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POLITICAL CONNECTIONS AND PUBLIC
PROCUREMENT IN TURKEY: EVIDENCE
FROM CONSTRUCTION
WORK CONTRACTS

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Abstract

Using a unique dataset of 17,937 high value public work construction procurements made between 2004 and 2011, this paper provides systematic evidence on favoritism in public procurement in Turkey. While the yearly total of high value construction procurements has tripled in eight years, the share of procurements that are made through less competitive procurement methods increased due to various legal amendments that increased the use of less competitive procurement methods and hence state discretion in public procurement contract award processes. We find that the politically connected firms enjoyed high levels of government discretion and higher contract prices in public procurements compared to the non-connected other firms. The probability of a politically connected firm winning a procurement contract increases, among other things, when less competitive award procedures are used. Procurements that are conducted through less competitive methods, cost more towards public. The use of public procurement for rent creation and distribution was extensive particularly for projects that cost more than TL 10 million, and the TOKİ projects.

JEL Classification: H5; P1; P3

Keywords: Political connections; public procurement; contracts; Turkey

ملخص

باستخدام مجموعة بيانات فريدة من نوعها لقيمة 17.937 من مشتريات اعمال البناء العام بين عامي 2004 و 2011، تقدم هذه الورقة أدلة منهجية على المحسوبية في المشتريات العامة في تركيا. في حين أن مجموع مشتريات البناء السنوية العالية القيمة قد تضاعف ثلاث مرات في ثماني سنوات، فإن حصة الصفقات التي تتم من خلال طرق الشراء أقل قدرة على المنافسة المتزايدة نتيجة لتعديلات قانونية مختلفة وبالتالي زيادة استخدام أساليب الشراء الأقل قدرة على المنافسة وبالتالي قلة تقدير الدولة في عقود الشراء العام. نجد أن الشركات المرتبطة سياسياً تتمتع بمستويات عالية من تقدير الحكومة وارتفاع أسعار العقود في المشتريات العامة بالمقارنة مع الشركات الأخرى غير المتصلة. احتمال وجود شركة مرتبطة سياسياً بالفوز بعقد الشراء يزيد، من بين أمور أخرى، وعندما تستخدم إجراءات منح أقل قدرة على المنافسة. المشتريات التي تتم من خلال وسائل أقل قدرة على المنافسة، تتكلف أكثر نحو الجمهور. وكان استخدام المشتريات العامة لخلق الإيجار وتوزيع الاتساع ولا سيما في المشاريع التي تكلف أكثر من 10 ملايين ليرة تركية.

1. Introduction: Clientelism and Corruption in Public Procurement

Public procurement, which comprises large shares of government budgets and GDPs in many countries, has long been used as a means to support SME development, stimulate industrial advancement and to generate economic growth. Yet, as one of the most important areas where the state and the private sector interact extensively, public procurement processes are open to the use of public resources for different interests other than the public good. Public procurement processes at times involve corrupt transfers between the state officials and the private sector firms for reasons ranging from personal interests to financing party politics. As indicated in a 2005 IMF Report: “corruption in public procurement is the most severe type of corruption” (IMF, World Economic Outlook, 2005, p.143).

Corruption in public procurement is generally severe mostly in public works construction projects as the construction industry is ranked as the most corrupt sector.¹ Considerably large shares of public procurement, one of the major areas of transfers controlled by governments, go to the construction sector. Mass housing, roads, utility networks, schools and hospitals are just a few examples of public works construction projects that involve procurement. Given that the governments are the dominant providers of infrastructure services, the firms operating in the construction sector rely on governments for a considerable part of their business.

On January 4, 2002 the Turkish Parliament, with the pull of the International Monetary Fund-World Bank-European Union (IMF-WB-EU) nexus, passed a new public procurement law (PPL, Law No: 4734) in order to make public spending more efficient and transparent and depoliticize the procurement process. However, the Justice and Development Party (AKP) that first came to power in November 2002 and since then has stayed in power as the majority government, has amended the new PPL more than 150 times over the last 13 years. Many of these legal changes increased the use of less transparent and less competitive procurement methods. Overall, both the number and the value-share of public procurement contracts those fall outside the relatively more competitive public procurement procedures (open auctions) increased substantially during the period of 2005 and 2014. While the number of contracts awarded via open auctions fell from 100,820 in 2005 to 65,016 in 2014, the number of contracts awarded through less competitive and less transparent methods and those covered by exceptions rose from 41,157 to 58,680. In terms of the share in total number of contracts awarded, these numbers indicate a fall for open auctions from 71 percent to 52.5 percent, while a rise for the other tender procedures and the ones covered under exceptions from 29 percent to 47.5 percent (Public Procurement Authority - PPA).

The AKP government puts a special importance to the construction sector as it feeds many sub-sectors (e.g. cement, iron, bricks, ceramics, glass, plastics, etc.) and significantly contributes to economic growth. According to TURKSTAT construction permits database, the index for construction permits has jumped from 100 in 2009 to 151 in 2010. The 2009-2011 average for construction permits is 111,000 buildings (692,000 apartments). Istanbul, where the ‘urban renewal projects’ lead the construction sector, alone gets nearly the one-fifth of all construction permits.

Meanwhile, so far, the Mass Housing Administration of Turkey (TOKİ) has produced and procured 685,475 housing units and around 8000 various buildings such as schools, mosques, hospitals, and trade centers (TOKİ, 2015). TOKİ through the vast expansion on its duties and authorities, has become the supreme government apparatus building and procuring numerous construction projects. Regarding the legal arrangements that weakened the control over the procurements of specific state entities, TOKİ procurements appear as the most notorious cases. TOKİ has become directly affiliated with the Prime Ministry under the Presidency's approval

¹ See for instance, Transparency International's poll on business perceptions in 28 countries. <http://www.transparency.org/bpi2011/results>

(dated 01/15/2004). Moreover, TOKİ investments have been removed from state investment programs and exempted from Public Procurement Law. What is more, all the duties and the authority of the Urban Land Office have been transferred to TOKİ, with the Law no: 5273 (dated 12/14/2004). Based on this legal arrangement, 64.5 million m² of land has been passed on TOKİ's immovable portfolio. Besides, TOKİ is permanently exempted from land tax. It is also bestowed with numerous other powers and privileges through a dozen of laws such as establishing subsidiary firms, implementing profit oriented projects, drafting and approving urban renewal projects, and conducting renovation projects in preservation zones (Altınok, 2015).

Similarly, construction of 15,000 km double lane highways was the most notable pre-election promises of AKP. During the analysis period although the construction of new highways was not the top priority as the total length of highways in Turkey rose from 1,714 to 2,127 kilometers, the length of divided roads rose from 6,000km to 22,000km, whereas the length of unpaved (non asphalted) roads, fell from 144,000km to 33,000km (Deliveli, 2014). During the AKP majority government, the Directorate General of Highways, which was previously connected to the Ministry of Transportation, has become an institution with private budget. These developments increased the critiques that highway construction played a significant role in contributing AKP's power consolidation attempts due to being highly effective in reducing opposition in a similar way demonstrated by Voigtlaender and Voth (2014) for Germany, and at the same time distribute state resources to affiliated firms.

Finally, as AKP improved its performance not only in general elections but also in local elections both through increasing its share in the number of mayoralities and its vote share in the cities and districts under its authority, the central and the local governments have increasingly cooperated and co-used discretion over various sizes of projects. Accordingly, the municipal governments have become important actors in government business relations at the local level through several legislative changes that increased their responsibilities and prerogatives.

All in all, the unceasing legal amendments that have increased state discretion in awarding contracts raise doubts that they give rise to rent-seeking and corrupt behavior for both the public entities and the contracting firms.

Accordingly, in this paper, using a unique public procurement data set that has several details on all construction works procurement contracts awarded between 2004 and 2011, we investigate whether the government has a tendency to distribute state resources to its business constituencies in the form of preferential procurement. The rest of the paper is organized as follows. The second section introduces a snapshot of the legal framework that governs the public procurement in Turkey and evaluates the legal amendments that have increased the scope of state discretion in public procurement. The third section reviews the recent literature on the returns to firms' political connections. The fourth section describes the data and the methodology. The fifth section presents and discusses the main findings on favoritism in public procurement and its economic costs. The sixth section concludes.

2. Public Procurement in Turkey

Public procurement comprises a substantial part of government spending in Turkey. One-fourth of annual public spending goes to public procurement. The share of public procurement in GDP is around 8.5 percent. Every year more than 100 thousand public procurement contracts are awarded to more than 50 thousand firms that are mainly the small and medium enterprises (SMEs). As Turkey's GDP has grown, the annual total value of public procurement has also risen. Only in 2014, 123,778 public procurement auctions with a total contract value above TL 100 billion are conducted in Turkey (PPA). Twenty-eight different public institutions, ranging from municipalities to ministries, conduct procurement auctions and award contracts. The

Municipalities are the largest procuring entities followed by the SOEs and the Ministry of Health. These three institutions together account for more than 50 percent of all procurements contracts awarded. In terms of the regional distribution of public procurement contracts, Istanbul and Ankara together comprise almost half of all procurements.

Public procurement in Turkey is governed under the Public Procurement Law (PPL), which was enacted in 2003. Procurements can be made using three different methods: open auction, restricted procedure, and negotiated procedure. The open procedure is the most widely used one. The authorities are not free to choose the auction method. They have to comply with the rules stipulated in the PPL.

For instance, the negotiated procedure is determined as the procurement method by law if (i) “it is inevitable to conduct the tender procedures immediately, due to occurrence of specific events relating to defense and security”; (ii) characteristics of the works, goods or services to be procured are so complex that it is impossible to define the technical and financial aspects clearly; (iii) “it is inevitable to conduct the tender procedures immediately, due to unexpected and unforeseen events such as natural disasters, epidemics, risk of losing lives or properties or events that could not be predicted by the contracting authority; (iv) *for the procurements of goods and services* if the estimated cost is below the pre-defined monetary limits (PPL, Article 21, p.32). Publication of a tender notice is not compulsory in cases set forth in subparagraphs (i), (iii) and (iv). Procuring entities are authorized to invite three firms. It is quite understandable why the PPL allows the use of the negotiated procedure for the defense-related procurements and the immediate mass housing construction projects in the earthquake-prone zones. However, the construction works of several roads, bridges, railways, as well as of the Harbiye Congress Center, and the new building complex for the Parliament were all procured with the negotiated procedure for the reasons depicted in (iii) above. It is not clear why the construction works of a Congress Center or the Parliament building were such immediate and what the unexpected and unforeseen events that could not be predicted by the contracting authorities were.

The restricted procedure, in which the procuring entities have to invite at least three firms, can be used if (i) “open procedure is not applicable as the nature of the subject necessitates specialty and/or high technology as well as (ii) *in procurement of construction works* where the estimated cost exceeds the half of threshold value” (PPL, Article 20, p.32). The threshold values and the monetary limits are updated yearly by the Public Procurement Authority. The second part of the Article 20 on the monetary limit, above which the procuring entities are allowed to make procurements from only invited firms, were introduced by an amendment law that was passed in 2008. Before the introduction of this monetary limit, restricted procedure could only be used in particular circumstances defined in the first part of the article above.

Moreover, various different amendment laws have exempted a large number of procuring entities from the scope of the PPL via broadening the scope of the Article 3 that defines the ‘Exceptions’. Indeed, the Article 3, which currently has 19 clauses, originally had only 6 clauses. Furthermore, many other laws about various institutions have exempted the particular procurements of these institutions from the scope of the PPL. The justification for exemptions has been grounded on the basis that the PPL with its strict procedures caused inefficiency rather than effectiveness particularly in procurement of urgent needs of particular institutions. Yet the construction-related procurements those fall under the “Exceptions” article are various such as survey, restoration, restitution and conservation projects of movable and immovable cultural heritage falling under the scope of the Protection of Cultural and Natural Heritage Law (Law No: 2863); road rehabilitation and environmental planning projects and their implementations; the procurement of construction works of healthcare facilities (e.g. hospitals); as well as all

urban renewal project procurements of the Ministry of Environment and Urbanization and the Mass Housing Administration (TOKİ).

All these developments that pave the way for the use of less transparent and less competitive methods of procurement have raised concerns about the upsurge in crony capitalism within which the public procurement system is abused by the majority government in order to favor some 'privileged' firms that provide the ruling party with critical political support.

3. The Literature on Returns to Firms' Political Connections

The relatively new literature on politically connected firms (PCFs) has been increasingly growing. Numerous studies analyze the effect of firms' political connections on various variables ranging from market share, productivity and profitability to market value, access to credit channels, propensity to bail out, and tax-invasion. Diverse facts about the returns to firms' political connections in different countries (e.g. Robert, 1990; Agrawal and Knoeber, 2001 and Acemoğlu et.al, 2014 on the US; Fisman, 2001 on Indonesia; Johnson and Mitton, 2002 for Malaysia, Khwaja and Mian, 2005 on Pakistan, Chekir and Diwan, 2013 on Egypt, and Rijkers et.al, 2014 on Tunisia) have started to be revealed mainly since the beginning of 2000s.

Regarding the effect of political connectedness on government procurement contract winning, Goldman et.al. (2013), analyze the effect of the 1994 elections results on the allocation of public procurement contracts. They find that, after the election, publicly traded companies with boards of directors with members connected to the winning Republican Party experienced a substantial increase in their share in total procurement contracts awarded whereas the firms politically connected to the Democrats experienced a fall in their share.

Hytinen et.al. (2005, 2007, 2011) study the effects of political partisanship on the allocation of Swedish municipalities' cleaning services procurement during the period of 1990-98, a period when the municipalities in Sweden had high degrees of discretion by law. They find that in 58 percent of the cases the lowest bid did not win the contract, leading the municipalities to pay on average 43 percent more than the case if they had selected the lowest bid. Their finding about the endogeneity of the bids particularly in left-wing municipalities points toward some sort of favoritism in one of the least corrupt countries in the world.

Palguta and Pertold (2014), using a dataset of 46,000 procurements in Czech Republic that worth more than USD 52.2 billion in total, provide empirical evidence on how policies that increased state discretion and prevented transparent competition lead to manipulation and active waste by procurement officials. The authors demonstrate how preferential access to procurements through avoiding open and transparent auctions by procuring officials that manipulate the estimated cost of procurements in order to select contractors in non-transparent auctions with restricted entry leads to waste of public resources. Manipulations are found to lead to (i) increases in the chance of allocating contracts to anonymously owned firms, which are often related to corrupt behavior, (ii) increases in the final prices of procurements and (iii) preferential prices for anonymous contractors. Manipulations are also found to induce an increase in the total amount paid for the relevant contracts by almost 12 percent.

The studies on the performances of politically connected firms in public procurement auctions in Turkey are rather new. The first attempt to discover the effects of political affiliation in winning public procurement contracts is made by Bircan and Gürakar (2015). Using a dataset of all public procurements conducted between 2005 and 2010, the authors analyze the contract-winning performances of the members of business associations that explicitly state their support to the ruling party (MÜSİAD, TUSKON, and ASKON). The study reveals that membership to a politically-connected business association has a positive effect on a firm's performance in the public procurement market, particularly for procurements that are

contracted under less competitive methods. Likewise, Gürakar (2016) through an analysis of 49,355 contracts of goods, services and public work construction procurements, provides systematic evidence on favoritism in public procurement in Turkey. Gürakar meticulously demonstrates that the firms connected to AKP enjoyed high levels of discretion and higher contract prices in public procurements compared to the non-connected other firms. The results also reveal that the AKP majority government has used public procurement as an influential tool both to increase its electoral success, build its own elites and finance politics.

In this paper we focus on the construction sector and extend the scope of the analysis of Bircan and Gürakar (2015) through providing a broader picture of returns to political connections in public works procurements and revealing further dynamics of state-business relations in Turkey. We examine all sorts of political connection/affiliation and present the results in comparison with the contract-winning performances of the firms that are known to be out of AKP's business constituency such as TÜSİAD members and the foreign firms.

4. Data and Methodology

4.1 Description of the data

In order to investigate whether some firms are favored over others in public procurement auctions, we use (1) a unique construction work procurement data that covers 17,937 high-value (above TL 1 million) contracts awarded between 2004 and 2011; (2) a manually constructed firms' direct political connections dataset that comprise 1395 companies; and (3) firms' business association memberships lists publicly provided by four business associations (TÜSİAD, MÜSİAD, TÜMSİAD, and ASKON) that together represent nearly 80 thousand firms, two old well-established sectoral associations (Turkish Constructors Association – TMB, and The Turkish Employers' Association of Construction Industries – INTES) that represent the 150 largest constructor firms in Turkey, and two confederations (TÜRKONFED and TUSKON) that represent around 400 local business associations and sectoral associations that together have approximately 100 thousand member firms.

The public procurement dataset includes detailed information about 17,937 high value construction works procurements conducted between 2004 and 2011. It has complete information on all procuring institutions (e.g. Ministries, Municipalities, etc.), firm names that are awarded with a public procurement contract, auction types (goods, services, construction), auction methods (open tender, negotiated procedure, restricted procedure, procurements made under exceptions) as well as the economic details of procurements (e.g. estimated cost, lowest bid, highest bid, winning bid, the contract price). The data set also contains legal changes and how these legislations increased the range of contracts that fall outside the more transparent public procurement process.

In the manually constructed PCF dataset, contract awarded firms with some sort of direct connection with the political parties represented in the Parliament and the local governmental bodies are classified as 'politically connected to AKP' (cAKP) and 'politically connected to opposition parties' (cOpp).

For detecting the firms with direct political connections we used a classification method similar to Faccio (2006)'s definition: A firm is coded as 'connected to AKP' (cAKP) if one or more of its shareholders is/are: i) a Member of the Parliament from the ruling AKP; ii) an AKP official at the local level such as a provincial head or a member of the provincial party organization; and iii) first degree relatives of the ruling party officials indicated in (i) and (ii)². Firms whose shareholders have political connections with AKP through ideological kinship (e.g. board

² As Bugra and Savaskan (2014) argues "it was especially during the AKP government that government-business relations mediated by family networks became more visible, and it became more common to see close relatives of politicians taking a direct role in business life."

members of politically connected media channels, Islamic Charities and Foundations Akabe, Birlik, Ensar³) are also labeled as cAKP. In addition, the contract awarded companies with owners, shareholders and members of board of directors of the pro-AKP media channels are also categorized as cAKP. Yet, because the media groups have increasingly been intimidated during the AKP government,⁴ established holding companies such as Doğu Holding, which have firms operating both in the media and the construction sectors and participate in public procurement auctions, although frequently labeled as one of the partisan media groups by the opposition media, are *not* classified as cAKP, in order to distinguish the media groups that are ideologically close to AKP from the media outlets that make pro-government news because of the political environment.

Although AKP enjoyed the parliamentary majority and the full control over the central government apparatus during the analysis period, opposition parties governed some municipalities, such as the coastal cities as Izmir or the Kurdish provinces in Southeastern Turkey such as Diyarbakir. Thus AKP had to share power with other parties that are also represented in municipal councils and have some influence on the local decision-making processes. Accordingly following the same methodology used for detecting cAKP firms, companies with direct connections with the opposition parties are labeled as cOpp.

The dataset for contract winner cAKP and the cOpp firms is constructed through searching the shareholders of these firms using the Trade Registry Gazette and then finding their political connections through using the Graph Commons TBMM Maps⁵ and via making extensive media research including the local journals where there are more information on local notables, municipal council members and the provincial heads of the political parties and the other members of the provincial party organizations.

However, political connections in Turkey are rather complex that cannot be analyzed solely by direct measures. Indirect connections, affiliations with the ruling AKP, established through Islamic business associations are also important as the members of these associations indirectly benefitted from the political connections established by their associations. In exchange of political support, certain business associations and confederations (e.g. MÜSİAD, ASKON, TÜMSİAD, and TUSKON) enjoyed the mediator role of the government in international business relations, preferential access to state resources and privileges in privatization processes (Hoşgör, 2011). Moreover, leaders or prominent members of these business associations were sent to the Parliament as AKP MPs. In the 22nd 23rd and 24th terms of the TGNA the number of MÜSİAD-affiliated MPs was 11, 7, and 10 respectively. In addition, there were three TUSKON-affiliated, one ASKON-affiliated and two TÜMSİAD-affiliated AKP MPs in the Parliament. Becoming an MP is not a common practice among the TÜSİAD members. On the contrary, TÜSİAD member firms are not even allowed to have MPs or bureaucrats in their board of directors – a decision made after the recurrent corruption scandals of the 1990s that included several names from the TÜSİAD members along with the ministers, MPs and bureaucrats.

³ For a recent analysis of the "connections" of Ensar Vakfı see "Ensar'dan geçen yollar AKP'ye çıkıyor: Ensar Vakfı'nın ilişkilerinin haritası ve analizi" BirGün 19.04.2016

⁴ According to the Reporters Without Borders' Press Freedom Index, Turkey astonishingly ranked 154th out of 179 countries in 2012. In 2002, when AKP first came to office, Turkey ranked 99th globally. Moreover, after the 2013 Gezi protests, around 80 journalists were fired in a matter of weeks. The number of imprisoned journalists more than doubled between 2001 and 2012.

⁵ Graph Commons is a collaborative 'network mapping' platform and a knowledge base of relationships. Graph Commons TGNA Maps uses the data on political parties, commissions, MPs, Parliamentary terms and law proposals provided by the TGNA. For more detail visit <https://graphcommons.com/hubs/2fa2394d-c6b1-4420-b842-760d10544ba1/explore?show=shortcuts>

Therefore, the contract awarded firms are categorized into groups based on their memberships in different business associations and confederations that explicitly state their support for the governing party during the analysis period of this study. Using the business association membership lists, the members of the four Islamic business networks: MÜSİAD, TUSKON, TÜMSİAD, and ASKON are labeled as firms ‘politically affiliated with AKP’ (PAFs). In order to present the performances of the politically affiliated firms (PAFs) in comparative basis, we also identified the members of other business networks that are not known to have very harmonic relations with AKP: Turkey’s most powerful business association, TÜSİAD, and of Turkish Enterprise and Business Confederation (TÜRKONFED) that was established with the initiatives of TÜSİAD. The TÜSİAD firms are established, competitive, large corporations, hundreds of which appear in Turkey’s first 1,000 firms lists. TÜRKONFED is a nation-wide confederation, representing 23 federations, 155 associations (including TÜSİAD), and more than 10 thousand businessmen. Around 200 TÜRKONFED member firms (excluding the TÜSİAD members) also appear in Turkey’s first 1,000 firms lists.

Finally, the members of the TMB and İNTES, which were founded in 1952 and 1964, respectively, are included in the analysis in order to gain more insights about construction work procurements. The founder members used to work at the public sector as engineers at particular state entities such as the Directorate General of Highways or the Turkish State Railways. Some of the founder members are the contractors of Turkey’s Grand National Assembly building. Many of the firms, which became İNTES-TMB members between early 1950s and late 1970s, are owned by engineers who started their own businesses as contractors after some experience in the public sector. Currently, many of the 150 large construction sector firms that are organized under the umbrella of İNTES-TMB work as international contractors and win international tenders in the fields of energy, tourism, health and transport. According to the statistics provided by the TMB, “the business volume of TMB members encompasses nearly 90 percent of all international contracting realized by Turkish companies” (TMB, 2015).

4.2 Mapping the contract-awarded firms

In the public procurement dataset, there are 5,945 contract awarded companies. Among these firms we identified 600 cAKP firms, 682 PAFs, 135 cOpp firms, 112 TÜSİAD and TÜRKONFED members, 75 İNTES-TMB members and 30 foreign firms. Three-fourth of the 682 PAFs are TUSKON members, while 20 percent is MÜSİAD members. The remaining 5 percent of firms are ASKON and TÜMSİAD members.

There are some overlaps between PAFs and cAKP firms; among TÜSİAD/TÜRKONFED, PAFs and the cAKP firms; as well as among the İNTES-TMB, TÜSİAD/TÜRKONFED, PAFs and the cAKP firms. Overlaps between PAFs and cAKP are due to a number of AKP MPs/officials who are also members or leaders of these four Islamic business associations. For instance, 16 PAFs also have direct political connections. In other words, around 3 percent of cAKP firms also have memberships at the Islamic business associations. The overlaps between TÜSİAD and PAFs stem from the double-memberships of the established, competitive firms of Anatolia, known as the “Anatolian Tigers.” As for the İNTES-TMB firms, overlaps are more complex: Almost one-third of the 150 İNTES-TMB firms have direct political connections with AKP⁶. Another one-third is TÜSİAD-TF members. Four of them are members of Islamic business associations and five of them have connections with the opposition parties.

The composition of the contract-awarded İNTES-TMB firms is rather complex. One-fourth of them are TÜSİAD members. One-third is formed of cAKP firms. There are an additional 5 firms whose political connections with AKP were revealed during the December 17-25 graft

⁶ If a firm is both an İNTES-TMB member and connected to AKP, it is classified as cAKP in the analysis.

investigation⁷. 8 of these firms are at the same time PAFs. 4 of them are cOpp firms. Only 18 of the 75 contract awarded İNTES-TMB members do not have any political connection or membership to other business associations.

Finally, there are around 4,350 contract awarded firms that we labeled as the “local others”. The “local others” are those (i) who are not found to have direct political connections or memberships to business associations analyzed in this paper; (2) whose shareholders change almost every year; (iii) whose owners have very typical names and surnames so that finding robust information about them is not possible. It is important to note that the firms categorized under “local others” are not necessarily opponents. On the contrary, there are hundreds of “local other” firms whose shareholders establish weak political connections through becoming the presidents or vice presidents of the Municipal football clubs or via building mosques and schools in their hometowns. Nevertheless, they are not coded as politically connected since their owners/shareholders are not actively serving at the cadres of political parties.

5. Main Findings

5.1 Basic facts about construction works procurements in Turkey

Construction works procurements have considerable economic significance in Turkey. During the period of analysis, over 145 thousand construction works procurement auctions that amounted to an aggregate total of TL 153 billion were conducted. The 17,937 high value contracts account for more than three-fourth of this total.

As Turkey’s GDP grew and the construction sector increased its significance during the analysis period, both the number and the value of high price construction work procurements drastically increased. Its share in total value of all high cost procurements (goods-services and construction combined) rose from 39 percent in 2004 to 57 percent in 2011 (Figure 1).

Looking at the distribution of contracts according to contract value (Figure 2), 40 percent of the 17,937 high-cost construction procurement contracts value between TL 1-2 million. Yet, their share in total value of construction procurements is only 7 percent. Around one-third of these 17,937 procurements have contract value between 2-5 million with a 13 percent share in total value. 1,843 contracts with a value between TL 10 million and 25 million account more than one-fifth of the total value of all high-value contracts awarded during the analysis period. Finally around 90 contracts that are above TL 100 million gets 16 percent from the aggregate total.

Regarding procurement methods, the share of restricted procedure drastically increased at the expense of a fall in the share of open procedure in total public works construction projects (Figure 3). The rise in the share of restricted procedure gets particularly steep after 2008, when an Amendment Law (No. 5812) introduced an ad hoc monetary limit and procurements of public works construction projects whose estimated costs exceed the pre-defined monetary limit were allowed to be made using the restricted method. In tenders made through the restricted procedure only invited firms can bid. The monetary limit for 2009 for instance was TL 11,116,324. The current monetary limit for 2016 is TL 17,902,001.

5.2 Political connections and the allocation of construction work contracts

Figure 4 below demonstrates the shares of different types of firms in total number and total value of contracts awarded. In terms of value of contracts, firms that have direct political connections with the ruling AKP get around 42 percent of all contracts. Firms with direct connections with the opposition parties, on the other hand, get a mere 6 percent. In addition, PAFs get another 18 percent, while the members of TÜSIAD and TÜRKNÖFED together get

⁷ The 17-25 December graft probe refers to a criminal investigation that involves several businessmen and key people in the Turkish government and their family members. They were accused of bribery, corruption, fraud, money laundering and gold smuggling.

7 percent of the contracts. Foreign firms get around 3 percent of the contracts. Finally, the INTES-TMB member large contractors get 15 percent from the construction work procurements. However, the three-fourth of this 15 percent share belongs to politically connected INTES-TMB firms. Half of this 15 percent share went to cAKP firms; 17 percent to PAFs; and 7 percent cOpp firms.

Figure 4 tells another interesting story about the contract award mechanism: The ‘local others’ indeed won 53 percent of the 17,937 procurement auctions. Yet the value share of these contracts accounts only one-fourth of the total value of all contracts. The politically connected firms, on the other hand won 44 percent of all contracts, but their value share in total accounts for almost 65 percent of the value of all procurement contracts.

Given that 40 percent of the contracts (7,092 out of 17,937) are valued between TL 1-2 million and 32 percent (5,609 out of 17,937) are valued between TL 2-5 million, these figures point toward an interesting strategy in contract award processes: Relatively lower-value contracts seem to be left to the “local others” whereas the highest value contracts seem to be awarded particularly to the cAKP firms. Figure 5 below, which examines the firm-base performances, illustrates this strategy.

As shown in Figure 5, 1,544 out of 1,690 firms that were awarded with contracts with a total value TL 1-2 million, are the ‘local others.’ Similarly, 1310 out of 1513 firms that are awarded with contracts with a total value TL 2-5 million, are also the ‘local others.’ Indeed, looking at the distribution of the total number of contracts among different types of firms reveals that 55 percent of the ‘Local Others’ (2,419 out of 4350 firms) won in only one tender in eight years. 20 percent of them could win in only two auctions. Most of the PCFs, except the cOpp firms, were awarded at least one contract per year. 40 of them, 30 of which being the cAKP firms, were given more than 20 contracts in the 8-year-period.

The number of PCFs (cAKP, cOpp, and PAFs combined) that were awarded with contracts with a total of TL 1-2 million is only 130. Only 30 cAKP firms were awarded with contracts with a total of TL 1-2 million. The total value of contracts won by 356 cAKP firms cluster around TL 25 million to TL 500 million. Almost 30 percent of the PCFs (397 firms) were awarded with contracts with a total value between TL 25-100 million. 206 PCFs won contracts amounting a total value between 100-500 million, whereas the total contract value per firm for 25 PCFs is above TL 500 million. Not surprisingly, there is no ‘local other’ that won contracts reaching to TL 500 million.

5.3 What explains the auction winning performance of the politically connected firms?

In this section, we analyze whether different procurement characteristics have an effect on the auction outcomes. Do the PCFs win contracts more in certain types of auctions (e.g. the ones made through less competitive methods)? Are they awarded with contracts when procurements are made by certain public entities? Do they perform better in procurement tenders of higher or lower value contracts? So, our aim is to investigate the factors and the specific arrangements that determine whether a public procurement contract is likely to be awarded to a politically connected firm.

The dataset provided by the Public Procurement Authority has the following variables:

1. Winning bid (WINBID): For each public procurement auction the PPA data set contains the highest and the lowest bids. The lowest bids are generally the winning bids and equal to the contract price.
2. Estimated cost (ESTIMATE): Estimated cost is the predicted value of the project calculated by the experts of the procuring entities.
3. Number of submitted bids: The total number of bids submitted at each procurement auction

4. Number of valid bids: The procuring entities have a right to consider some bids invalid. So, the number of valid bids is the actual number of bidders participated in a given procurement auction.
5. Dummy variables for the procurement methods (AUCMETHOD): By law, there are three different procurement methods: The open, restricted and the negotiated procedures. Besides, some procurements fall under the exceptions article of the PPL (Article 3)

Table 1 presents the summary statistics of the variables used in the analysis.

Average winning bid for all construction public procurement contracts is TL 7.6 million, while the most expensive project is over TL 1.5 billion. 90 percent of the 17,937 procurements are made through the *open auctions*, while 5 percent is conducted via the *negotiated procedure* and 2 percent by the *restricted method*. The remaining 3 percent of the procurements fell under the *exceptions* article of the Public Procurement Law. In terms of the contract values, the share of open auctions is slightly above the three-fourth of the total, whereas the contracts awarded through the restricted method account for 12 percent of the total. The negotiated procedure and the procurements that fall under exceptions comprise for another 12 percent of the total.

In addition to the variables provided by the PPA, we created new variables necessary for the analysis. We calculate the rebate value (REBATE) for all procurements. Rebate is some sort of discount from the estimated the cost of the project. Hence the higher the rebate, the lower the winning bid, and in turn the lower is the cost of the project for the auctioning authority. REBATE is derived as the log difference of the estimated cost of the procurement and the winning bid, $\ln\left(\frac{estimate_{it}}{winbid_{it}}\right)$. This variable allows us to observe the contract prices in accordance with the estimated cost and thus offer us an opportunity to compare the contract prices with respect to their closeness to the estimated cost. The ratio of the estimated cost to the winning bid provides us an index common for all auctions since it normalizes the contract prices. The variable also eliminates the effect of inflation on the contract price. Low REBATE values mean that the contract price of procured auction is close to the estimated cost, whereas higher values indicate lower contract prices, which is normally expected to stem from increased competition, assuming that the procuring entities make a detailed market research and calculate the estimate costs accordingly. The mean of the REBATE is 0.338. That is the contract prices are on average 28.5 percent lower than the estimated costs.

Moreover, we classify the procurements made by the public entities in the three *big cities* - İstanbul, Ankara and Izmir – as the *Big Cities* (BIGCITY). Similarly, we categorize the procurements made by the public entities in Denizli, Konya, Kayseri, Gaziantep and Malatya as the *Anatolian Tiger cities*. The big cities account for almost half of the total 17,937 public works construction projects contracts. Their share in total value of contracts awarded is 67 percent. The Anatolian Tiger cities where the Islamic business associations are particularly effective make 8 percent of the 17,937 public works construction procurements. The total value of construction projects procured in these cities sums up to TL 7.2 billion.

We also take the contracts awarded by TOKİ, the General Directorate of High Ways, and the Municipalities into consideration. These three procuring entities account for more than half of the procurements made during the analysis period. TOKİ auctions account for the 9 percent of the 17,937 contracts. 20 percent of the total value of high value procurements made between 2004 and 2011 are TOKİ projects. 15 percent of the total value of high value construction procurements made between 2004 and 2011 are Directorate General of Highways projects. One-fourth of the total value of high value public work construction procurements made between 2004 and 2011 conducted by the Municipalities.

In order to identify if certain procurement characteristics can be used to predict whether a contract is awarded to a politically connected firm (PCF), we use a logit model with the dependent variable *ifPCF*, a binary variable that demonstrates if the contract is awarded to a PCF or not. The logit model is generically specified as follows:

$$F(x' \beta) = \frac{\exp(x' \beta)}{1 + \exp(x' \beta)}$$

While the left-hand-side is in the familiar probability scale, the right-hand-side is a non-linear function of the predictors where x' is a vector of covariates and β is a vector of regression coefficients. This defines the systematic structure of the model. The interpretation of coefficients to express the effect on the probability of increasing a predictor by one unit (while holding the other variables constant) is not feasible for the non-linear models. Therefore, we use the marginal effects in order to illustrate the change in probability when the predictor or independent variable increases by one unit. The marginal effects for the logit model are estimated by taking derivatives with respect to x_j , where β_j represents the change in the logit of the probability associated with a unit change in the j -th predictor. Holding all other predictors constant:

$$\frac{\partial p}{\partial x_j} = \Lambda(x' \beta)[1 - \Lambda(x' \beta)]\beta_j = \frac{\exp(x' \beta)}{(1 + \exp(x' \beta))^2} \beta_j$$

Table 2 demonstrates the coefficients of the logit model for our binary outcome *ifPCF*. Public procurement contracts are more likely to be awarded to a PCF if the procurement: (i) has an estimated cost above TL 10 million, (ii) is auctioned with a single valid bidder, (iii) is made through less competitive methods, (iv) is conducted by the municipalities, TOKİ and the General Directorate of Highways and (v) is made by the public entities located in the three big cities or in the Anatolian Tiger cities.

The results provide very valuable evidence on the important mechanism for transfer of rents and the value of political connections: The probability of a politically connected firm winning a procurement contract increases, among other things, when less competitive auction procedures are used. The probability that a PCF firm wins an auction increases by 3 percent when less competitive auction methods are used and if the auction (including the open auctions) is conducted with a single bidder. Moreover, PCF firm is 25 percent more likely to win a procurement auction if the estimated cost of the project is higher than TL 10 million. The results remain significant after controlling for the city and the institution of the procurement. If the procurement is conducted in one of the three big cities or in one of the Anatolian Tiger cities, then the probability that the contract is awarded to a PCF is 6 percent higher. If the auction is conducted by the municipalities, TOKİ or the General Directorate of High Ways, the probability that PCF wins in the auction increases 8 percent, 13 percent and 11 percent, respectively.

Politically connected firms' performance may raise a question about the causality between being a PCF and winning a public procurement contract. Do the PCFs win procurement contracts because they are politically connected? Or they are politically connected because the government picks the already large and competitive firms that can win contracts? For example, politically connected firms may be better in doing large projects (estimated cost > TL 10 million). Similarly, they may be better road builders (the dummy for G. D. Highways). However, there is no a priori efficiency reason why the winning probability of a PCF should increase when less competitive methods are used. Nevertheless, in order to further tackle the issue of causality, we searched for the year of foundation for each cAKP firm in our dataset and used it as a proxy for measuring whether they are large and long-established firms. Being

a large and long-established firm is a determining factor in winning contracts because bidder firms have to demonstrate the necessary eligibility documents that prove that they have successfully completed public works construction projects with contract values close to the estimated cost of the procurement. For instance, a tenderer firm, in order to prove its eligibility, has to demonstrate that it has completed a project that amounted not less than 40 percent of the procured public work construction project. This means if a firm want to bid for a construction project procurement with an estimated cost of 50 million, it has to have a work completion document that value at least TL 20 million. Similarly, it has to prove that it has completed at least 80 percent of a similar project within the last fifteen years. The eligibility documents are given to the firms by the authorized institutions and cannot be transferred, rented or bought (PPL, Article 10). Hence, one way through which a new and inexperienced firm can bid for a high value public work construction procurement auction is forming partnerships or consortiums.

Figure 6 below exhibits the distribution of average and total value of the contracts awarded to cAKP firms according to the year foundation of these firms. As displayed in Figure 6, most of the cAKP companies are not the long established companies. Only 66 of 599 cAKP firms are founded before 1980s. 463 of 599 (77 percent) cAKP firms are founded after 1990s. 1990s is a decade when the Islamist Welfare Party (Refah Partisi), where the current president of Turkey Recep Tayyip Erdoğan was a member and the former president of Turkey Abdullah Gül was the deputy leader, started to rise. It first became successful in the general elections of 1991 with 16.9 percent vote share and sent 62 deputies to the Parliament. Then in 1994 local elections the party won the İstanbul and Ankara mayoralties. Recep Tayyip Erdoğan became the Mayor of İstanbul. The Welfare Party's popular vote increased over the years until it won the 19,3 percent of the votes in 1995 general elections, sent 158 deputies to the Parliament and became the largest party under Prime Minister Necmettin Erbakan who was forced out of power in 1997 due to being suspected of having an Islamist agenda. Figure 7 clearly demonstrates that it is those firms established during the rise of the Welfare Party that are the main contractors of today's public works construction projects.

After discussing the explanatory power of procurement characteristics on the auction winning performance of the PCFs, in the next section we will evaluate the economic costs of favoritism in Turkish construction works procurements.

5.4 The economic cost of favoritism in public procurement

In this section we investigate the economic consequences of favoritism in public work construction procurements. Although unlimited competition in procurement auctions does not necessarily mean more efficiency due to increased bureaucracy and paper work, many scholarly works (e.g. Klemperer, 1996; Lalive and Schmutzler, 2011) provide ample evidence on the positive effect of an optimal rate of competition on cost efficiency in public procurement. Accordingly, in order to assess whether hindrance of competition through favoritism leads to public loss we utilize the REBATE value as the dependent variable in two separate models: an OLS regression model which is specified as $y = x' \beta + \varepsilon$ where x' is a vector of covariates, and β is a vector of regression coefficients; and a difference-in-differences (DD) model. As we explained before, the dependent variable REBATE is the log difference of the estimated cost of the procurement and the winning bid: $\ln \left(\frac{\text{estimate}_{it}}{\text{winbid}_{it}} \right)$. Keeping the estimated value constant, decrease in REBATE is a result of a higher contract value, which means that the contract costs more towards public.

The results of the OLS regression presented in the first column of Table 3 reveal that construction works procurement contracts won by the PCFs cost more towards public. The contracts awarded through closed auctions also cost higher than the ones awarded by relatively

more competitive open auctions, supporting the general hypothesis that competition and cost efficiency are positively related. Likewise, we have enough evidence to say that when the number of bidders increases in an auction, contracts tend to cost less. Finally, TOKI projects appear to cost higher than average, a tendency that we could not find for the procurements of General Directorate of Highways and the municipalities.

Our second model is a DD model that is specified as:

$$y = \beta_0 + \beta_1 d_{restricted} + \beta_2 d_{open} + \delta_0 d_{2008} + \delta_1 d_{2008} \cdot d_{open} + \delta_2 d_{2008} \cdot d_{restricted} + x' \beta + \varepsilon$$

In the equation, d_{2008} is a dummy variable for the second time period (after 2008). The dummy variables $d_{restricted}$ and d_{open} capture the differences in the rebates without the time effect. As demonstrated in Table 3, when the contracts are awarded through the open auction, contract prices tend to be lower. For the contracts awarded through the restricted method, on the other hand, the costs to public are higher.

We set the DD model in order to assess the impact of 2008 legal amendment that allowed the use of the *restricted method* for public work construction projects whose estimated costs are above the pre-defined monetary limit. The reason why we analyzed only the restricted method but not for instance the negotiated procedure is that the legal amendment targeted only the former⁸. However, as the majority of contracts are awarded through open auctions, we also controlled for the difference in the public procurements awarded via open auctions in order to eliminate any false impact that may arise from the weight of the open auctions in the data.

Accordingly, the difference-in-differences estimates are calculated as:

$$\hat{\delta}_1 = (\bar{y}_{open,2008} - \bar{y}_{open,before\ 2008}) - (\bar{y}_{other,2008} - \bar{y}_{other,before\ 2008}).$$

$$\hat{\delta}_2 = (\bar{y}_{restricted,2008} - \bar{y}_{restricted,before\ 2008}) - (\bar{y}_{other,2008} - \bar{y}_{other,before\ 2008}).$$

The DD coefficient δ_2 is the interaction term that demonstrates the change in difference in REBATE for restricted auctions before versus after 2008. Likewise, the coefficient δ_1 stands for the change in REBATE for the contracts awarded through open auctions before versus after 2008.

Looking at the impact of the legal amendment, after 2008, rebate for procurement contracts conducted through the restricted procedure was 13.5 percent higher than the rebate for the procurement contracts awarded through the other methods. That is, contrary to our expectations, following the 2008 legal amendment, the contractor firms that were awarded with construction work procurement contracts through the restricted auction method offered higher discounts compared to the pre-2008 discounts. Note that there is no significant change for the rebate for open auctions.

One explanation for this unexpected result can be related to the fact that it is the procuring entities that calculate the estimated costs. Given that the share of cAKP firms in construction procurements conducted through the restricted procedure is 70 percent, it might well be the case that the procuring entities miscalculated the estimated cost (higher than it is supposed to be) in order it to fall above the newly introduced monetary limit and procure through the restricted method. Consequently, when a PCF offers the real market price and is awarded with the contract, it appears that the rebate is high. This explanation's validity gets even stronger when it is coupled with the fact that the ex-post price escalation clause, which allows extra

⁸ There is another legal amendment (Law no 4964) that targeted the negotiated procedure through introducing another ad hoc monetary limit. However, it applies only for the goods and services procurements.

payments after the contract is signed, was readopted in the same year when the monetary limit for restrictive procedure was introduced.

To further check if the above argument has any legitimate base, we examined if there are any clusters just above the monetary limits with kernel density graphs to investigate the underlying density of the estimated costs of the contracts.⁹

Figure 8 provides clues about possible mistreatment of the 2008 legal amendment. The vertical *red* lines in the figure represent the pre-determined monetary limits above which the restricted procedure applies and only invited firms can bid. The bars just next to the red line on the right and the left hand sides (highlighted with grey and green colors respectively) demonstrate the clusters of the estimated costs right above and the right below the monetary limits. Although the monetary limits have started to apply by 2009, in order to illustrate the impact of the legal amendment, we draw a similar graph for the year 2008 as if there was a monetary limit (illustrated on the upper left-hand side). The thresholds and the monetary limits are updated by the PPA in parallel with the inflation rate. Accordingly, the forecasted monetary limit for 2008, which is the blue line in the first kernel density graph, is calculated by reducing the monetary limit of 2009 by 8%. As demonstrated in the graphs, the way that the procuring authorities calculate the estimated costs has changed after the monetary limits have started to be used. After 2008, different from the graph on the upper left-hand side, we observe clusters just right hand side of the monetary limit (bars highlighted with grey color), signaling that the estimated costs could well be miscalculated (higher than what they were supposed be) in order to be able to use the restricted procedure and invite particular firms.

6. Conclusion

Using a detailed dataset of Turkish public works construction procurement auctions conducted between 2004 and 2011 we provided systematic evidence on favoritism in public procurement auctions in Turkey. Politically connected firms are awarded with higher numbers of contracts and with contracts grater in value. The empirical evidence presented in the paper demonstrates that the probability of a politically connected firm winning a procurement contract increases, among other things, when less competitive award procedures are used. We further found that the politically connected firms tend to do the public work construction projects at higher costs compared to non-connected ones. We also documented the significant economic costs associated with the increased use of less competitive contract award methods.

The results of the investigation on the impact of legal amendment of 2008, which introduced ad hoc monetary limit procurements with estimated costs above which are allowed to be made through the restricted method, suggest that the PCFs, which were awarded with 70 percent of the construction works contracts awarded through the restricted method offered higher discounts after 2008. However, the clusters just above the monetary limits raise doubts on miscalculation of the estimated costs in order to fall above the monetary limits so the auctions can be made via the restricted procedure where only invited firms can bid.

All in all, the AKP majority government, through using public procurement as an influential tool, seems to reconfigure the networks of dependencies and privileges. Favoritism is centralized, exists and prevails through making highly debated, notorious new laws and

⁹ Kernel density estimates are calculated by dividing the range into intervals and estimating the density at the center of these intervals. This estimation brings the advantages of being smooth and of being independent of the choice of origin (corresponding to the location of the bins in a histogram). Kernel estimates differ from the histograms in a way that the intervals are allowed to overlap and rather than merely counting the number of observations in a bin, a weight between 0 and 1 is assigned based on the difference from the center of the interval and the weighted values are summed. The function that determines these weights is called the Kernel. For further discussions of kernel density estimators and their use as exploratory data-analysis tools see Cox (2007), Fox (1990) and Salgado-Ugarte et al. (1993).

regulations. However, while clientelism, patronage, and cronyism are prevalent, there is also some sort of redistribution through lower cost projects.

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Figure 1: Total Number and Value of Construction Work Contracts

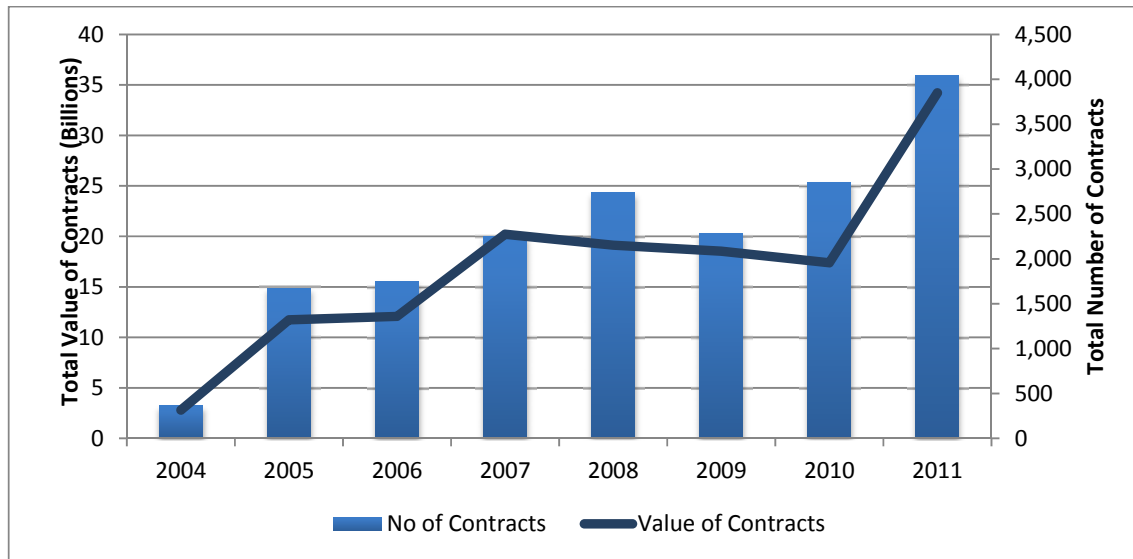


Figure 2: Distribution of Contracts according to Contract Value (in Total Number and Total Amount)

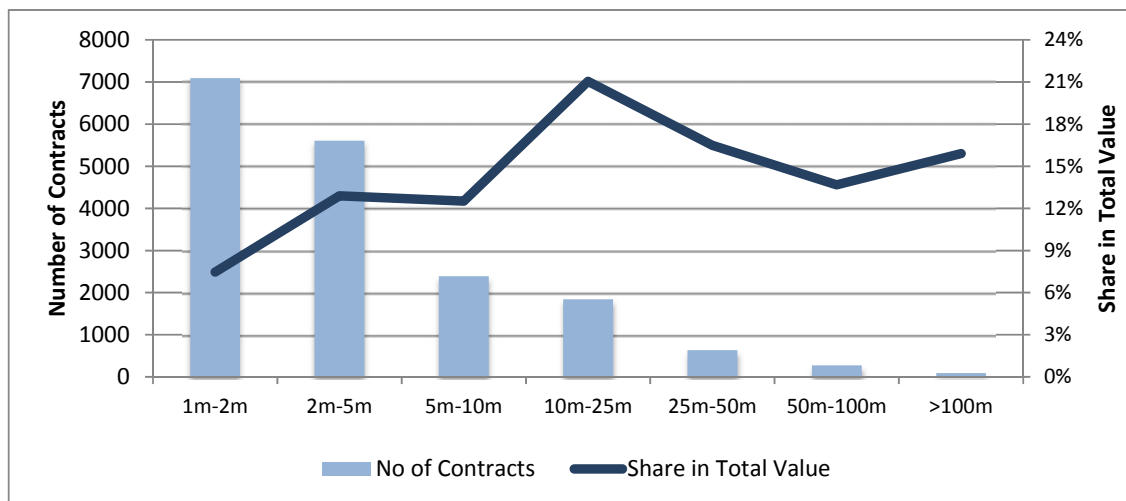


Figure 3: Number and Value of Public Work Construction Contracts - Open and Restricted Procedures

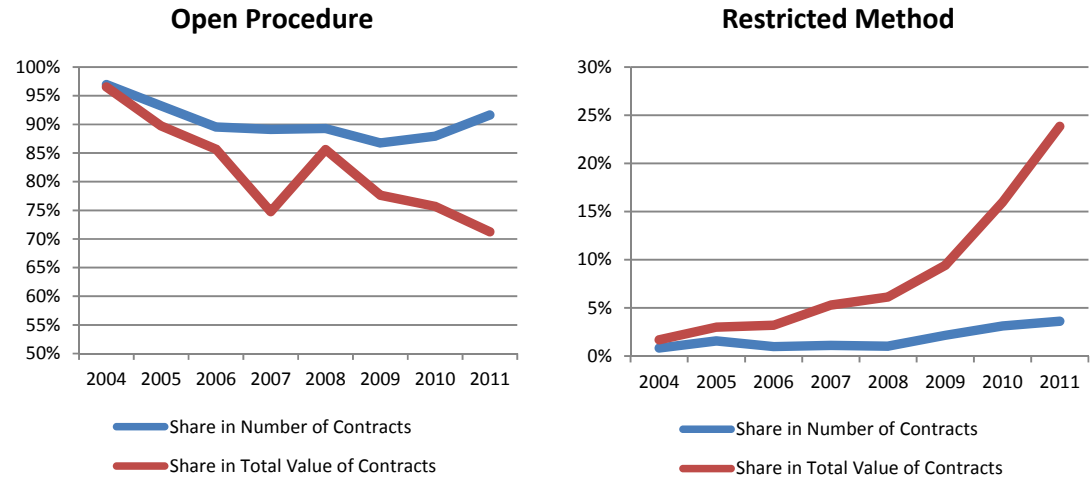


Figure 4. Public Works Construction Contracts Awards (According to Firm Categories)

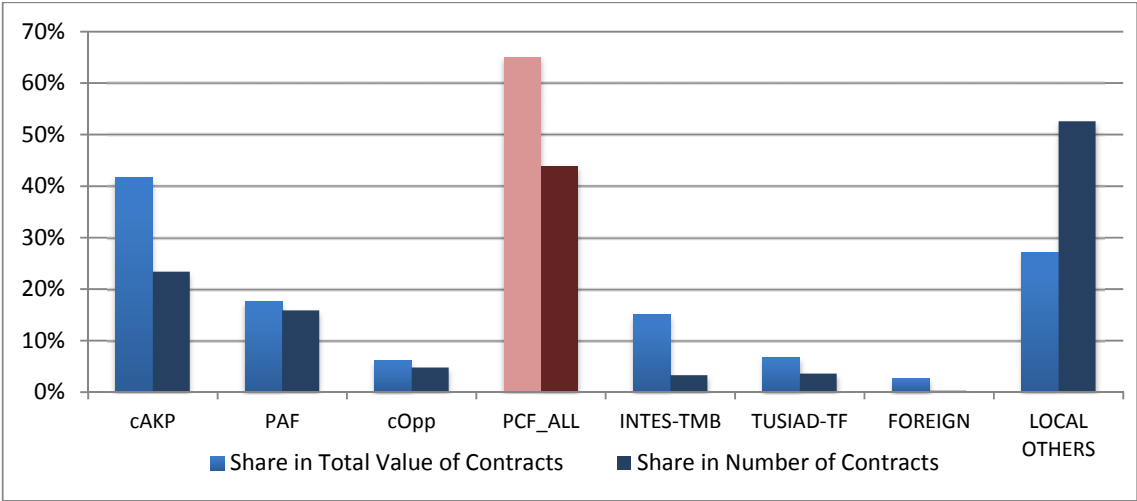


Figure 5: Distribution of Contracts among Different Types of Firms (According to Contract Value)

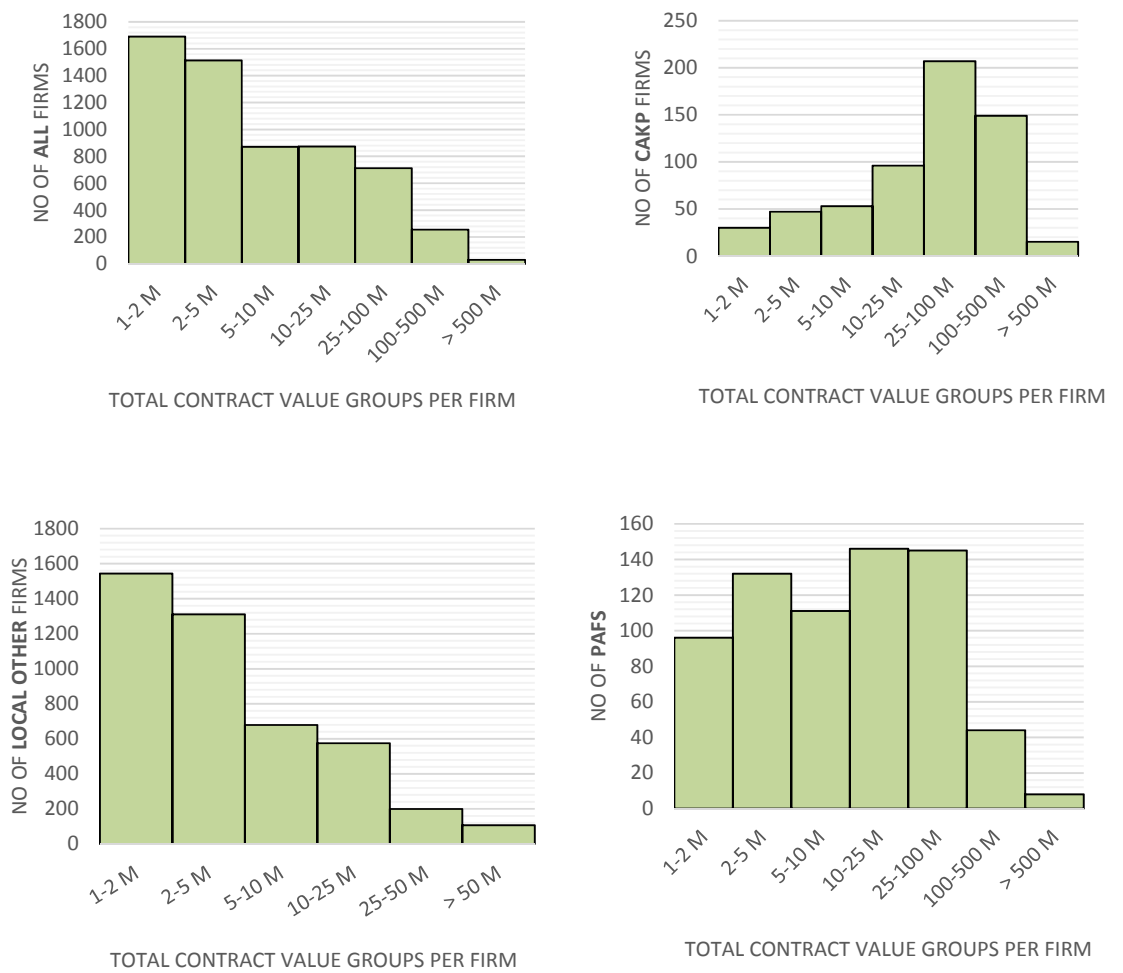


Figure 6: Distribution of cAKP Firms' Average and Total Value of Contracts by the Foundation Year

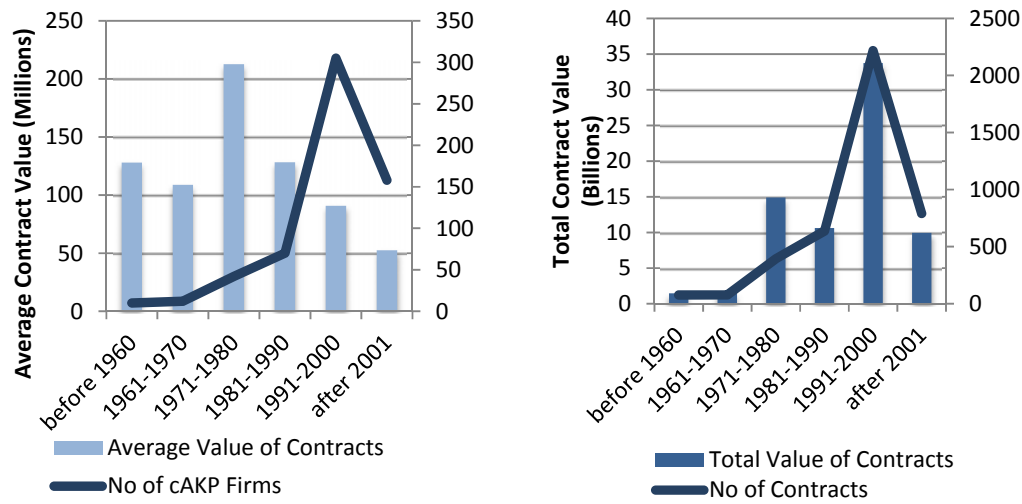


Figure 7: Clusters around the Monetary Limit

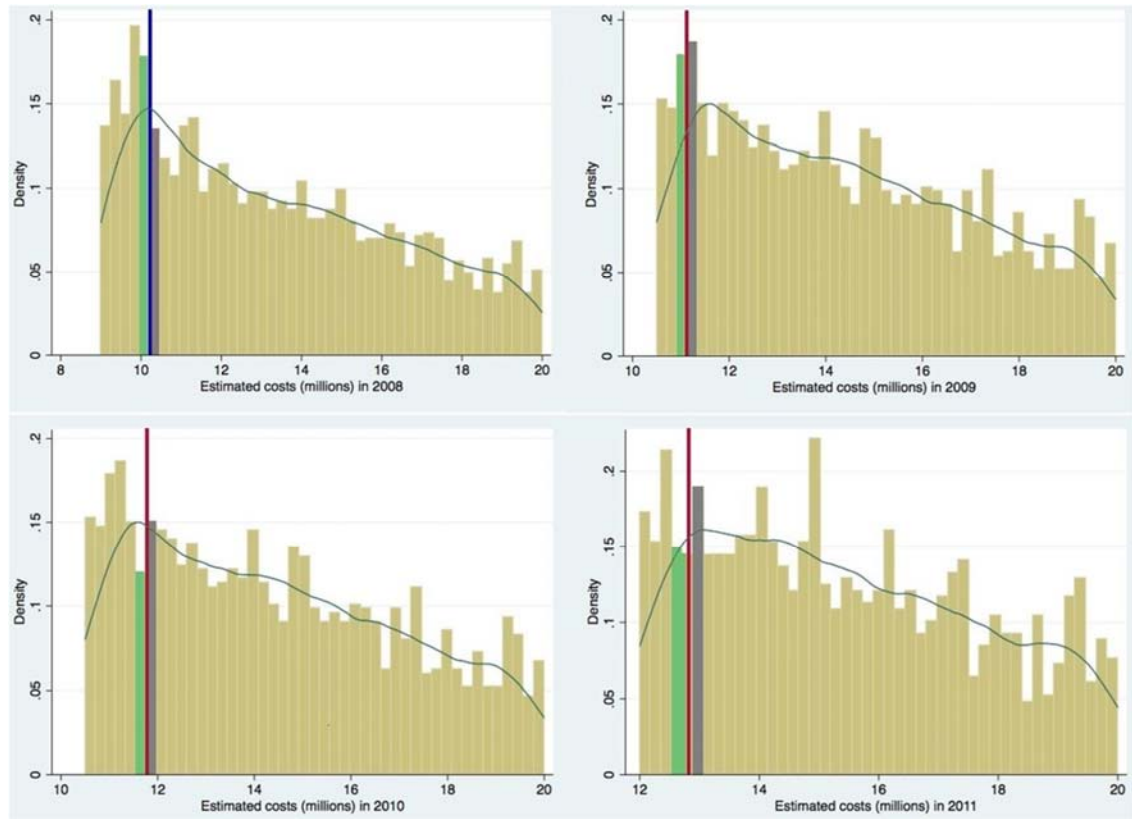


Table 1: Summary Statistics of the Variables

	Number of Observations	Mean	Standard Deviation	Minimum	Maximum
Winning Bid (WINBID)	17,937	7,585,928	2.54e+07	1,000,000	1.52e+09
Estimated Cost (ESTIMATE)	17,937	1.07e+07	3.62e+07	774,086	1.66e+09
Dependent Variable 2 (REBATE ¹⁰)	17,937	0.338	0.231	-0.502	2.965
No of Submitted Bids	17,937	9.810	7.343	1	69
No of Valid Bids	17,937	7.108	5.472	1	64
Dependent Variable 1 (ifPCF ¹¹)		(7,012 out of 17,937) 39%			
Auction method: Open Auction		(16,093 out of 17,937) 90%			
Auction method: Closed Auction ¹²		(1,844 out of 17,937) 10%			
Project location: Big city		(8,364 out of 17,937) 47%			
Project location: Anatolian Tiger city		(1,484 out of 17,937) 8%			
Procuring Entity: TOKI		(1,516 out of 17,937) 9%			
Procuring Entity: Municipalities		(5,435 out of 17,937) 30%			
Procuring Entity: General Directorate of High Ways		(2,560 out of 17,937) 14%			
Single Bidder Auction		(1,168 out of 17,937) 7%			

Table 2: Determinants of the Auction Winner Outcomes – The Logit Model

Contract is awarded to a PCF ¹³ (ifPCF)	Logit Coefficients (Std.Err.)	Logit Marginal effects at the mean (Std.Err.)
Estimated cost higher than TL 10 m.	1.110** (0.045)	0.245** (0.010)
Single-bidder auction	0.141* (0.063)	0.031* (0.014)
Closed auction	0.131** (0.052)	0.029** (0.011)
Big city	0.256** (0.037)	0.057** (0.008)
Anatolian Tiger city	0.275** (0.059)	0.061** (0.013)
Municipality	0.337** (0.037)	0.075** (0.008)
TOKI	0.605** (0.063)	0.138** (0.014)
G. D. of Highways	0.511** (0.048)	0.115** (0.011)
Constant	-0.895** (0.057)	
Pseudo R-squared=6%		

Notes: *Indicates significance at the 5% level. **Indicates significance at the 1% level

¹⁰ Dependent Variable = log (Estimated Cost) – log (Winning Bid)

¹¹ This dependent variable stands for the PCFs excluding the cOpp.

¹² Closed Auctions include the Negotiated Procedure (948), the Restricted Method (383) and Exceptions (485).

¹³ PCF refers to cAKP+PAF. It excludes cOpp.

Table 3: Explaining the REBATE by OLS and DD Models

REBATE	OLS Regression Coefficients (Std. Err.)	DD Coefficients (Std. Err.)
Contract awarded to a PCF firm	-0.008** (0.003)	-0.007* (0.003)
Number of Valid Bids	0.130** (0.002)	0.126** (0.002)
Municipality	0.038** (0.004)	0.038** (0.004)
TOKI	-0.071** (0.006)	-0.069** (0.006)
Highways	0.118** (0.005)	0.112** (0.005)
Closed auction	-0.065** (0.005)	
After 2008 legal amendment		0.001 (0.010)
Open auction		0.050** (0.007)
Open auction * After 2008 legal amendment		0.045** (0.011)
Restricted auction		-0.045** (0.017)
Restricted auction * After 2008 legal amendment		0.135** (0.023)
Constant	0.106** (0.005)	0.038** (0.007)
R-square adjusted = 26%		

Notes: *Indicates significance at the 5% level. **Indicates significance at the 1% level