they have been widely perceived as manifestations of AKP's strategies to exert control over local regions, suppress opposition, and strengthen its hold on power (Whiting and Kaya, 2021; Tutkal, 2022). In support of this, OHCHR (2017) reports that "[i]n most cases, the 'trustees' were appointed immediately following the arrest of the democratically elected officials, indicating a high degree of coordination between the judiciary and the executive branches." Venice Commission of the Council of Europe also called the Turkish government "[t]o repeal the provisions introduced by the Decree Law N° 674 which are not strictly necessitated by the state of emergency, in particular concerning the rules enabling the filling of vacancies in the positions of mayor, vice-mayor, local council member, by the way of appointments" (EU, 2017), to no avail.

2.2 Getting to Know the Trustees: Governors in Turkish Central Administration

In Turkey, the local public administrative system functions through a dual structure: locally elected municipal authorities handle the local infrastructure and services like maintenance of urban roads, construction zoning, and water facilitation, while the appointed governors represent the central government at the provincial and district levels[18] with limited fiscal authority (Tan, 2020). The majority of the trustees in our sample are the governors of the same district in which they are appointed as trustee mayors, while the rest are either provincial governors (replacing the mayors of metropolitan municipalities) or their deputies. Provincial and district governors, known as *vali* and *kaymakam* in Turkish, respectively, act as intermediaries between the central authority and localities. Their responsibilities extend to various provincial and district administrative functions, including supervising local branches of central ministries and government agencies and ensuring coordination among state institutions in their areas. However, their direct obligations to the local population compared to elected mayors are limited to order and security at the local level (Çapar, 2015).

Governors are career bureaucrats, appointed for life through a centrally administered selection process overseen by the Ministry of Interior.[19] As long as they are deemed successful at their posts, they move up on a predetermined scale of district types, rotating every two or three years. Starting from the job interview stage, the governors are annually evaluated by their superiors within the Ministry of Interior throughout their career routes. These evaluations would form the basis of their promotions along the ranks, in which the final decision is the President's. As such, the profession is highly hierarchical, and career prospects are dependent on the governor's ability to appease their superiors, including the central government (Üstüner and Yavuz, 2022).

To sum up, both the nature of their responsibilities and career incentives suggest that the governors have limited accountability toward the local populations. In contrast, the elected mayors almost always are "home-grown" and have to be in good relations with the local elites and voters. On the other hand, they are accountable to the higher echelons of their parties. The candidates for a mayoral position are determined by the central executive committee of the respective party (Joppien, 2018). Even the elected and seemingly successful mayors have to be on good terms with the party executives. One recent glaring example in this vein was when Erdoğan forced the resignations of AKP mayors in six major cities, including those of

[18]Note that municipalities are nested in districts since the former only operates in urban areas. Districts are nested in provinces. For certain major provinces, municipal boundaries overlap with district boundaries. These major provinces are known as "metropolitan provinces." These metropolitan provinces also have metropolitan municipalities whose borders overlap with the respective province borders.

[19]Law on the Officers of Ministry of the Interior, 1930. Available here: https://www.mevzuat.gov.tr/MevzuatMetin/1.3.1700.pdf

İstanbul and Ankara, in 2017. Most of these mayors were deemed to be popular among the voters (Gall, 2017).

2.3 Public Procurement Regulations in Turkey

The current form of the public procurement law in Turkey was legislated in 2002, just before AKP came to power.[20] Aligned with EU Procurement Directives, this legislation establishes two primary procurement methods: the *sealed-bid* auction (open procedure) and the *negotiation* method (restricted procedure). Our analysis focuses on two specific provisions within Article 21 of the Public Procurement Law that grant significant discretionary power to procuring agencies and can only be used under certain conditions[21]

When the contracting administration uses the negotiation procedure for procurement via these two articles, it has the discretion to invite only select companies without the need to publicize the tender notice. This discretionary power comes with limited oversight, as the procurement documentation becomes available exclusively to invited parties. Furthermore, the law explicitly prohibits any objections to procurement outcomes from parties not initially invited to bid, effectively limiting external scrutiny of these decisions (Demircioğlu, 2014; Yıldırım, 2018).

Evidence of systematic abuse of these legal provisions emerged at the anecdotal level as early as 2008 (Gürakar and Meyersson, 2016). Demircioğlu (2014) documented how Turkish administrations frequently use the negotiation procedure in legally unjustified circumstances, characterizing such practices as clear violations of procurement law that often develop into corruption. Similarly, Yıldırım (2018) provided more recent evidence of continued abuse of these provisions. These observations align with our investigation into how centrally appointed trustee mayors altered procurement practices in affected municipalities compared to elected officials operating under the same legal framework.

Before presenting our empirical findings on the differential use of these legal provisions by elected versus appointed officials, we first detail our data sources and empirical strategy in the following section.

[20] From its first day in government, AKP resisted both the new public procurement law and the newly established independent regulatory agency, the Public Procurement Authority (PPA), albeit with little success initially (Ercan and Oguz, 2006). However, in subsequent years, successive AKP governments redesigned the procurement framework according to their needs. The PPA lost its independence and the ability to investigate possible corruption cases without formal complaints, while hundreds of amendments to the law were made beginning as early as July 2003, generally expanding exceptions and increasing discretionary powers for procuring agencies (Gürakar, 2016).

[21] To summarize, these conditions are: a) no bids received for an open/restricted procedure; b) unforeseen event clause; c) defense and security contracts; d) contracts that require a research and development process; e) contracts that have complex technical and financial characteristics; f) threshold clause. 96% of the contracts that are awarded via the negotiation method in our sample invokes either the unforeseen event or the threshold clause, which are our subjects of interest in this paper.

3 Data

We use a novel administrative dataset covering the universe of state contracts distributed in Turkey between 2011 and 2019. It provides detailed information at the contract level, including but not limited to contract awarding method; type of the procurement (*construction, goods,* or, *services*); industry code of the procurement; estimated cost of the procurement, price of the contract, and rebate value; name, district, and province of the procuring state agency; name of the contractor; and contract date. From this dataset, we use the contracts granted in the provinces where affected municipalities are located between the two local elections in 2014 and 2019.[22] [23]

We complement this contract-level dataset first with information on the trustee mayor appointments. These include the name of the municipality and appointment date of the trustees ranging between September 11^{th}, 2016 and August 29^{th}, 2018. Second, we complement it with administrative data from the Turkish Statistical Institute (*TURKSTAT*) on the number of business enterprises and population at the municipality level. Finally, we add nightlight data at the district level as a proxy for the level of economic development.[24]

Outcomes.—We focus on two sets of outcomes. Our first set of outcomes concerns the contract awarding method, i.e., whether the contract is awarded through the unforeseen event clause, threshold clause, or a sealed-bid auction. Using this information, we construct the following two outcome variables at the municipality level: i) the quarterly share of each contract awarding method, and ii) the quarterly share of spending with each contract awarding method based on contract prices.[25]

Our second set of outcomes measures the economic performance of mayors in public procurement based on contract terms. We specifically focus on *contract price*, *rebate*, and *estimated cost* of the procurement. *Contract price* indicates what the procuring entity pays to the contractor, i.e., the winning price. *Estimated cost* is calculated by the procuring entity before the contract awarding process based on the specifics of the purchase. *Rebate*, i.e. value for money, is the discount rate the procuring entity attains in contract awarding and is calculated as follows:

[22] The data is publicly available for individual queries on the webpage of the Turkish Public Procurement Authority (*Kamu İhale Kurumu*). The data set used in this paper is constructed by authors using web scraping tools.

[23] Table A.1 presents the number and average spending levels of contracts according to the awarding method and for different types of districts.

[24] Since there is no shapefile at the municipality level in Turkey, we instead use district shapefiles to calculate nightlight intensity in each district.

[25] The sealed-bid auctions are the most common contract awarding method in our sample. 65% of all contracts are awarded through sealed-bid auctions. The remainder is awarded with the (more discretionary) negotiation method justified through *unforeseen event* or *threshold* clauses.

$$\text{Rebate} = \frac{\text{Estimated Cost} - \text{Contract Price}}{\text{Estimated Cost}}$$

Higher rebate values are more favorable in terms of public interest as they imply that the procuring entity pays relatively little compared to the estimated cost of the purchase.

Main Variable of Interest.—We are specifically interested in how central takeovers affect the public procurement practices in local governments. Accordingly, our main explanatory variable is a binary indicator of whether a contract is awarded by an appointed trustee mayor as opposed to an elected mayor. We formally define it as follows:

$$\text{Trustee}_{m,t} = \begin{cases} 1 & \text{if municipality } m \text{ is governed by a trustee in quarter } t \\ 0 & \text{otherwise.} \end{cases}$$

Control Variables.—In certain specifications, we control for the number of business enterprises and population level at the municipality level, and the level of nightlight at the district level to proxy the economic development level of the area. We also include year, province, procurement type, and industry fixed effects in RDiT and OLS estimations. All standard errors are clustered at the municipality level.

4 Empirical Strategy

In this section, we first outline our main identification strategy, which relies on a staggered Difference-in-Differences (DiD) design. We then describe a complementary empirical strategy based on a Regression Discontinuity in Time (RDiT) approach.

4.1 Difference-in-Differences (DiD)

To estimate the effect of central takeovers on law abuse in local governments, our analysis makes a comparison of elected mayors to appointed trustee mayors in their uses of *unforeseen event* clause, *threshold* clause, and *sealed-bid auctions*. Specifically, we analyze how these two groups differ in the quarterly share of procurement spending allocated through each contract awarding method, using contract prices as the basis of comparison.

We use a staggered Difference-in-Differences (DiD) design to causally estimate these differences. Our DiD setting comprises multiple time periods, 16 quarters spanning two years before and two years after the treatment, with the treatment group consisting of 94 municipalities that were appointed trustees at different points in time and remain treated until the end of our analysis period. The never-treated control group consists of 87 municipalities governed by elected AKP mayors, all located in the same provinces as the treated

municipalities.[26]

Using this DiD setting and the estimation method by Dube et al. (2023), we estimate the following specification of a Local Projections Difference-in-Differences (LP-DiD):

$$Y_{m,t+h} - Y_{m,t-1} = \beta_h^{LP-DiD} \Delta Trustee_{mt} + \delta_t^h + \alpha' \mathbf{X}_{mt} + \epsilon_{mt}^h \text{ for } h = 0, ..., H, \quad (1)$$

where h denotes the time horizon; δ_t^h, time effects; and $\mathbf{X}_{mt}$, time-variant municipality level control variables that are population, number of enterprises, and level of nightlight. We estimate Equation 1 for each time horizon h by restricting our estimation sample to observations that are either newly treated ($\Delta Trustee_{mt} = 1$) or clean control ($\Delta Trustee_{m,t+h} = 0$) (Dube et al., 2023).[27] [28] These two conditions together ensure that, for each time horizon h, we compare observations that are first treated at time t with observations that are not treated at time $t+h$, hence avoiding the *bad comparisons*, and the resulting negative weights problem, which have been shown to be a major pitfall of two-way fixed effect (TWFE) regressions.[29]

In Equation 1, the coefficients β_h^{LP-DiD} represent the treatment effects at horizon h, i.e., h periods after the treatment. In Section 5, we report both time horizon-specific (dynamic) treatment effects, denoted by $\beta_h^{LP\text{-}DiD}$, and a pooled DiD estimate, denoted by β_{pooled}^{LP-DiD}. The pooled estimate is obtained by estimating Equation 1 using the dependent variable $\frac{1}{H+1}\sum_{h=0}^{H}(Y_{m,t+h} - Y_{m,t-1})$, which is the mean of post-treatment long-differenced outcomes. The resulting coefficient, $\beta_{\text{pooled}}^{LP\text{-}DiD}$, summarizes the average treatment effect over the entire post-treatment horizon.

Our main identification assumption for the causal interpretation of the estimated effects is that the treatment group would have followed a trend similar to that of the control group in the absence of trustee appointments, referred to as the *parallel trends assumption*.[30] To support the plausibility of this assumption, we analyze both the raw data and the DiD estimates.

[26] This unique setting enables us to compare elected and trustee mayors who have the same powers and who are aligned with the same ruling elite –*Erdoğan's regime*– net of horizontal accountability mechanisms such as judicial or media investigation.

[27] *Clean control* refers to the units that have not yet been treated. Our main analyses use a never-treated control group, while we replicate our findings with not-yet-treated control groups in robustness checks in Section 5.1.1.

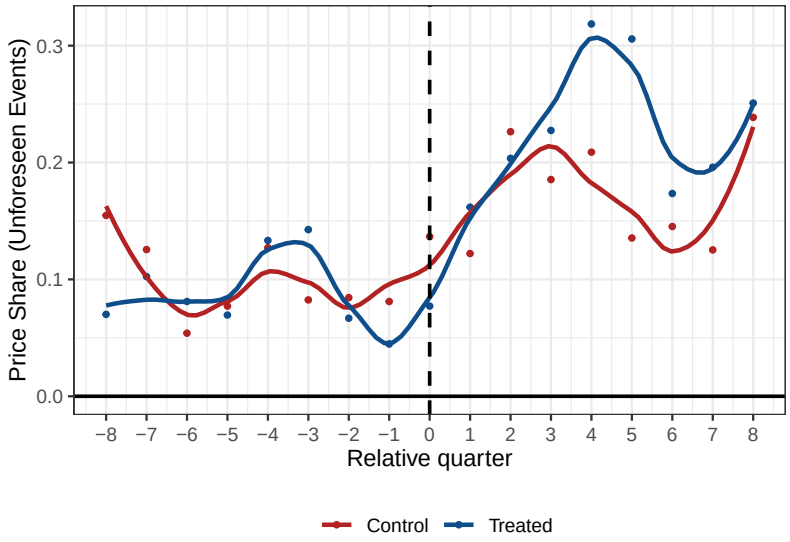
[28] We consider eight post-treatment periods (quarters) in our setting, corresponding to $H = 8$. To estimate pseudo-treatment effects in the pre-treatment period, we run the same specification for each lead $h = 0, -1, ..., -8$.

[29] See, e.g., among others, Callaway and Sant'Anna (2021), Sun and Abraham (2021), Dube et al. (2023), and Borusyak et al. (2024).

[30] Although the parallel trends assumption is not testable due to lack of the counterfactual, the standard practice is to run a pre-test of it. This implies testing whether treatment and control groups follow a similar trend in the pre-treatment era.

Specifically, we first plot the evolution of our main outcome in treatment and control municipalities before and after treatment in Figure 2. Treatment and control group municipalities follow similar trends in the pre-treatment era with small differences between the two. In the post-treatment era, on the other hand, both groups still follow parallel trends after the large increase in the treatment group during the first four quarters following the treatment, albeit also with large differences in the mean level of main outcome across the two groups. The raw data in Figure 2 supports the plausibility of parallel trends assumption and hint at a treatment effect that starts almost immediately after the treatment and stays persistent. Second, using our DiD estimates, we show in Section 5 that the pseudo-treatment effects –both time horizon-specific treatment effects and the pooled effect– in the pre-treatment era are not statistically significant from zero, further corroborating the plausibility of parallel trends assumption.

Figure 2: Outcome trends for treated and control municipalities



Notes: The figure plots the evolution of the main outcome of the analysis –*the share of spending with unforeseen events clause*– over time for treatment and control municipalities.

4.2 Regression Discontinuity in Time (RDiT)

We further validate our findings using an alternative identification strategy: Regression Discontinuity in Time (RDiT) design. Notably, this analysis uses a different sample than the DiD estimations. While the DiD estimations compare trustee-appointed BDP municipalities (treatment group) to AKP-governed municipalities (control group), the RDiT design focuses exclusively on trustee-appointed DBP municipalities and exploits a before-after comparison

around the timing of trustee appointments. We use optimal bandwidth and trianguler kernel in these estimations and report the corresponding results in Section 5.1.1.

The RDiT approach is appealing for three reasons in our setting. First, as the RDiT approach is based on a within-comparison of treated municipalities, we avoid the problem of endogeneous selection of treatment municipalities.[31] Second, the RDiT strategy allows us to use fine-grained data at the contract level. This helps us clearly demonstrate the sharp discontinuity at the trustee appointment dates. Third, the RDiT approach in our setting enables us to run a placebo test on the contracts awarded by the *special provincial* and *district administration*s, which are located in the same provinces or districts as the trustee-appointed municipalities and have similar mandate but were not affected by the trustee appointments.[32]

The main caveat of RDiT designs is that they cannot rule out the presence of a time confounder variable, i.e., a confounder variable that is perfectly correlated with the treatment timing. This caveat becomes especially concerning in settings where all treated units receive the treatment at the same time compared to a setting where treated units receive the treatment in different time periods. This is because, in the latter setting, the time confounder variable has to be separately correlated with several different treatment timings to confound the estimated effects, whereas in the former setting it is enough being correlated with the only treatment timing. Alternatively, one can also argue that the former setting exploits only one natural experiment whereas the latter setting combines several natural experiments. Our setting includes 11 different trustee appointment dates over the span of two years, and hence combines 11 natural experiments. This staggered treatment adoption in our setting makes it highly unlikely that the results are driven by a time-variant confounder, since any potential time-variant confounder needs to be perfectly correlated with 11 different trustee appointment dates.

[31] Note, however, that our DiD approach does not require the random treatment assignment assumption but the parallel trends assumption. Hence, differences in the pre-treatment levels of main outcomes and municipality characteristics would not pose a threat to the DiD strategy *per se*.

[32] In Turkey, provincial and district special administrations (*İl ve İlçe Özel İdareleri*, in Turkish) deliver local public services primarily in areas outside municipal boundaries, though some responsibilities overlap with municipalities in shared jurisdictions. They have broad authorities spanning youth and sports, health, agriculture, industry, commerce, environmental planning, housing, social services, culture, and education—with their primary focus being rural areas where municipalities have no presence. These administrations also manage critical infrastructure including roads, water supply, sanitation, waste management, and emergency response services. Provincial special administrations are governed by a three-tiered structure: the provincial governor (*vali*) who serves as the executive head, the provincial council (*il genel meclisi*) composed of elected representatives, and the provincial executive committee (*il encümeni*) that handles administrative decisions. There is a similar structure in district special administrations, which are headed by district governors (*kaymakam*).

5 Results

In this section, we first present our main analysis and results in Section 5.1. We then provide our results regarding the economic cost of central takeovers in Section 5.2. Finally, in Section 6, we probe the underlying mechanisms that help explain our results.

5.1 Main Analysis

We start by estimating the group-time average treatment effects on quarterly share of spending with each contract awarding method based on contract prices, using a staggered Difference-in-Differences (DiD) design (Dube et al., 2023).

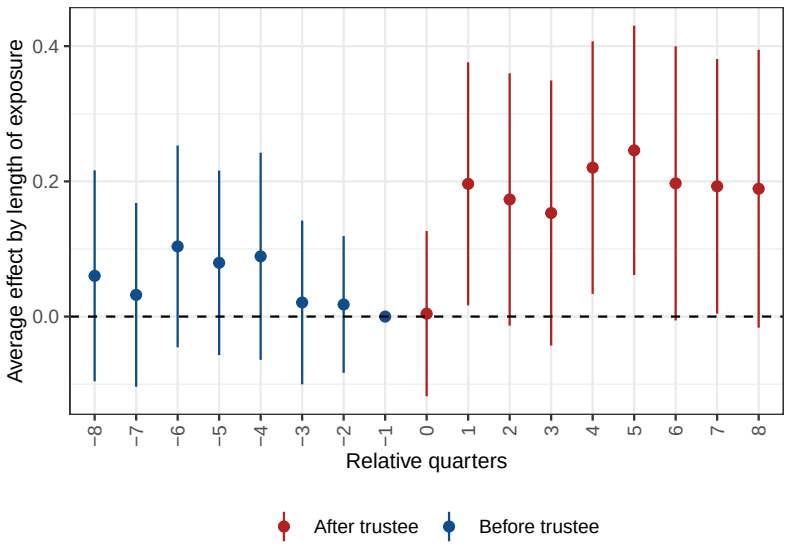
To investigate the dynamic effects and assess the plausibility of parallel trends assumption, we first plot the time-horizon-specific treatment effects. Figures 3 and 4 plot these dynamic effects by the length of exposure to the treatment, i.e., *relative quarter*. According to Figure 3, before trustee appointments, the treatment and control groups do not differ significantly from each other in the share of contracts awarded with the unforeseen event clause relative to the baseline quarter, which is one quarter before the appointment of trustees, giving credibility to our DiD design. In contrast, after trustee appointments, the use of unforeseen event clause by trustee-appointed municipalities start to increase, and this effect persists for 2 years.

Figure 4 reveals a consistent reversed pattern for the share of contracts awarded with sealed-bid auctions. Specifically, the treatment and control municipalities do not differ before trustee appointments. After trustee appointments, however; the share of contracts awarded by sealed-bid auction declines significantly for the trustee-appointed municipalities. Similarly, the effects persist for 2 years. Figure A.2 in the Appendix reports the dynamic effects for the threshold clause, for which we do not find any difference between the treatment and control municipalities either before or after the treatment. Note that the standard errors are clustered at the municipality level.

We then pool these dynamic effects into pooled pre- and post treatment effects as explained in Section 4.1. Table 2 presents the results regarding our first outcome, *quarterly share of contracts* awarded with each contract awarding method, using two models, with and without controls. The first two models report the share of contracts awarded with unforeseen event clause, which is normally reserved for situations of extreme urgency and allows procuring entity to exercise more discretion in contract awarding. Trustee mayors use this clause significantly and substantially more than their elected AKP counterparts. Specifically, trustee mayors invoke this clause 24 percentage points more than the elected mayors, which is a substantial effect considering the control group mean (0.14).

The increase in the share of contracts awarded with unforeseen event clause comes at

Figure 3: Dynamic effects: share of spending with the unforeseen event clause based on contract prices



Notes: The figure plots the dynamic effects from staggered DiD estimations using Dube et al. (2023) based on length of exposure to the treatment. The outcome variable is the quarterly price share of contracts awarded with the unforeseen event clause. Controls include population, number of enterprises and shares of construction and goods sectors in total procurement spending at the municipality level, and the level of nightlight at the district level.

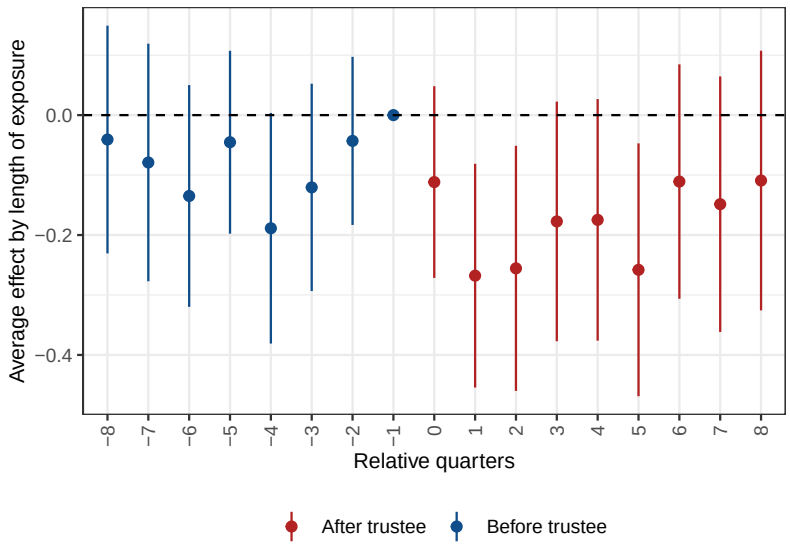
the expense of –more competitive– sealed-bid auctions. Trustee mayors award much fewer contracts with the competitive sealed-bid auctions compared to the elected mayors. Columns 3 and 4 in Table 2 show this clearly: trustee mayors award contracts through sealed-bid auctions 21 percentage points less than the elected mayors, whose mean share of contracts awarded with sealed-bid auctions is 0.66.

We next report on how much elected and trustee mayors differ in their use of threshold clause. This clause allows procuring entities to bypass the sealed-bid auction and use the more discretionary negotiation method for small purchases below a certain threshold. Columns 5 and 6 in Table 2 show that trustee mayors are statistically not different from the elected mayors in their use of threshold clause of the procurement law.

The absence of such difference does not necessarily mean that the officials do not abuse this clause. To further analyze the case of threshold clause, we focus on cost manipulation practices, i.e., manipulation of the estimated cost to keep it just below the threshold value. To test whether public officials have been engaging in such cost manipulation, we normalize the estimated cost of contracts, dividing it by the corresponding threshold value.[33] Figure 5 plots

[33]The threshold values are annually decided by the Public Procurement Authority in Turkey. We divide the estimated cost of each contract by the threshold value announced for the same year.

Figure 4: Dynamic effects: share of spending with sealed-bid auction based on contract prices



Notes: The figure plots the dynamic effects from staggered DiD estimations using Dube et al. (2023) based on length of exposure to the treatment. The outcome variable is the quarterly price share of contracts awarded with sealed bid auction. Controls include population, number of enterprises and shares of construction and goods sectors in total procurement spending at the municipality level, and the level of nightlight at the district level.

the density distribution of the contracts granted by elected and trustee mayors. The dashed gray line corresponds to the mass point where the estimated cost of the contracts equals the threshold value. Figure 5 shows evidence of bunching just before the threshold values, both by elected and trustee mayors. In sum, both types of mayors engage in substantial cost manipulation to gain more discretion in contract awarding.[34]

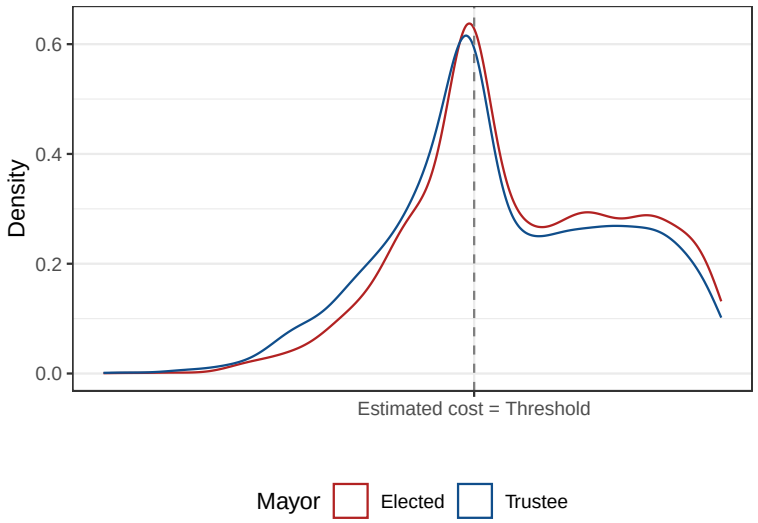
[34]We also show that trustee mayors are similar to elected DBP mayors –whom they replaced– in terms of cost manipulation. See Figure A.3 in the Appendix.

Table 2: Pooled DiD estimates: quarterly share of spending based on contract prices

	Unforeseen events		Sealed-bid auctions		Threshold clause	
Pre-treatment						
	(1)	(2)	(3)	(4)	(5)	(6)
Trustee	0.034	0.081	0.011	−0.030	−0.051	−0.063
	(0.060)	(0.067)	(0.082)	(0.086)	(0.055)	(0.055)
Controls	No	Yes	No	Yes	No	Yes
Num.Obs.	91	91	91	91	91	91
Post-treatment						
	(1)	(2)	(3)	(4)	(5)	(6)
Trustee	0.214**	0.241***	−0.184**	−0.205**	−0.062	−0.067
	(0.081)	(0.077)	(0.088)	(0.084)	(0.061)	(0.061)
Controls	No	Yes	No	Yes	No	Yes
Control group mean	0.14	0.14	0.66	0.66	0.19	0.19
Num.Obs.	254	254	254	254	254	254

Notes: The table reports the pooled estimates from pre- and post-treatment periods using Dube et al. (2023). Control variables in columns (2), (4), and (6) include population, number of enterprises, and shares of construction and goods sectors in total procurement spending at the municipality level, and the level of nightlight at the district level. Standard errors are clustered at the municipality level. $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Figure 5: Cost manipulation for more discretion: elected vs. trustee mayors



Notes: The figure plots the density distributions of estimated cost of contracts under elected (AKP) and trustee mayors. The dashed line corresponds to the threshold value below which the procuring authority attains more discretion in contract awarding process.

5.1.1 Robustness Tests

We conduct a series of analyses to show the robustness of our results to alternative assumptions, control groups, and identification strategy. First, we report estimates from models with and without control variables. Accordingly, Table 2 shows that pre-treatment effects are small and statistically not significant in both models, while post-treatment effects remain stable even when control variables are included in the estimation.

Second, we test the robustness of our results to the specification of the control group. Our main analysis uses a control group of municipalities that have never been treated, i.e., that have never been appointed a trustee mayor. Alternatively, we use the not-yet-treated municipalities as the control group. Doing so includes the pre-treatment observations of the trustee-appointed municipalities in the control group. As shown in Table A.2 in the Online Appendix, our results remain both qualitatively and quantitatively similar.

Third, we show robustness of results to the baseline period choice, i.e., the second subscript of the term $Y_{m,t-1}$ in Equation 1. Our main analyses, reported in Table 2 and Figures 3 and 4, use the last quarter before the treatment (i.e., $t-1^{th}$ quarter) as the baseline period. We alternatively use the last four quarters before the treatment as the baseline for DiD estimations. The results, reported in Table A.3, are in line with the main results.

Finally, we use an entirely different empirical strategy and estimation method. We compare trustee mayors with the mayors whom they replaced (elected DBP mayors) in a before/after-trustee comparison using a Regression Discontinuity in Time (RDiT) design (Hausman and Rapson, 2018), reported in Table 3. Our running variable in this setting is the number of days relative to the trustee appointment date with the cut-off value normalized as 0. Accordingly; treated units fall to the right of the cut-off, whereas non-treated units fall to the left. For estimation, we follow Calonico et al. (2015) and use a non-parametric approach with a triangular kernel and allow for different bandwidths at different sides of the cut-off. On each side, we use optimal bandwidths that minimize the mean-squared error (MSE).

Table 3: Regression discontinuity in time (RDiT) estimates

	Unforeseen events		Sealed-bid auctions		Threshold clause	
	(1)	(2)	(3)	(4)	(5)	(6)
Trustee mayor	0.233***	0.239***	−0.403***	−0.333***	−0.015	−0.006
	(0.085)	(0.067)	(0.113)	(0.074)	(0.068)	(0.062)
Num.Obs.	7879	7879	7879	7879	7879	7879
Num.Obs.Effective.Left	1214	638	529	527	621	692
Num.Obs.Effective.Right	509	680	438	651	1405	1056
Covariates	No	Yes	No	Yes	No	Yes
Year FE	No	Yes	No	Yes	No	Yes
Province FE	No	Yes	No	Yes	No	Yes
Procurement type FE	No	Yes	No	Yes	No	Yes
Industry FE	No	Yes	No	Yes	No	Yes
Kernel	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular
Pre-trustee mean	0.1	0.1	0.74	0.74	0.16	0.16

Notes: The table reports estimates obtained from RDiT estimations using Calonico et al. (2015) with triangular kernel and optimal bandwidths which are allowed to differ between two sides of the cut-off. The dependent variables are binary indicators of whether the contract is awarded with the respective contract awarding method. Controls include population and number of enterprises at the municipality level, and the level of nightlight at the district level. *Procurement type FE* indicates the type of the procurement: goods, services, or construction. *Industry FE* variable indicates the industry code of the procurement and include 44 levels. Standard errors are clustered at the municipality level. Optimal bandwidths range from 157 to 217 days. $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

We present the results from our RDiT analyses in Table 3.[35] This analysis compares the state contracts granted by trustee mayors and elected DBP mayors whom they replaced. Remarkably, the bias-corrected robust RDiT estimates show very similar results to our main DiD estimates, proving the robustness of our results to an entirely different identification strategy. In particular, trustees are more likely to use the unforeseen event clause compared to the elected DBP mayors by around 24%. Similarly, they are less likely to distribute state contracts with sealed-bid auctions by around 33%. In line with the main results, we do not find a difference in the use of threshold clause. We report results with the alternative -manually chosen- bandwidth in Table A.4 in the Online Appendix.

5.1.2 Placebo Test

To further strengthen the causal claim of our results, we conduct a placebo test using contracts awarded by the special provincial and district administrations. Like municipalities, these administrations are responsible for delivering local public services outside of municipal jurisdictions but within the same provincial and district jurisdictions (see Footnote 32 for details). We match each provincial and district special administration to the trustee-appointed

[35] See Figures A.4, A.5, and A.6 in the Online Appendix for the regression discontinuity (RD) plots.

municipality in the same province/district as this special administration. We designate the placebo treatment timing of these special administrations as the trustee appointment date of the matched municipality.

If our results were driven by unobserved shocks that coincided perfectly with trustee appointments at the municipal level, we would expect to observe similar effects in the procurement behavior of these special administrations. Such a scenario is highly unlikely, as it would require a set of shocks perfectly aligned with eleven distinct trustee appointment dates across a two-year period. Nonetheless, the placebo test serves as an additional robustness check to assess the validity of our identification strategy.

We apply the same RDiT specifications used in Table 3 and report the results in Table 4. As expected, we find no statistically significant treatment effects in any specification. The estimated coefficients are substantially smaller in magnitude and statistically indistinguishable from zero, in stark contrast to the main results. Moreover, regression discontinuity plots presented in the Online Appendix (Figures A.7, A.8, and A.9) show no statistically significant discontinuity at the placebo treatment threshold across contract awarding methods, further reinforcing the credibility of our causal claims.

Table 4: Regression discontinuity in time (RDiT) placebo estimates using the contracts of special administrations in the trustee-appointed districts

	Unforeseen events		Sealed-bid auctions		Threshold clause	
	(1)	(2)	(3)	(4)	(5)	(6)
Trustee mayor	−0.057	−0.002	−0.071	−0.081	−0.006	−0.037
	(0.040)	(0.039)	(0.159)	(0.064)	(0.036)	(0.032)
Num.Obs.	3422	3422	3422	3422	3422	3422
Covariates	No	Yes	No	Yes	No	Yes
Year FE	No	Yes	No	Yes	No	Yes
Province FE	No	Yes	No	Yes	No	Yes
Procurement type FE	No	Yes	No	Yes	No	Yes
Industry FE	No	Yes	No	Yes	No	Yes
Kernel	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular
Num.Obs.Effective.Left	640	530	777	478	447	410
Num.Obs.Effective.Right	478	154	468	246	661	172

Notes: The table reports estimates obtained from RDiT estimations using Calonico et al. (2015) with triangular kernel and optimal bandwidths which are allowed to differ between two sides of the cut-off. The dependent variables are binary indicators of whether the contract is awarded with the respective contract awarding method. Controls include population and number of enterprises at the municipality level, and the level of nightlight at the district level. *Procurement type FE* indicates the type of the procurement: goods, services, or construction. *Industry FE* variable indicates the industry code of the procurement and include 44 levels. Standard errors are clustered at the special provincial and district level. $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

5.2 Economic Consequences

Although trustees grant state contracts with more discretion than their elected counterparts by abusing the procurement law, a strand of literature suggests that more discretion might result in better procurement outcomes and be in fact good for the public (see, e.g., Coviello et al., 2018; Decarolis et al., 2020). In this section, we analyze whether and how much the documented cases of law abuse and the resulting increased discretion costs to the public. We focus on two outcomes to understand the economic effects of increased discretion: contract price and rebate. The mean rebate value in our sample is 19%, meaning that the public enjoyed 19% discount relative to the estimated cost. The mean contract price is $509,000 (in 2010 dollars).

When we specifically focus on contracts granted by trustee mayors, the mean rebate values are 16% and 24% in contracts granted with the unforeseen event clause and sealed-bid auction, respectively. In other words, the procuring public agency attains significantly less discount when the trustee mayors grant contracts using the unforeseen event clause. Similarly, while the resulting mean contract price for contracts granted with sealed-bid auction is $484,000, it increases to $518,000 when the unforeseen event clause is used, bringing about a 7% increase.

In Table 5, we investigate the economic effects mentioned above in a regression framework. Specifically, we focus on contract price and rebate, and compare how much these outcomes change when, instead of sealed-bid auctions, the unforeseen event clause is used separately under trustee and elected mayors. Under trustee mayors, the contracts granted with the unforeseen event clause leads to a 9.5 percentage points decrease in rebate compared to the contracts granted with sealed-bid auctions. This translates into a 40% decrease in rebate compared to sealed-bid auctions. Contract prices, on the other hand, increase by around 24%. These effects translate into an economic magnitude of $100 million (6% of the total spending via procurement in the affected municipalities), which could have been saved had the trustee mayors not abused the unforeseen event clause and granted the contracts with sealed-bid auctions instead.

Table 5: OLS estimates for contract terms: trustee and elected (AKP) samples

	Trustee sample		Elected (AKP) sample	
	Price (log)	Rebate	Price (log)	Rebate
Ref.level: Sealed-bid auction				
Unforeseen events	0.216**	−0.095***	−0.044	−0.081***
	(0.099)	(0.010)	(0.116)	(0.011)
Threshold clause	−0.803***	−0.115***	−0.993***	−0.090***
	(0.058)	(0.013)	(0.071)	(0.012)
Covariates	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Province FE	Yes	Yes	Yes	Yes
Procurement type FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Num.Obs.	4322	4312	3581	3567

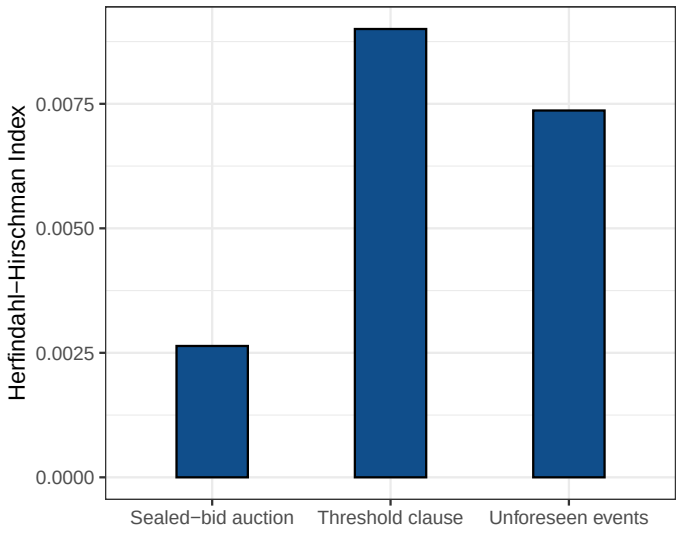
Notes: The table reports results from OLS estimations. The dependent variable are contract price (in TL, in real terms, in log) and rebate. The main explanatory variable is the contract awarding method and the its reference level is the *Sealed-bid auction*. Trustee sample includes the contracts awarded only by trustee mayors. Elected (AKP) sample includes contracts awarded by elected (AKP) mayors after the first trustee appointment. Covariates include population and number of enterprises at the municipality level, and the level of nightlight at the district level. *Procurement type FE* indicates the type of the procurement: goods, services, or construction. *Industry FE* variable indicates the 2-digit industry code of the procurement and has 44 levels. Standard errors are clustered at the municipality level. $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Under elected mayors, we do not find any price difference between contracts granted with the unforeseen event clause and sealed-bid auctions. We, however, do find that rebate decreases by 8 percentage points when they grant the contract with the unforeseen event clause instead of sealed-bid auctions. Together with our main results, these findings suggest that the elected mayors use the unforeseen event clause much less often than the trustee mayors. When they do use it, however; the associated economic cost is smaller.

We finally investigate the shifts in *contracts market concentration* when trustee mayors exert more discretion by invoking either the unforeseen event or the threshold clause. To this end, we compute the Herfindahl-Hirschman Index (HHI) by squaring the sum of individual contractors' shares in the contracts awarded by trustee-run municipalities. An HHI of 0 indicates a perfectly competitive market, whereas an HHI of 1 indicates a monopolized market. Figure 6 shows the HHI values for contracts separately for each auction method. Contracts granted with greater discretion, either via the unforeseen event or threshold clause, exhibit an HHI nearly two times higher than those obtained through sealed-bid auctions, indicating a pronounced recurrence of specific contractors and a reduction in competition.[36]

[36]We report the HHI indices for the sets of contracts granted by elected AKP and DBP mayors in Figure A.10 in the Appendix. The trustee, AKP, and DBP mayors exhibit comparable levels of HHI for contracts

Figure 6: HHI in trustee-run municipalities



Notes: The figure plots the Herfindahl-Hirschman Index (HHI) of the *contracts market* in trustee-appointed municipalities for each auction method in the post-treatment era. HHI is calculated as the squared sum of each contractor's share in the state contracts, separately, for each auction method. An HHI of 0 indicates a perfectly competitive market, whereas an HHI index of 1 indicates a monopolized market where all contracts are granted to one specific contractor.

6 Unpacking Mechanisms

In this section, we examine a range of potential mechanisms proposed in the literature that could account for the observed differences in procurement behavior between elected mayors and centrally appointed (trustee) mayors. We begin by assessing several alternative explanations—such as increased discretion, conflict zones, economies of scale, or budgetary advantages—and evaluate their empirical relevance in our setting. We then turn to our preferred explanation: the absence of local electoral accountability for trustee mayors, and present evidence in support of this mechanism in Section 6.2.

6.1 Potential Mechanisms

In most central takeover contexts, multiple institutional and political changes occur simultaneously, making it difficult to isolate the mechanisms driving the observed outcomes. Centralization reforms often involve broader geographic mandates, increased administrative au-

awarded with sealed-bid auctions. The HH indices increase more under elected AKP and DBP mayors compared to trustee mayors, especially when they invoke the unforeseen event clause, indicating a reduction in competition. However, note that the unforeseen event clause is exploited much less often by elected AKP and DBP mayors compared to trustee mayors.

thority, or formal budgetary reallocations, all of which can influence procurement practices through different channels. However, in our setting, the takeover entails only a change in the individual occupying the mayoral office, replacing an elected mayor with an appointed governor, without altering the legal or formal fiscal authority of the municipality. This institutional continuity limits the number of plausible mechanisms and allows for a more focused empirical investigation. Nevertheless, we still examine the possibility that trustee mayors benefit from de facto budget expansions or other benefits of centralization.

Politician discretion and improved service quality. The first candidate mechanism is related to a central debate in political economy: whether greater discretion exercised by politicians enhances the quality of procurement, also known as the *efficient grease hypothesis* (see, e.g., Mironov and Zhuravskaya, 2016; Coviello et al., 2018; Decarolis et al., 2020). In our case, this implies that the centrally appointed trustee mayors utilized legal provisions, such as the unforeseen event clause, to deliver better quality services. Although direct measures of procurement quality are not available, we provide suggestive empirical evidence below that casts doubt on this explanation.

Our first analysis relies on the presumption that if trustee mayors delivered better quality services by using more discretion in contract awarding, then we should observe a higher estimated cost for a purchase when it is awarded through the unforeseen events clause than when it is awarded through a sealed-bid auction.[37] To check whether this has been the case, we compare estimated costs for similar contracts classified according to procurement type and industry codes at two levels of granularity: (i) 2-digit industry codes (44 sectors) and (ii) 3-digit industry codes (181 sectors). Table 6 shows that the estimated costs, within procurement types and industries, do not differ significantly between contracts awarded via the unforeseen event clause and those awarded through sealed-bid auctions, neither for trustee nor for elected mayors. This absence of a meaningful difference in estimated costs suggests that increased discretion under trustee mayors does not translate into measurable improvements in procurement quality-at least to the extent that estimated costs can serve as a proxy for quality.

We also note that the estimated costs of contracts awarded through the threshold clause are systematically lower than those awarded via sealed-bid auctions. This difference arises for two reasons. First, the threshold clause is legally restricted to relatively small procurements, which mechanically lowers the estimated costs for contracts awarded under this provision. Second, this observed decrease in estimated costs likely reflects strategic manipulation around

[37]Note that the estimated cost of the procurement is calculated by the procuring agency prior to the contract awarding process. Therefore, when higher quality goods/services/projects are contracted instead of regular ones, they would have a higher estimated cost. The calculations are based on the unit costs of items decided annually by the Public Procurement Authority.

the threshold limit: procurers may artificially reduce estimated costs or divide contracts into smaller lots to qualify them for awarding under the threshold clause, as our results in Figure 5 suggest.

Next, we conduct an analysis similar to that presented in Table 6 to examine how increased mayoral discretion -exercised through the unforeseen events clause- affects competition in the procurement process. Table A.6 in the Online Appendix shows that the number of bidders decreases substantially when the contract is awarded through the unforeseen events compared to when contract is awarded through a sealed-bid auction. Reduced competition is thus a salient consequence of increased discretion in awarding contracts through this clause.

Finally, knowing that the contracts awarded through unforeseen event clause cost more to the public and that trustee mayors use this clause more often (see Table 5 and 2), we compare trustee mayors to the elected mayors -whom they replaced- in estimated cost of the contract, estimated duration of the contract, and the number of bidders in the contract awarding process, when both types of mayors grant the contracts with unforeseen event clause. We estimate these differences using our RDiT approach that we describe in Section 4.2. The results, reported in Table A.5 in the Online Appendix, show no difference in the estimated cost of the contracts, again casting doubt on the possibility that trustee mayors pursue higher-quality procurement. On the contrary, estimated contract durations increase by 2-3 months under trustee mayors indicating slower public service delivery. Meanwhile, results regarding the number of bidders (Columns 5 and 6 in Table A.5) are inconclusive; we find no consistent evidence that trustee mayors' use of the unforeseen events clause affects competition differently than elected mayors' use.

In sum, our analysis provides the following key insights: i) trustee mayors use the unforeseen events clause significantly more often than elected mayors, ii) contracts awarded through the unforeseen events clause cost more to the public (in terms of price paid by the public for the contract) regardless of the type of the mayor, iii) estimated costs of contracts awarded via the unforeseen events clause by trustee mayors do not differ significantly from those awarded by elected mayors, further weakening the argument that trustee mayors pursue higher-quality procurements, and finally, iv) contracts awarded via the unforeseen events clause under trustee mayors exhibit significantly longer estimated durations compared to those awarded by elected mayors, signaling slower service provision, contrary to the logic of the unforeseen events clause, which is intended to facilitate quicker procurement.

These findings collectively imply that increased use of discretionary procedures by trustee mayors likely reduces procurement efficiency and slows down service delivery, rather than enhancing quality.

Adverse selection of governors. Another alternative mechanism is the adverse selection

Table 6: OLS estimates for estimated cost: trustee and elected (AKP) samples

	Dept. Variable: Estimated cost (log)			
	Trustee sample		Elected (AKP) sample	
	(1)	(2)	(3)	(4)
Ref.level: Sealed-bid auction				
Unforeseen events	0.081	0.050	−0.145	−0.126
	(0.103)	(0.113)	(0.112)	(0.114)
Threshold clause	−0.970***	−0.947***	−1.135***	−1.179***
	(0.066)	(0.076)	(0.068)	(0.082)
Covariates	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Province FE	Yes	Yes	Yes	Yes
Procurement type FE	Yes	Yes	Yes	Yes
Industry FE (2-digit)	Yes	No	Yes	No
Industry FE (3-digit)	No	Yes	No	Yes
Num.Obs.	4322	4322	3581	3581

Notes: The table reports results from OLS estimations. The dependent variable is the estimated cost of the contract (in TL, in real terms, in log). The main explanatory variable is the contract awarding method and the reference level of it is the *Sealed-bid auction*. Trustee sample includes the contracts awarded only by trustee mayors. Elected (AKP) sample includes contracts awarded by elected (AKP) mayors after the first trustee appointment. Covariates include population and number of enterprises at the municipality level, and the level of nightlight at the district level. *Procurement type FE* indicates the type of the procurement: goods, services, or construction. *Industry FE (2-digit)* and *Industry FE (3-digit)* variables indicate the industry code of the procurement and include 44 and 181 levels, respectively. Standard errors are clustered at the municipality level. $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

of governors as trustee mayors. In other words, if the governors who were appointed as trustee mayors -*trustee governors*- were "bad apples" to start with, this could explain the observed differences in contract awarding practices (Leon, 2013). We test this adverse selection mechanism by comparing contracts granted by trustee mayors in their governorship offices to the contracts granted by other similarly ranked governors in Turkey. The results, presented in Table A.9 in the Appendix, show that trustee governors were not different than their fellow governors in terms of their use of the unforeseen event clause, threshold clause, and sealed-bid auction method. It is therefore not likely that the adverse selection of governors explaining the differences we observe between trustee mayors and elected AKP mayors.

Natural disasters. One could also argue that trustee mayors might be using the unforeseen event clause more often due to a larger number of natural disasters in their jurisdictions. To investigate this possibility, we check whether trustee-run municipalities suffered more natural disasters during the analyzed period. According to the International Disaster Database

(EM-DAT),[38] no natural disasters were recorded in the region (where trustee-appointed and elected-mayor municipalities are located) during our period of analysis.

Spillovers from the first appointments. We consider whether the effects we estimated might be due to the spillovers from the first batch of trustee appointments. This would be the case if the elected mayors from DBP –who were not sacked yet– changed their behavior after witnessing the first set of appointments. Nevertheless, the dynamic effects in pre-treatment periods reported in Figures 3, 4, and A.2 do not support this narrative as the never-treated control group and to-be sacked DBP mayors follow parallel trends until the trustees take over.

Conflict in the region. Another alternative explanation of our results concerns the levels of violence in the region of interest, which has a history of armed conflict. We present four different pieces of evidence, each ruling out this alternative explanation in their own right. First, although the procurement law grants the procuring agencies with a distinct clause that justifies the more discretionary negotiation method for purchases regarding security, this clause is rarely used by mayors: only 1% of all contracts are granted with this clause in the region.

We then conduct three additional tests. First, we run our analysis on a sample of geographically-matched municipalities. We match each trustee-appointed municipality to the three closest neighboring municipalities. This geographically matched sample ensures that treated and control municipalities experience similar levels of violence as the violent events typically take place in rural areas outside the municipal boundaries. The results from the geographically matched sample are substantively similar to our main DiD results, reported in Table A.10 in the Online Appendix. Second, we repeat our main analysis by omitting municipalities that experienced armed conflicts within their urban centers during the heightened period of violence in 2015, commonly referred to as the *Hendek* incidents in Turkiye (Table A.11 in the Online Appendix). These results are also substantively similar to our main findings.

We conclude by examining whether trustee mayors exploit the unforeseen event clause to expedite project completion. Our data includes the estimated duration of each project. If urgency related to security concerns influences the decisions of trustee mayors to invoke the unforeseen event clause, we would expect to see shorter estimated contract completion times. We previously showed that compared to the contracts of the elected mayors they

[38] EM-DAT accepts an event as a disaster if any of the following three holds: there are at least ten deaths because of the event, 100 or more people are affected/injured or become homeless, there is a declaration by the country of a state of emergency and/or appeal for international assistance. See https://public.emdat.be/data for more details.

replaced, those of trustee mayors are longer in terms of estimated duration (see Table A.5). Compared to the control municipalities governed by the AKP, there is no significant difference in the estimated project duration between the trustee municipalities when both invoke the unforeseen event clause, as shown in Table A.13.

Gains from centralization. Finally, we evaluate two additional alternative mechanisms: whether trustee mayors achieve improved procurement outcomes by leveraging economies of scale or by utilizing larger procurement budgets. Note that even if these factors were present, they would not directly explain the increased use of the unforeseen events clause and the associated higher costs. We first test whether contract terms improve under trustee mayors compared to elected mayors when both employ sealed-bid auctions. As reported in Table A.7 in the Online Appendix, we find no significant differences in either contract prices or value for money. Taken together, our results do not provide empirical support for the benefits of centralization, consistent with the theoretical prediction of Auriol and Dahmani-Scuitti (2025).

We also investigate whether centrally appointed mayors benefit from larger procurement budgets allocated by the central government. To assess this possibility, we conduct our main DiD analysis using total municipal procurement spending as the outcome variable. The results reported in Table A.12 in the Online Appendix indicate that central takeovers increase quarterly procurement spending by only 4% in treated municipalities relative to control municipalities, which limits the explanatory power of this budget-based mechanism.[39]

6.2 Removal of Local Accountability

In this section, we assess the plausibility of the local accountability mechanism –our preferred explanation– in driving the observed differences between elected and appointed trustee mayors. Unlike elected mayors, appointed trustees are not accountable downward to local voters but rather upward to the central political authorities responsible for their appointment and dismissal. As a result, they face significantly weaker electoral pressures, which diminishes incentives to align their actions with local preferences.

To evaluate whether this has been an effective mechanism, we present four pieces of suggestive evidence. First, we assess whether trustee mayors had any electoral ambitions by examining their candidacy in subsequent local or national elections. According to official records from the Higher Election Board (*YSK*), the authority responsible for elections in

[39] We acknowledge the possibility that the central government could also support trustee mayors through alternative channels, such as allowing additional hires or easing financing constraints, which we cannot directly investigate due to data limitations. However, even if such complementary support methods exist, these would not diminish the importance of our results on irregularities in public procurement, the primary channel for resource allocation at the local level.

Turkey, only four of the 95 trustee mayors in our sample ran for election after their tenure as trustees. This strongly suggests that trustee mayors generally did not have electoral accountability considerations in mind during their trusteeship.[40] Second, reinforcing the first point, none of the other candidates who competed in the 2019 local elections had held positions equivalent to those of the trustee mayors—district, provincial, or vice governorship—indicating that career transitions from governorship to elected municipal office are rare in Turkey. Taken together, these findings provide robust evidence that trustee mayors were largely insulated from local electoral accountability.

Third, our earlier findings on procurement behavior offer additional support for the– lack of– local accountability mechanism. Specifically, we documented that i) trustee mayors abuse the unforeseen event clause much more than elected mayors, and ii) trustee and elected mayors similarly manipulate costs around the threshold clause to gain discretionary flexibility in awarding small-value contracts. The contrast in these behaviors is instructive.

These patterns align with previous literature showing that electoral accountability deters politicians from engaging in misconduct that is easily detectable by the public (e.g., Ferraz and Finan, 2011; Lockwood et al., 2022). In our context, the unjustified use of the unforeseen events clause is easily observable by voters and the media through the publicly accessible electronic procurement platform maintained by Turkey's Public Procurement Authority.[41] In contrast, manipulation around the threshold clause is far subtler and less visible to the public. To show cost manipulation, one needs to gather all public contracts by the procuring agency and use statistical methods to see whether bunching exists in the distribution of procurement costs just below the threshold, as demonstrated in this paper. Thus, consistent with theoretical predictions, trustee mayors, who are less constrained by electoral accountability, engage more heavily in the more visible abuse of the unforeseen events clause compared to the elected mayors.

Finally, we examine changes in the composition of municipal procurement spending under trustee appointments, specifically analyzing spending shares allocated to construction, goods, and services. Results reported in Figures A.11, A.12, and A.13 in the Appendix indicate a noticeable shift in expenditure composition six months to one year after the trustees take office. In particular, trustee mayors significantly increase the share of procurement spending dedicated to construction, while simultaneously decreasing the share allocated to services. Spending on goods remains unchanged. This reallocation of municipal resources toward construction further supports our argument, as the construction sector is frequently

[40] Of the four, two of them ran for election in their hometowns in other regions. Therefore, only two stood for election in the localities they governed as trustees. Excluding these four cases from our analysis does not change our main results (see Table A.8 in the Online Appendix).

[41] The platform allows users to view the awarding method for each public contract—sealed-bid, threshold clause, or unforeseen event—making unjustified discretionary practices readily observable. See for example Evrensel (2018) and Independent Türkçe (2019).

associated with higher risks of corruption (Transparency International, 2011; OECD, 2014; Kyriacou et al., 2015). Decreased local accountability incentivizes appointed trustees to prioritize construction projects that potentially serve their own interests rather than local voter preferences that were observed in the spending patterns of the elected mayors they replaced.

7 Conclusion

The intricate relationship between the powers of central and local governments has, for long, been a subject of significant debate. Leveraging a unique setting in Turkey, this paper sheds light on the effects of authoritarian takeovers of local jurisdictions on public procurement practices, specifically focusing on law abuse and economic efficiency. Our findings provide robust evidence that trustee mayors, appointed by the central government, display increased tendencies towards exploiting legal loopholes, notably the unforeseen event clause, in public procurement regulations, unlike their elected counterparts.

Such law abuse costs the public in terms of inflated contract prices and reduced value for money. A significant increase in contract prices and a pronounced decrease in value-for-money underscore the economic inefficiencies introduced by these centrally appointed officials. Moreover, the higher Herfindahl-Hirschman Index (HHI) readings for contracts awarded with greater discretion highlight a clear trend towards diminished competition, evidenced by repeated engagement with specific contractors.

Our work contributes to the literature in three key ways. First, it introduces rigorous causal evidence into the discussion of authoritarianism's local repercussions with fresh insights from Turkey's authoritarian context. Secondly, it unpacks the potential mechanisms that underlie the behaviors of central appointees, emphasizing the profound role local accountability plays in shaping administrative decisions at the subnational level. Lastly, by introducing a novel metric for gauging law abuse, our study expands the analytical toolkit available for scrutinizing procurement discretion, offering future researchers a more comprehensive lens through which to view such issues.

In summary, as countries grapple with the implications of increasing authoritarianism and its concomitant drive for clinching power in the local (Malesky et al., 2014), understanding the nuanced impacts of such shifts on governance becomes ever more critical. Our findings from Turkey underscore the importance of preserving local accountability structures to safeguard both economic efficiency and the rule of law. While central takeovers might offer a facade of streamlined governance, our findings suggest that they may, in reality, erode the rule of law and compromise economic efficiency at the grassroots level.

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A Online Appendix: Additional tables

Table A.1: Number of Contracts and Total Spending via Procurement

Category & Variable	DBP	Trustee	AKP (pre)	AKP (post)
All				
No of contracts	3404	4318	3416	3592
Procurement spending (TL)	2,631,216,285.00	2,433,406,249.00	2,608,569,560.00	2,802,085,447.00
Sealed-bid				
No of contracts	2510	2247	2533	2625
Procurement spending (TL)	2,388,449,959.00	1,598,870,146.00	2,313,564,486.00	2,581,195,821.00
Unforeseen event				
No of contracts	350	998	232	267
Procurement spending (TL)	197,287,045.00	757,580,326.00	243,539,675.00	166,127,987.00
Threshold clause				
No of contracts	544	1073	651	700
Procurement spending (TL)	45,479,280.00	76,955,778.00	51,465,400.00	54,761,640.00

Notes: The table presents the no of contracts granted and total amount of money spent via procurement for DBP, trustee, and AKP mayors. *DBP* indicates the contracts granted by DBP mayors who are replaced by trustee mayors. *AKP (pre)* indicates the contracts granted by AKP mayors before the first set of appointments on September 11, 2016. *AKP (post)* indicates the contracts granted by AKP mayors after September 11, 2016. *Procurement spending* indicates the total spending via procurement in Turkish Liras (TL) in 2010 constant prices.

Table A.2: Pooled DiD estimates: quarterly share of spending based on contract prices (with not-yet-treated municipalities as the control group)

	Unforeseen events		Sealed-bid auctions		Threshold clause	
Pre-treatment						
	(1)	(2)	(3)	(4)	(5)	(6)
Trustee	0.034	0.081	0.011	−0.030	−0.051	−0.063
	(0.060)	(0.067)	(0.082)	(0.086)	(0.055)	(0.055)
Controls	No	Yes	No	Yes	No	Yes
Num.Obs.	91	91	91	91	91	91
Post-treatment						
	(1)	(2)	(3)	(4)	(5)	(6)
Trustee	0.214**	0.238***	−0.184**	−0.202**	−0.062	−0.068
	(0.081)	(0.079)	(0.088)	(0.085)	(0.061)	(0.060)
Controls	No	Yes	No	Yes	No	Yes
Control group mean	0.14	0.14	0.66	0.66	0.19	0.19
Num.Obs.	272	272	272	272	272	272

Notes: The table reports the pooled estimates from pre- and post-treatment periods using Dube et al. (2023). The control sample consists of not-yet-treated municipalities. Control variables in columns (2), (4), and (6) include population, number of enterprises, and shares of construction and goods sectors in total procurement spending at the municipality level, and the level of nightlight at the district level. Standard errors are clustered at the municipality level. $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table A.3: Pooled DiD estimates: quarterly share of spending based on contract prices (baseline period chosen as the average of last four quarters before the treatment)

	Unforeseen events		Sealed-bid auctions		Threshold clause	
Pre-treatment						
	(1)	(2)	(3)	(4)	(5)	(6)
Trustee	−0.003	0.003	0.029	0.020	−0.025	−0.024
	(0.026)	(0.027)	(0.032)	(0.035)	(0.027)	(0.026)
Controls	No	Yes	No	Yes	No	Yes
Num.Obs.	91	91	91	91	91	91
Post-treatment						
	(1)	(2)	(3)	(4)	(5)	(6)
Trustee	0.204***	0.212***	−0.140**	−0.141**	−0.093**	−0.097**
	(0.069)	(0.066)	(0.069)	(0.069)	(0.046)	(0.048)
Controls	No	Yes	No	Yes	No	Yes
Control group mean	0.14	0.14	0.66	0.66	0.19	0.19
Num.Obs.	173	173	173	173	173	173

Notes: The table reports the pooled estimates from pre- and post-treatment periods using Dube et al. (2023). Baseline period for estimations is the average of last four quarters before the treatment. Control variables in columns (2), (4), and (6) include population, number of enterprises, and shares of construction and goods sectors in total procurement spending at the municipality level, and the level of nightlight at the district level. Standard errors are clustered at the municipality level. $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table A.4: Regression discontinuity in time (RDiT) estimates using manual bandwidth: 360 days

	Unforeseen event		Sealed-bid acution		Threshold clause	
	(1)	(2)	(3)	(4)	(5)	(6)
Trustee mayor	0.241***	0.259***	−0.295***	−0.310***	−0.045	−0.028
	(0.070)	(0.057)	(0.086)	(0.064)	(0.070)	(0.064)
Num.Obs.	7879	7879	7879	7879	7879	7879
Num.Obs.Effective.Left	1370	1370	1370	1370	1370	1370
Num.Obs.Effective.Right	1820	1820	1820	1820	1820	1820
Covariates	No	Yes	No	Yes	No	Yes
Year FE	No	Yes	No	Yes	No	Yes
Province FE	No	Yes	No	Yes	No	Yes
Procurement type FE	No	Yes	No	Yes	No	Yes
Industry FE	No	Yes	No	Yes	No	Yes
Kernel	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular
Pre-trustee mean	0.1	0.1	0.74	0.74	0.16	0.16

Notes: The table reports estimates obtained from RDiT estimations using Calonico et al. (2015) with triangular kernel and the manually chosen 360-day bandwidth for both sides of the cut-off. The dependent variables are binary indicators of whether the contract is awarded with the respective contract awarding method. Controls include population and number of enterprises at the municipality level, and the level of nightlight at the district level. *Procurement type FE* indicates the type of the procurement: goods, services, or construction. *Industry FE* variable indicates the industry code of the procurement and include 44 levels. Standard errors are clustered at the municipality level. $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table A.5: Regression discontinuity in time (RDiT) estimates for other outcomes in the sample of contract awarded through unforeseen event clause

	Estimated cost		Duration		No. of bidders	
	(1)	(2)	(3)	(4)	(5)	(6)
Trustee mayor	−0.223	0.578	67.716	109.374***	1.352***	−0.132
	(0.584)	(0.456)	(63.760)	(41.860)	(0.514)	(0.448)
Num.Obs.	1347	1347	1346	1346	1346	1346
Covariates	No	Yes	No	Yes	No	Yes
Year FE	No	Yes	No	Yes	No	Yes
Province FE	No	Yes	No	Yes	No	Yes
Procurement type FE	No	Yes	No	Yes	No	Yes
Industry FE	No	Yes	No	Yes	No	Yes
Kernel	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular
Num.Obs.Effective.Left	86	102	94	123	51	94
Num.Obs.Effective.Right	369	171	171	280	136	95

Notes: The table reports estimates obtained from RDiT estimations using Calonico et al. (2015) with triangular kernel and optimal bandwidths which are allowed to differ between two sides of the cut-off. The sample includes contracts distributed with the unforeseen events clause. The dependent variables are the estimated cost of the contract, estimated duration of the contract, and the number of bidders in the contract awarding process. Controls include population and number of enterprises at the municipality level, and the level of nightlight at the district level. *Procurement type FE* indicates the type of the procurement: goods, services, or construction. *Industry FE* variable indicates the industry code of the procurement and include 44 levels. Standard errors are clustered at the municipality level. $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table A.6: OLS estimates for number of bidders: trustee and elected (AKP) samples

	Dept. Variable: Number of bidders			
	Trustee sample		Elected (AKP) sample	
	(1)	(2)	(3)	(4)
Ref.level: Sealed-bid auction				
Unforeseen events	−3.527***	−3.524***	−2.648***	−2.766***
	(0.212)	(0.225)	(0.297)	(0.304)
Threshold clause	−2.848***	−2.807***	−1.532***	−1.553***
	(0.175)	(0.171)	(0.204)	(0.224)
Covariates	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Province FE	Yes	Yes	Yes	Yes
Procurement type FE	Yes	Yes	Yes	Yes
Industry FE (2-digit)	Yes	No	Yes	No
Industry FE (3-digit)	No	Yes	No	Yes
Ave. bidders in Sealed-bid auctions	5.87	5.87	4.47	4.47
Num.Obs.	4320	4320	3577	3577

Notes: The table reports results from OLS estimations. The dependent variable is the number of bidders. The main explanatory variable is the contract awarding method and the reference level of it is the *Sealed-bid auction*. Trustee sample includes the contracts awarded only by trustee mayors. Elected (AKP) sample includes contracts awarded by elected (AKP) mayors after the first trustee appointment. Covariates include population and number of enterprises at the municipality level, and the level of nightlight at the district level. *Procurement type FE* indicates the type of the procurement: goods, services, or construction. *Industry FE (2-digit)* and *Industry FE (3-digit)* variables indicate the industry code of the procurement and include 44 and 181 levels, respectively. Standard errors are clustered at the municipality level. $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table A.7: Economies of scale: sealed-bid auctions subsample

	Price (log)	Rebate
Trustee mayor	−0.210	0.014
	(0.226)	(0.014)
Covariates	Yes	Yes
Year FE	Yes	Yes
Province FE	Yes	Yes
Procurement type FE	Yes	Yes
Industry FE	Yes	Yes
Num.Obs.	4753	4737

Notes: The table reports results from OLS estimations on the sample of contracts awarded with sealed-bid auctions by the municipalities that have been appointed a trustee mayor, before and after trustee appointments. The dependent variable is a binary indicator of whether the contract is awarded with the respective contract awarding method. The main explanatory variable, *Trustee*, is a binary indicator of whether the contract is awarded by a trustee mayors. Covariates include population and number of enterprises at the municipality level, and the level of nightlight at the district level. *Procurement type FE* indicates the type of the procurement: goods, services, or construction. *Industry FE* variable indicates the industry code of the procurement and include 44 levels. Standard errors are clustered at the province level. $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table A.8: Pooled DiD estimates: quarterly share of spending based on contract prices (dropping trustees who ran for office in elections)

	Unforeseen events		Sealed-bid auctions		Threshold clause	
Pre-treatment						
	(1)	(2)	(3)	(4)	(5)	(6)
Trustee	0.032	0.083	0.014	−0.028	−0.053	−0.070
	(0.061)	(0.069)	(0.084)	(0.090)	(0.057)	(0.059)
Controls	No	Yes	No	Yes	No	Yes
Num.Obs.	90	90	90	90	90	90
Post-treatment						
	(1)	(2)	(3)	(4)	(5)	(6)
Trustee	0.219**	0.247***	−0.190**	−0.210**	−0.062	−0.070
	(0.083)	(0.078)	(0.091)	(0.086)	(0.064)	(0.064)
Controls	No	Yes	No	Yes	No	Yes
Control group mean	0.14	0.14	0.66	0.66	0.19	0.19
Num.Obs.	253	253	253	253	253	253

Notes: The table reports the pooled estimates from pre- and post-treatment periods using Dube et al. (2023). Control variables in column (2) include population, number of enterprises, and shares of construction and goods sectors in total procurement spending at the municipality level, and the level of nightlight at the district level. Standard errors are clustered at the municipality level. $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$. The sample excludes municipalities whose trustees ran for office in elections.

Table A.9: Adverse selection of governors as trustee mayors

	Unforeseen events	Sealed-bid auctions	Threshold clause
Trustee Governor	−0.018	−0.050	0.086
	(0.037)	(0.077)	(0.082)
Year FE	Yes	Yes	Yes
Province FE	Yes	Yes	Yes
Procurement type FE	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
Num.Obs.	1825	1825	1825
R2	0.145	0.300	0.371
R2 Adj.	0.084	0.250	0.326

Notes: The table reports results from OLS estimations on the sample of contracts awarded by all district governors before the trustee appointments take place. The dependent variable is a binary indicator of whether the contract is awarded with the respective contract awarding method. The main explanatory variable, *Trustee Governor*, is a binary indicator of whether the contract is awarded by a governor who has been appointed as a trustee mayor later on. *Procurement type FE* indicates the type of the procurement: goods, services, or construction. *Industry FE* variable indicates the industry code of the procurement and include 44 levels. Standard errors are clustered at the municipality level. $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table A.10: Pooled DiD estimates: quarterly share of spending based on contract prices (using the geographically matched sample)

	Unforeseen events		Sealed-bid auctions		Threshold clause	
Pre-treatment						
	(1)	(2)	(3)	(4)	(5)	(6)
Trustee	0.066	0.116	−0.029	−0.059	−0.050	−0.078
	(0.073)	(0.081)	(0.097)	(0.102)	(0.064)	(0.073)
Controls	No	Yes	No	Yes	No	Yes
Num.Obs.	61	61	61	61	61	61
Post-treatment						
	(1)	(2)	(3)	(4)	(5)	(6)
Trustee	0.244**	0.291***	−0.203*	−0.221**	−0.064	−0.090
	(0.102)	(0.097)	(0.106)	(0.103)	(0.069)	(0.074)
Controls	No	Yes	No	Yes	No	Yes
Control group mean	0.18	0.18	0.62	0.62	0.18	0.18
Num.Obs.	159	159	159	159	159	159

*Notes:*The table reports the pooled estimates from pre- and post-treatment periods using Dube et al. (2023). Control variables in columns (2), (4), and (6) include population, number of enterprises, and shares of construction and goods sectors in total procurement spending at the municipality level, and the level of nightlight at the district level. Standard errors are clustered at the municipality level. $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$. The sample uses geographically matched municipalities.

Table A.11: Pooled DiD estimates: quarterly share of spending based on contract prices (excluding municipalities with *hendek* incidents)

	Unforeseen events		Sealed-bid auctions		Threshold clause	
Pre-treatment						
	(1)	(2)	(3)	(4)	(5)	(6)
Trustee	0.035	0.086	−0.018	−0.063	−0.022	−0.033
	(0.059)	(0.063)	(0.082)	(0.080)	(0.049)	(0.050)
Controls	No	Yes	No	Yes	No	Yes
Num.Obs.	87	87	87	87	87	87
Post-treatment						
	(1)	(2)	(3)	(4)	(5)	(6)
Trustee	0.174*	0.200**	−0.177*	−0.200**	−0.037	−0.040
	(0.089)	(0.080)	(0.095)	(0.087)	(0.053)	(0.053)
Controls	No	Yes	No	Yes	No	Yes
Control group mean	0.14	0.14	0.66	0.66	0.19	0.19
Num.Obs.	248	248	248	248	248	248

Notes: The table reports the pooled estimates from pre- and post-treatment periods using Dube et al. (2023). Control variables in columns (2), (4), and (6) include population, number of enterprises, and shares of construction and goods sectors in total procurement spending at the municipality level, and the level of nightlight at the district level. Standard errors are clustered at the municipality level. $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$. The sample excludes municipalities with *hendek* incidents.

Table A.12: Pooled DiD estimates: quarterly total spending based on contract prices

	Total spending	
Pre-treatment		
	(1)	(2)
Trustee	0.387	0.596*
	(0.291)	(0.302)
Controls	No	Yes
Num.Obs.	91	91
Post-treatment		
	(1)	(2)
Trustee	0.500**	0.533**
	(0.229)	(0.238)
Controls	No	Yes
Control group mean	13.09	13.09
Num.Obs.	254	254

Notes: The table reports the pooled estimates from pre- and post-treatment periods using Dube et al. (2023). Control variables in column (2) include population, number of enterprises, and shares of construction and goods sectors in total procurement spending at the municipality level, and the level of nightlight at the district level. Standard errors are clustered at the municipality level. $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table A.13: Project duration analysis

	Dept. Variable: Estimated project duration (number of days)					
	Pre-trustee period			Post-trustee period		
	Sealed-bid	Unforeseen events	Threshold clause	Sealed-bid	Unforeseen events	Threshold clause
Ref. level: AKP mayors						
BDP mayor	−19.605	14.728	22.972*			
	(15.879)	(16.364)	(11.703)			
Trustee mayor				−33.732***	4.189	−4.460
				(11.410)	(13.375)	(10.790)
Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Province FE	Yes	Yes	Yes	Yes	Yes	Yes
Procurement type FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE (2-digit)	Yes	Yes	Yes	Yes	Yes	Yes
Average number of days	221.07	92.29	78.84	184.68	111.89	62.09
Num.Obs.	5033	582	1194	4856	1263	1772

Notes: The table reports results from OLS estimations. The dependent variable is the estimated number of days needed to complete the contract. The main explanatory variable is whether the municipality is a trustee mayor (DBP mayor) or not in the post-trustee (pre-trustee) period. Covariates include population and number of enterprises at the municipality level, and the level of nightlight at the district level. Procurement type FE indicates the type of the procurement: goods, services, or construction. Industry FE (2-digit) variables indicate the industry code of the procurement and include 44 levels, respectively. Standard errors are clustered at the municipality level. $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

A.1 List of DBP Municipalities with Appointed Trustees

Table A.14: Metropolitan Municipalities, in Alphabetical Order

Name of the Province	Appointment Date	Name of the Trustee	Governorship Office	Province Category
Ağrı	03.01.2017	Musa Işın	Governor of the Province (GP)	3rd
Batman	11.09.2016	Ertuğ Şevket Aksoy	GP	3rd
Bitlis	27.11.2016	Ahmet Çınar	GP	4th
Dersim	17.11.2016	Olgun Öner	Vice GP	4th
Diyarbakır	01.11.2016	Cumali Atilla	Etimesgut, Ankara Governor	2nd
Hakkari	11.09.2016	Cüneyt Epçim	Vice GP	4th
Mardin	17.11.2016	Mustafa Yaman	GP	2nd
Siirt	17.11.2016	Ceyhun Dilşad Taşkın	Vice GP	4th
Şırnak	11.09.2016	Turan Bedirhanoğlu	Vice GP	4th
Van	17.11.2016	İbrahim Taşyapan	GP	2nd

Table A.15: District Municipalities, in Alphabetical Order

District / Province	Appointment Date	Name of the Trustee	Governorship Office	District Category
Akdeniz / Mersin	18.12.2016	Hamdi Bilge Aktaş	GP	1
Akpazar / Dersim	10.05.2017	Kenan Aktaş	Mazgirt, Dersim Gov.	4
Artuklu / Mardin	13.12.2016	Şakir Öner Öztürk	GP	3
Atabağı / Siirt	18.03.2017	Mehmet Kocabey	Baykan, Siirt Gov.	4
Bahçesaray / Van	16.02.2017	Serhat Karabektaş	GP	6
Balveren / Şırnak	17.03.2017	Turan Bedirhanoğlu	Şırnak Vice Gov.	NA[42]
Başkale / Van	22.01.2017	Abdulselam Öztürk	GP	4
Başverimli / Şırnak	11.09.2016	Savaş Konak	Silopi Gov.	2
Baykan / Siirt	20.12.2016	Mehmet Kocabey	GP	4
Beğendik / Siirt	30.03.2017	Hakan Şeker	Pervari Gov.	NA
Beşiri / Batman	11.09.2016	Mustafa Maslak	GP	4

[42]Some rural towns have municipalities even though they are not a district. Hence they do not have governors and are not subject to the district categorization. Such municipalities are marked as Not Applicable (NA).

Table A.15: Continued from previous page

District / Province	Appointment Date	Name of the Trustee	Governorship Office	District Category
Beytüşşebap / Şırnak	03.03.2017	Murat Şener	GP	4
Bismil / Diyarbakır	02.04.2017	Turgay Gülenç	GP	3
Bozova / Şanlıurfa	09.01.2017	Zekeriya Göker	Elazığ Vice Gov.	4
Bulanık / Muş	11.09.2016	Ömer Şahin	GP	4
Cizre / Şırnak	11.09.2016	Ahmet Adanur	GP	2
Çaldıran / Van	15.02.2017	Tekin Dündar	GP	4
Çatak / Van	06.01.2017	Hacı Asım Akgül	GP	4
Çukurca / Hakkari	12.08.2016	Mehmet Mut	GP	4
Dargeçit / Mardin	11.09.2016	M. Yaşar Yeşiltaş	GP	4
Derik / Mardin	11.09.2016	M. Fatih Safitürk	GP	4
Dicle / Diyarbakır	14.02.2017	Alparslan Kılıç	GP	4
Digor / Kars	09.02.2017	Mustafa Güngör	GP	4
Diyadin / Ağrı	11.09.2016	Mekan Çeviren	GP	4
Doğubayazıt / Ağrı	24.01.2017	Ulaş Akhan	GP	3
Edremit / Van	11.09.2016	İbrahim Özkan	Van Vice Gov	3
Eğil / Diyarbakır	07.03.2017	Kürşad Atak	GP	4
Erciş / Van	11.09.2016	Mehmet Şirin Yaşar	GP	3
Erentepe / Muş	13.06.2017	Hacı Arslan Uzan	Bulanık, Muş Gov	NA
Eruh / Siirt	11.09.2016	Murtaza Dayanç	GP	4
Esendere / Hakkari	07.02.2017	Mahmut Kaşıkçı	Yüksekova, Hakkari Gov	NA
Fındık / Şırnak	19.01.2017	Osman Demir	Güçlükonak, Şırnak Gov	NA
Gercüş / Batman	11.09.2016	Ünal Koç	GP	4
Gökçebağ / Siirt	06.02.2017	Ceyhun Dilşad Taşkın	Siirt Vice Gov	NA

Table A.15: Continued from previous page

District / Province	Appointment Date	Name of the Trustee	Governorship Office	District Category
Görümlü / Şırnak	02.10.2017	Savaş Konak	Silopi Gov.	NA
Güroymak / Bitlis	28.11.2016	Ufuk Özen Alibeyoğlu	GP	4
Gürpınar / Van	03.02.2017	Osman Doğramacı	GP	4
Halfeti / Şanlıurfa	23.12.2016	Şeref Albayrak	GP	6
Hani / Diyarbakır	05.10.2016	Şaban Arda Yazıcı	GP	4
Hınıs / Erzurum	11.09.2016	Bülent Ay	GP	4
Hizan / Bitlis	24.12.2016	Bülent Hamitoğlu	GP	4
Hoşhaber / Iğdır	11.09.2016	Bilgehan Karanfil	Iğdır Vice Gov	NA
İdil / Şırnak	21.09.2016	Ersin Tepeli	GP	4
İkiköprü / Batman	11.09.2016	Mustafa Maslak	Beşiri, Batman Gov	NA
İpekyolu / Van	11.09.2016	Önder Can	Van Vice GP	3
Karaçoban / Erzurum	28.12.2016	Muhsin Duran Kalkan	GP	4
Karakoçan / Elazığ	31.01.2017	Cemil Sarıoğlu	GP	4
Karayazı / Erzurum	05.12.2016	Kamil Aksoy	GP	4
Kayabağlar / Siirt	12.04.2017	Musa Uçgül	Kurtalan, Siirt Gov	NA
Kayapınar / Diyarbakır	12.08.2016	Mustafa Kılıç	GP	2
Kızıltepe / Mardin	04.12.2016	Ahmet Odabaş	GP	2
Kocaköy / Diyarbakır	06.02.2017	Yusuf Turhan	GP	4
Konakkuran / Muş	10.05.2017	Soner Kırlı	Malazgirt, Muş Gov.	NA

Table A.15: Continued from previous page

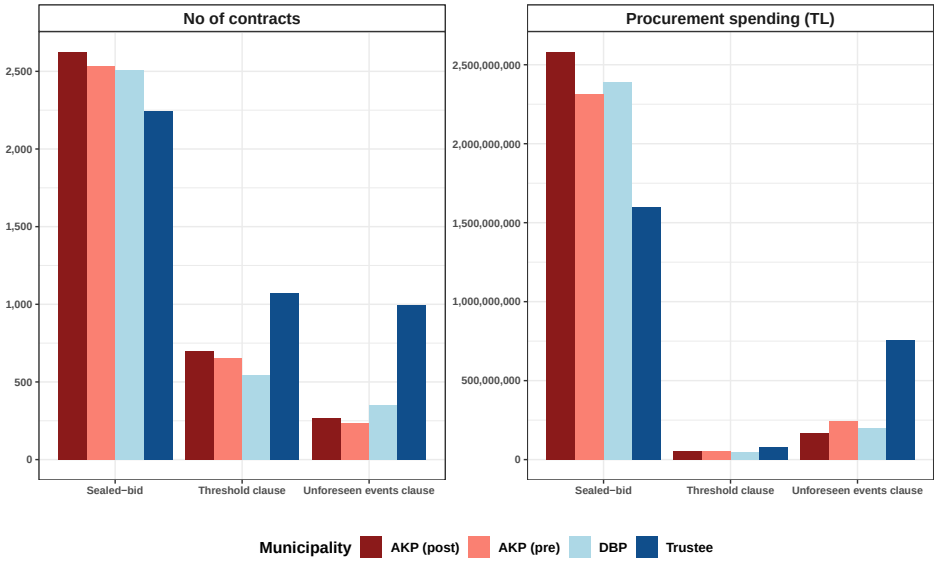
District / Province	Appointment Date	Name of the Trustee	Governorship Office	District Category
Kömür / Adıyaman	29.08.2018	Adem Kaya	Adıyaman Vice Gov	NA
Kulp / Diyarbakır	23.01.2017	Fatih Dülgeroğlu	GP	4
Kumçatı / Şırnak	06.01.2017	Turan Bedirhanoğlu	Şırnak Vice Gov	NA
Lice / Diyarbakır	02.10.2017	Sinan Başak	GP	4
Malazgirt / Muş	12.02.2016	Soner Kırlı	GP	4
Mazıdağı / Mardin	11.09.2016	Halit Benek	GP	4
Muradiye / Van	17.01.2017	Mehmet Fatih Çelikel	GP	4
Mutki / Bitlis	23.12.2016	Mehmet Kılıç	GP	4
Nusaybin / Mardin	11.09.2016	Ergün Baysal	GP	3
Ovakışla / Bitlis	03.11.2016	Bülent Tekbıyıkoğlu	Ahlat, Bitlis Gov	4
Ömerli / Mardin	06.01.2017	Erol Korkmaz	GP	4
Özalp / Van	11.09.2016	Serdar Karal	GP	4
Rüstemgedik / Muş	14.04.2017	Hacı Arslan Uzan	Bulanık, Muş Gov	NA
Saray/ Van	15.02.2017	Mehmet Halis Aydın	GP	4
Savur / Mardin	01.03.2017	İdris Koç	GP	4
Sırtköy / Şırnak	08.11.2016	Ersin Tepeli	İdil, Şırnak Gov	NA
Silopi / Şırnak	11.09.2016	Savaş Konak	GP	2
Silvan / Diyarbakır	11.09.2016	Murat Kütük	GP	3
Sur / Diyarbakır	11.09.2016	Bilal Özkan	GP	2
Suruç / Şanlıurfa	11.09.2016	Tarık Açıkgöz	Şanlıurfa Vice Gov	3
Şemdinli / Hakkari	07.12.2016	M.Fuat Türkman	Bingöl Vice Gov	4
Tekman / Erzurum	06.01.2017	Kemal Karahan	GP	4

Table A.15: Continued from previous page

District / Province	Appointment Date	Name of the Trustee	Governorship Office	District Category
Tutak / Ağrı	12.01.2017	Erkan İsa Erat	GP	4
Tuzluca / Iğdır	11.09.2016	İbrahim Civalek	GP	4
Uludere / Şırnak	27.01.2017	Mehmet Fatik Yakınoğlu	GP	4
Uzgörür / Muş	11.09.2016	Ömer Şahin	Bulanık, Muş Gov	NA
Varto / Muş	11.11.2016	Mehmet Nuri Çetin	GP	4
Veysel Karani / Siirt	23.12.2016	Mehmet Kocabey	Baykan, Siirt Gov	NA
Viranşehir / Şanlıurfa	09.01.2017	Ömer Çimşit	GP	3
Yenişehir / Diyarbakır	08.12.2016	Mehmet Özel	GP	2
Yolalan / Bitlis	24.12.2016	Bülent Hamitoğlu	Hizan, Bitlis Gov	NA
Yüksekova / Hakkari	19.12.2016	Mahmut Kaşıkçı	GP	3

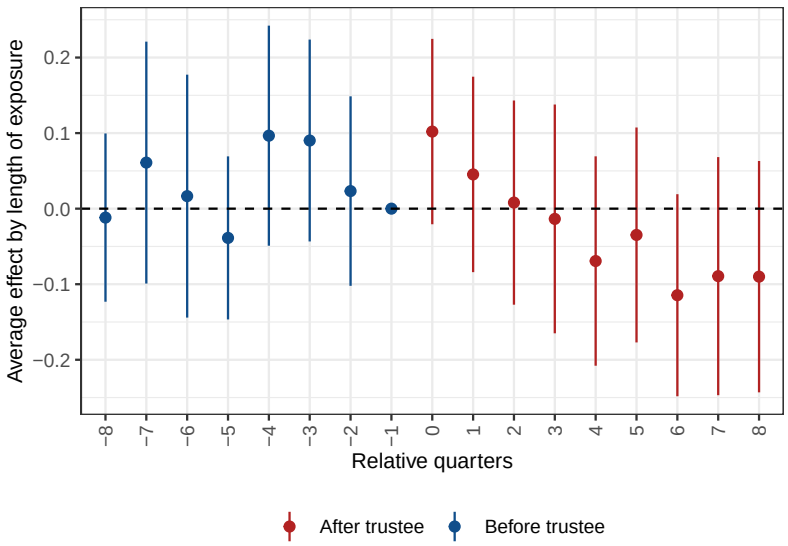
B Online Appendix: Additional figures

Figure A.1: Number of Contracts and Total Spending via Procurement



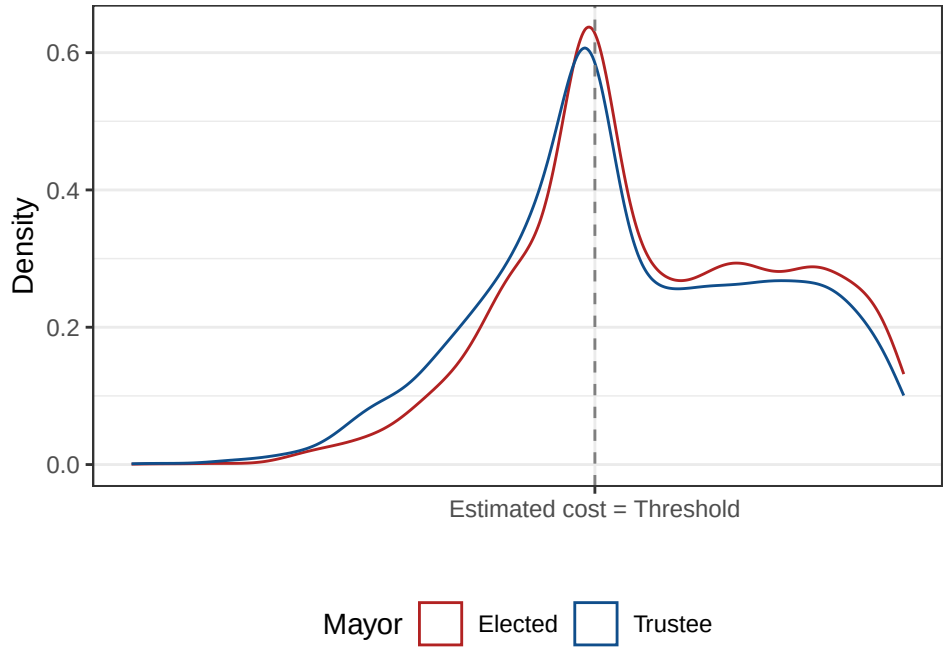
Notes: The figure plots the no of contracts and total spending (TL, in 2010 constant prices) via procurement for AKP, DBP, and trustee mayors.

Figure A.2: Dynamic effects: share of spending with the threshold clause based on contract prices



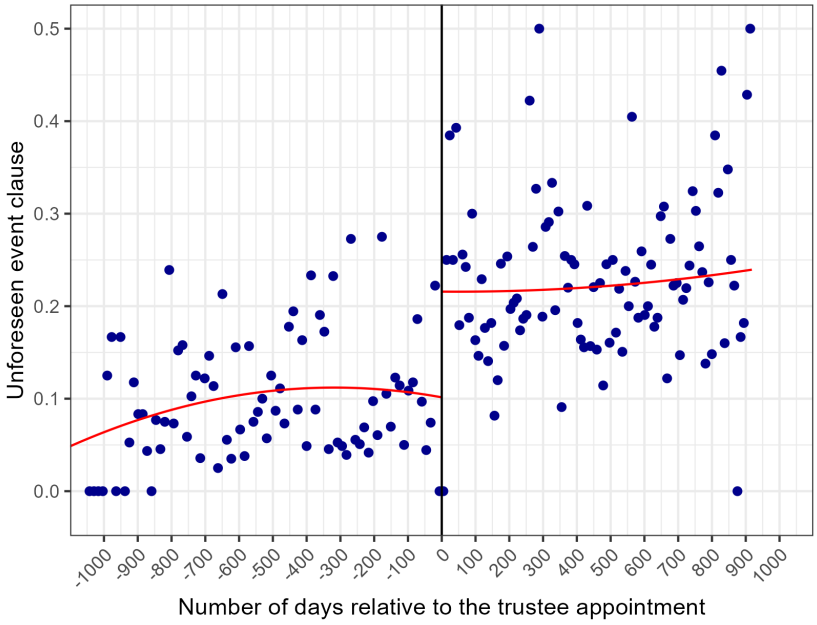
Notes: The figure plots the dynamic effects from staggered DiD estimations using Dube et al. (2023) based on length of exposure to the treatment. The outcome variable is the quarterly share of contracts awarded with the threshold clause. Control variables include population, number of enterprises, and shares of construction and goods sectors in total procurement spending at the municipality level, and the level of nightlight at the district level.

Figure A.3: Bunching around the threshold for expanded discretion: elected (DBP) vs. trustee mayors



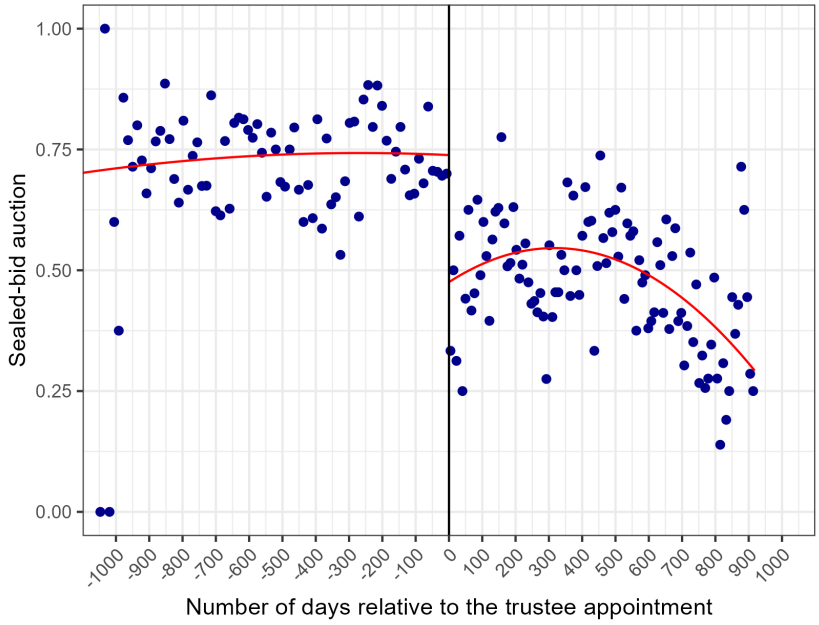
Notes: The figure plots the density distributions of estimated cost of contracts under elected (DBP) and trustee mayors. The dashed line corresponds to the threshold value below which the procuring authority attains more discretion in contract awarding process.

Figure A.4: Regression discontinuity (RD) plot: unforeseen event clause



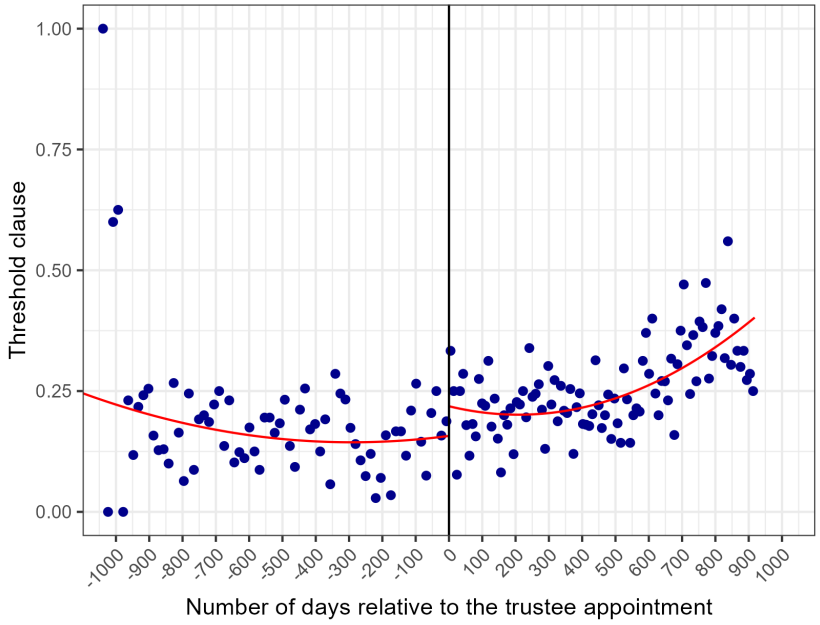
Notes: The figure presents the RD plot for the use of unforeseen event clause with binned sample mimicking the underlying variability of the data (Calonico et al., 2015). The dependent variable is a binary indicator of whether the contract is awarded with the unforeseen event clause. The cut-off is the trustee appointment day. Polynomials of order 2 are fitted on each side of the cut-off using a triangular kernel.

Figure A.5: Regression discontinuity (RD) plot: sealed-bid auction



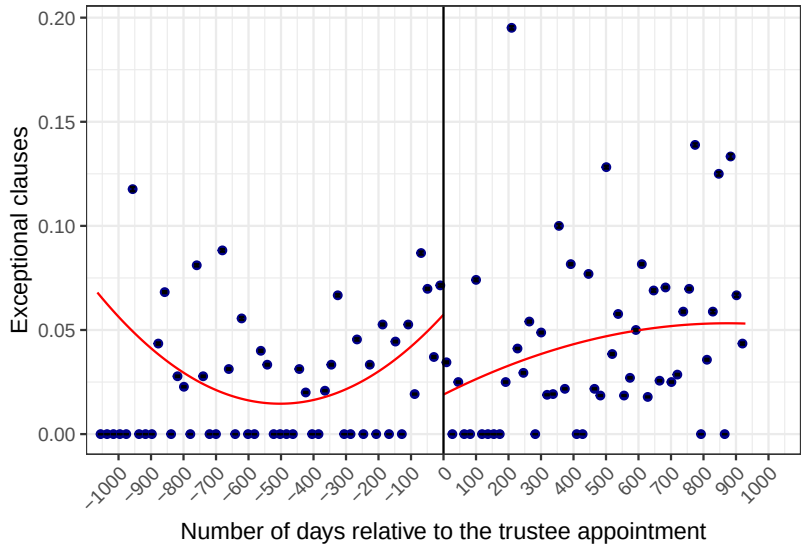
Notes: The figure presents the RD plot for the use of sealed-bid auctions with binned sample mimicking the underlying variability of the data (Calonico et al., 2015). The dependent variable is a binary indicator of whether the contract is awarded with a sealed-bid auction. The cut-off is the trustee appointment day. Polynomials of order 2 are fitted on each side of the cut-off using a triangular kernel.

Figure A.6: Regression discontinuity (RD) plot: threshold clause



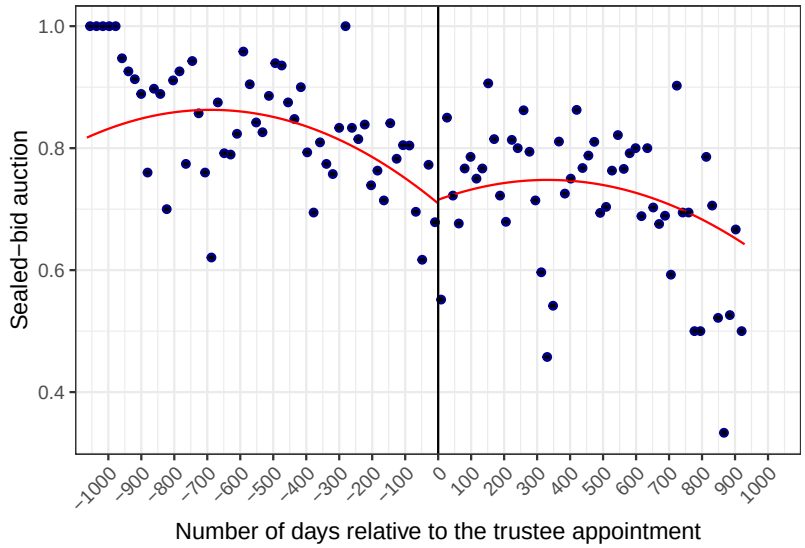
Notes: The figure presents the RD plot for the use of threshold clause with binned sample mimicking the underlying variability of the data (Calonico et al., 2015). The dependent variable is a binary indicator of whether the contract is awarded with the threshold clause. The cut-off is the trustee appointment day. Polynomials of order 2 are fitted on each side of the cut-off using a triangular kernel.

Figure A.7: Placebo RD plot: unforeseen event clause



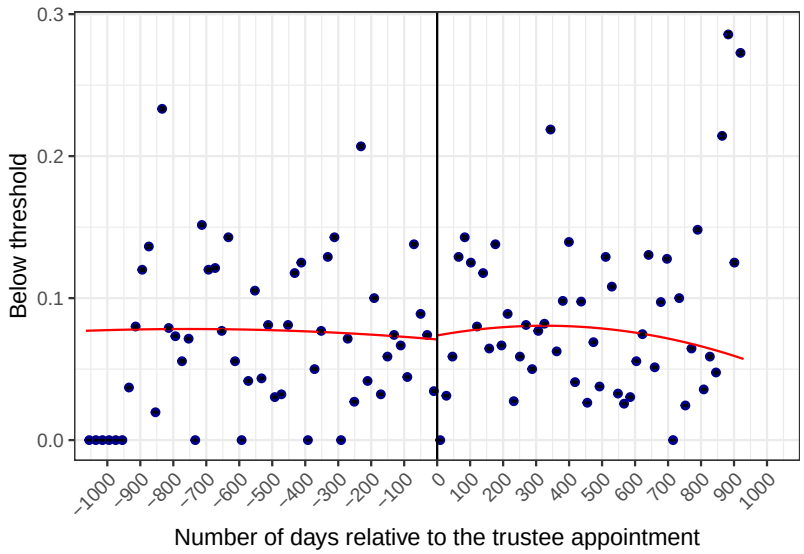
Notes: The figure presents the RD plot for the use of unforeseen event clause with binned sample mimicking the underlying variability of the data (Calonico et al., 2015). The dependent variable is a binary indicator of whether the contract is awarded with the unforeseen event clause. The cut-off is the trustee appointment day. Polynomials of order 2 are fitted on each side of the cut-off using a triangular kernel.

Figure A.8: Placebo RD plot: sealed-bid auction



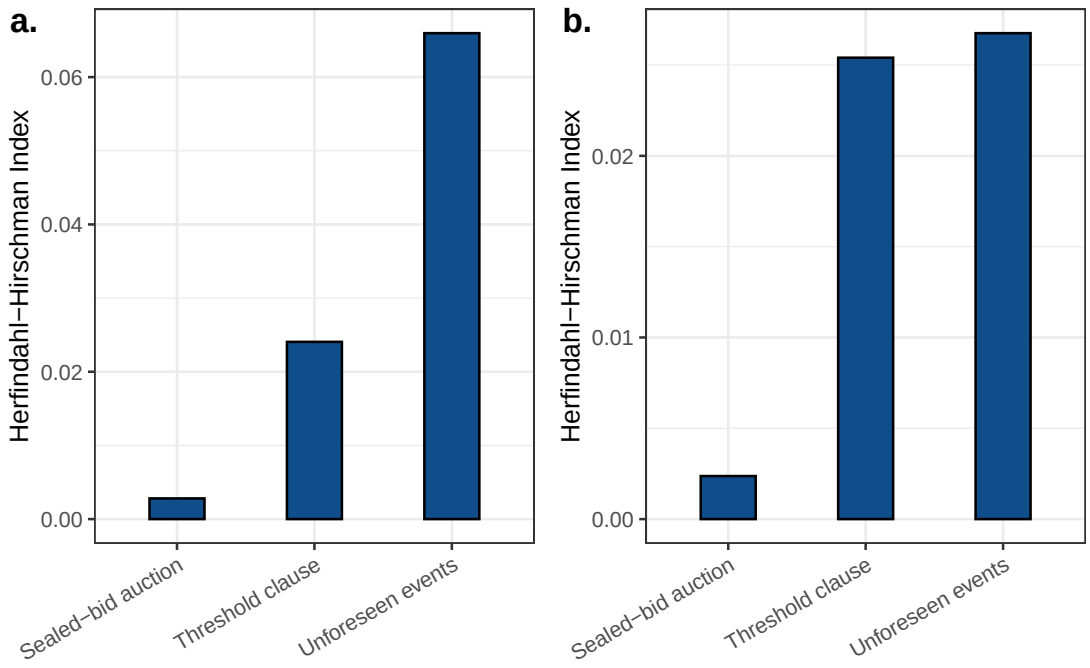
Notes: The figure presents the RD plot for the use of unforeseen event clause with binned sample mimicking the underlying variability of the data (Calonico et al., 2015). The dependent variable is a binary indicator of whether the contract is awarded with the unforeseen event clause. The cut-off is the trustee appointment day. Polynomials of order 2 are fitted on each side of the cut-off using a triangular kernel.

Figure A.9: Placebo RD plot: threshold clause



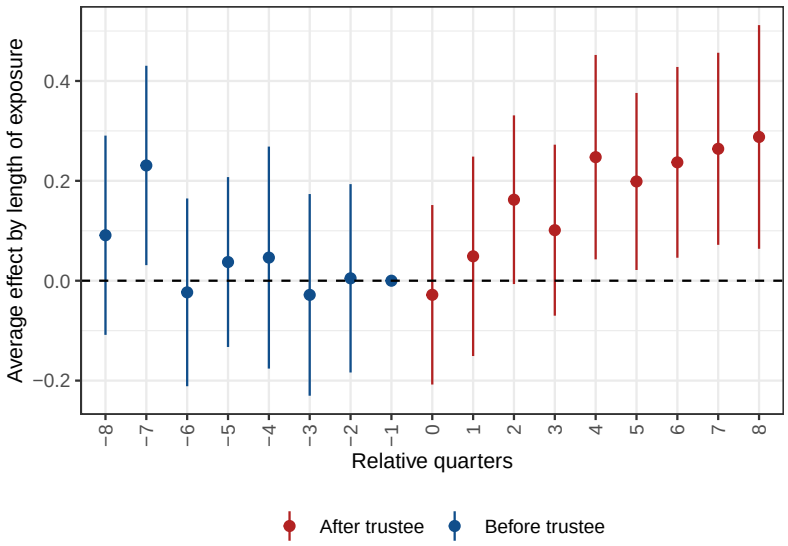
Notes: The figure presents the RD plot for the use of unforeseen event clause with binned sample mimicking the underlying variability of the data (Calonico et al., 2015). The dependent variable is a binary indicator of whether the contract is awarded with the unforeseen event clause. The cut-off is the trustee appointment day. Polynomials of order 2 are fitted on each side of the cut-off using a triangular kernel.

Figure A.10: Concentration of contracts in municipalities held by elected AKP and DBP mayors in pre-trustee era



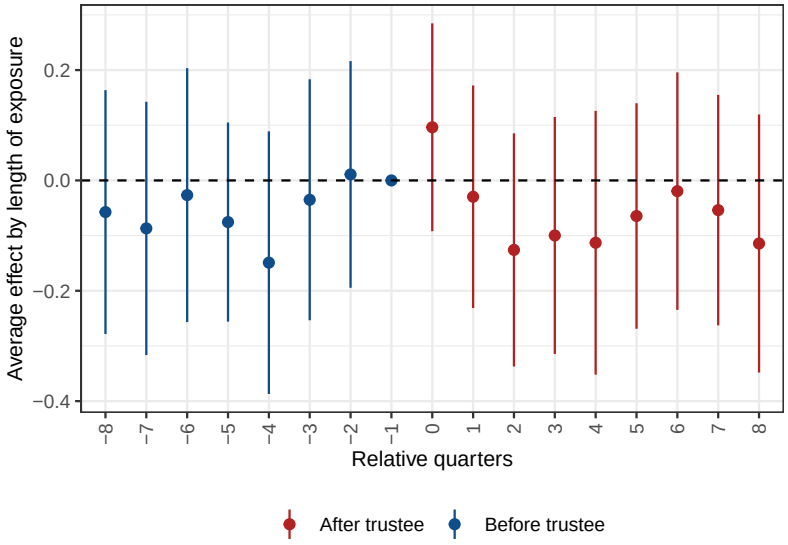
Notes: The figure plots the Herfindahl-Hirschman Index (HHI) of the *contracts market* in the municipalities held by elected AKP (Panel a) and DBP (Panel b) mayors, separately for each auction method in pre-trustee era. HHI is calculated as the squared sum of each contractor's share in the state contracts, separately, for each auction method. An HHI of 0 indicates a perfectly competitive market, whereas an HHI index of 1 indicates a monopolized market where all contracts are granted to one specific contractor.

Figure A.11: Dynamic effects: construction spending as a share of total spending



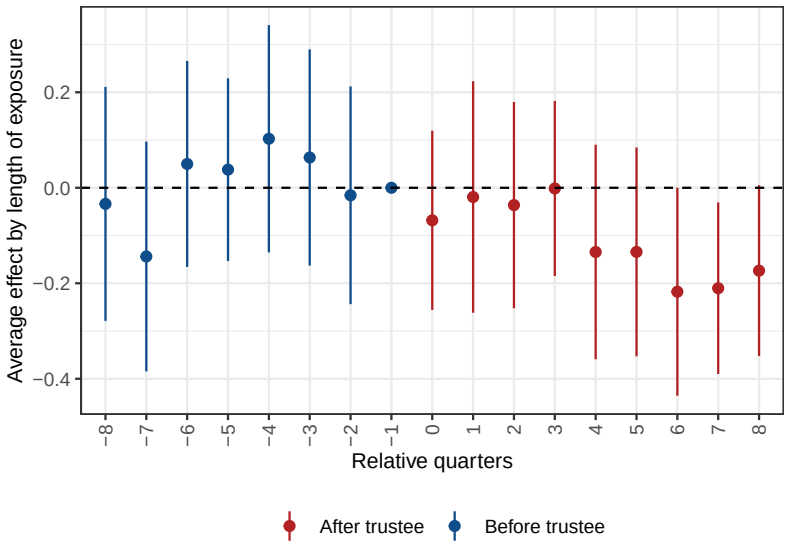
Notes: The figure plots the dynamic effects from staggered DiD estimations using Dube et al. (2023) based on length of exposure to the treatment. The outcome variable is the quarterly share of construction contracts. Control variables include population, number of enterprises at the municipality level, and the level of nightlight at the district level.

Figure A.12: Dynamic effects: goods spending as a share of total spending



Notes: The figure plots the dynamic effects from staggered DiD estimations using Dube et al. (2023) based on length of exposure to the treatment. The outcome variable is the quarterly share of goods contracts. Control variables include population, number of enterprises at the municipality level, and the level of nightlight at the district level.

Figure A.13: Dynamic effects: services spending as a share of total spending



Notes: The figure plots the dynamic effects from staggered DiD estimations using Dube et al. (2023) based on length of exposure to the treatment. The outcome variable is the quarterly share of services contracts. Control variables include population, number of enterprises at the municipality level, and the level of nightlight at the district level.