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"Potential Accession to the Revised WTO Government Procurement Agreement: The Cases of Egypt and Turkey"

A. The Case of Turkey

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POTENTİAL ACCESSİON TO THE REVİSED WTO GOVERNMENT PROCUREMENT AGREEMENT: THE CASE OF TURKEY'

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The purpose of this paper is to study the effects of potential accession of Turkey to the World Trade Organization Government Procurement Agreement (WTO GPA). The paper is structured as follows. While Section 1 studies the procurement rules under the GATT, Section 2 provides a comparative legal assessment of WTO GPA and Turkish public procurement system. Section 3 analyzes the government procurement market in Turkey, and Section 4 studies empirically how successful the WTO GPA has been in achieving its objectives of competition, non-discrimination, transparency, and integrity. While Section 5 determines for Turkey the benefits and costs of accessing the WTO GPA, Section 6 concludes.

1. Procurement Rules under the GATT

The GATT negotiating history indicates that early draft texts of the International Trade Organization (ITO) Charter, as proposed by the United States, contained provisions requiring the extension of national treatment to imported goods in the case of government purchases and government contracts. However, these provisions were deleted from the London Draft Charter as it appeared to the Preparatory Committee: "…that an attempt to reach agreement on such a commitment would lead to exceptions almost as broad as the commitment itself."[1]

Consequently, although government procurement regulation can be described as an internal regulatory measure, it is explicitly exempt from the GATT Article III National Treatment obligations by virtue of Article III:8(a), which states:

> The provisions of this Article *shall not* apply to laws, regulations or requirements governing the procurement by governmental agencies of products purchased for governmental purposes and not with a view to commercial resale or with a view to use in the production of goods for commercial sale. [Emphasis added]

Nevertheless, recent WTO disputes that what is considered a procurement and exempt from the Article III national treatment requirements is very narrow. The *Canada – Feed-*

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[1] The London Report, page 9, ¶(d)(iv). E/CONF.2/C.3/A/W.39.

in-Tariff Appellate Body opined that the derogation of Article III.8(a)[2] is limited to products purchased for the *use* of government, *consumed* by government or *provided* by government to recipients in the discharge of its public functions. Both the terms "for governmental purposes" and "not with a view to commercial resale" further qualify and limit the scope of "products purchased." In effect, a purchase that does not fulfill the requirements of being made "for governmental purposes" will not be considered to fall within the derogation of Article III:8(a). This condition is regardless of whether the procurement in question complies with the requirement of being made "not with a view to commercial resale".[3] These are cumulative requirements.[4]

The implications of this are that even if Turkey is not a signatory party to the WTO GPA, procurement measures such as local content requirements may still be actionable either under GATT Article III, if they are not covered by the Article III.8(a) derogation. Moreover, the Canada- Feed-in-Tariff dispute also indicated that a local content requirement implemented through a procurement also falls under the scope of the Agreement on Subsidies and Countervailing Measures (ASCM). Article 1 ASCM stipulates that a subsidy exists if there is a financial contribution by a government or any public body within the territory of a Member,[5] or there is any form of income or price support[6] and a benefit is thereby conferred.[7] Government procurement is listed alongside direct transfers of funds as one of the four categories of government measures deemed to be a financial contribution pursuant to Article 1.1 ASCM.

2. A Comparative Legal Assessment

Specific discussions of a possible trade regulation in the field of government procurement began in the 1960s in the Organization for Economic Cooperation and Development (OECD). These developments were later transferred to the GATT to inform the negotiations on the first plurilateral agreement on government procurement, namely Tokyo Round Government Procurement Code. The Code was concluded in 1979 and came into force in January 1981; amendments to the Code were introduced with a 1987 Protocol. In 1994 the WTO Agreement on Government Procurement (GPA) was concluded and it entered into force in 1996. This was revised and expanded in the Revised WTO GPA concluded on December 15, 2011, which entered into force on April 6, 2014. On the other hand, the legal framework for the current Turkish public procurement system comprises the Public Procurement Law (PPL) No 4734 of 2002 and the Public Procurement Contracts Law (PPCL) No 4735 of 2002. The PPL consists of 70 articles structured in six chapters and a set of interim articles covers all stages of

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[2] The Appellate Body further noted that the characterization of the provision as a derogation does not pre-determine the question as to which party bears the burden of proof with regard to the requirements stipulated in the provision. *Ibid*. ¶5.57.

[3] *Ibid*. ¶5.59 5.60, 5.61.

[4] *Ibid*. ¶5.69.

[5] Article 1.1(a)(1)

[6] Article 1.1(a)(2)

[7] Article 1.1(b).

procurement procedures, except for the execution and termination of contracts, which are covered exclusively by the PPCL. The Turkish PPL lays out a number of core principles for government purchases. Contracting authorities are responsible for ensuring transparency, competition, equal treatment, reliability, confidentiality, public supervision, fulfillment of needs appropriately and promptly, and the efficient use of resources. The major features of the WTO GPA and Turkish procurement legislation are presented in what follows.[8, 9]

2.1 Principles and Coverage

According to the preamble to the WTO GPA, the integrity and predictability of government procurement systems are integral to the efficient and effective management of public resources; and procurements should be carried out in a transparent and impartial manner such that conflicts of interest and corrupt practices will be avoided. The agreement stipulates that the principles of the WTO GPA are transparency in public purchasing, nondiscrimination amongst signatories, and procedural fairness (fair competition, absence of corruption, review procedures and special and differential treatment for developing countries).

The WTO GPA stands outside the system of 'Single Undertaking', in that it is not binding for all WTO Members, but only for the Signatory Parties. As of 2017 it has 47 WTO Members. The WTO GPA provisions apply only to entities listed in Appendix I of the agreement. According to entity annexes of Appendix 1, Annex 1 lists cover central government entities, Annex 2 lists sub-central government entities, and Annex 3 lists all other entities such as utilities that produce in accordance with the provisions of the WTO GPA. Entities listed in Annex 3 may be partially or wholly private. While Annex 4 lists the goods covered by the Agreement, Annex 5 lists the services other than construction services covered by the WTO GPA. Annex 6 lists the construction services covered by the Agreement, and Annex 7 has some general notes, setting out further derogations and exclusions. When listing goods and services the Parties are free to use either positive lists or negative lists. The Appendixes II-IV are on transparency indicating media and websites used for publication of laws and regulations, notices, awards and statistics.

The WTO GPA applies to any measure regarding covered procurement, whether or not it is conducted exclusively or partially by electronic means.[10] Covered procurement is

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[8] The Turkish legislation on public procurement is available at http://www.ihale.gov.tr/Mevzuat.aspx. The laws No 4734 and No 4735 have been supplemented by the Regulation on Implementation of Services Procurements; Regulation on Implementation of Goods Procurements; Regulation on Implementation of Works Procurements; Regulation on Implementation of Consultancy Services Procurements; Regulation on Implementation of Electronic Procurement; Regulation on Administrative Applications against Procurements; Regulation on Framework Agreements; and Regulations on Inspection and Acceptance.

[9] For a compact comparison of the Turkish government procurement system with the WTO GPA see Appendix I.

[10] According to Article II.2 of the WTO GPA covered procurement means procurement for governmental purposes (a) of goods, services or any combination thereof: (i) as specified in each Party's annexes to

subject to the requirements of the WTO GPA when its value exceeds certain specified thresholds and if the goods and services in question are not exempt from the Agreement. The threshold for central government specified in Parties' Annexes to Appendix I is generally Special Drawing Rights (SDR) 130,000; for local governments SDR 200,000; and for other entities usually SDR 400,000. For most members, construction contracts are covered only if they exceed SDR 5 million. All procurement of goods is covered unless otherwise specified in an annex. In the case of services, only those products that are explicitly listed in Annexes 4 and 5 are subject to the WTO GPA's rules.

Pursuant to Article III, the WTO GPA includes exceptions for defense procurements and covered procurements not in compliance with the WTO GPA for public policy objectives that are justified as necessary. Additionally, Article II.3 exceptions also apply to areas such as the acquisition or rental of land or immovable property; non-contractual agreements or any form of assistance by a party; procurement or acquisition of fiscal agency or depository services; public employment contracts; and procurement conducted in relation to international assistance, development aid, an international agreements or joint projects, and procurement subject to third party rules arising from funding or other obligations.

In Turkey Article 2 of Public Procurement Law PPL states that most public entities and institutions governed by public law or under public control or using public funds are subject to the PPL. Thus, the "contracting authorities" include public entities of the central government, special provincial administrations, municipalities and their related revolving fund organizations, unions, and legal entities; state economic enterprises (SEEs); social security establishments; funds, entities of legal personalities that are established in accordance with special laws and that are assigned with public duties and establishments with independent budgets; and any institution, organization, association, enterprise and corporation which—directly or indirectly, and together or separately—has more than half of the capital owned by the authorities mentioned above. The scope of application of PPL includes public supply contracts, public service contracts, and public works contracts.

The PPL applies only to contracts above a certain financial value. Threshold values for the period February 2017 to January 2019 were approximately SDR 222,335 for procurement of goods and services by contracting entities operating under the general or the annexed budget; SDR 370,559 for purchase of goods and services by other

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Appendix I, (ii) not procured with a view of commercial sale or resale or for use in the production or supply of goods or services for commercial sale or resale; (b) by any contractual means, including: purchase; lease; and rental or hire purchase, with or without an option to buy; (c) for which the value, as estimated in accordance with paragraphs 6 through 8, equals or exceeds the relevant threshold specified in a Party's annexes to Appendix I, at the time of publication of a notice in accordance with Article VII; (d) by a procuring entity; and (e) that is not otherwise excluded from coverage in paragraph 3 or a Party's annexes to Appendix

contracting entities within the scope of the PPL; and SDR 8,152,342 for constructions for administrations covered by the PPL.[11] Certain categories of procurement are not covered by the PPL.

Article 3 of the PPL spans twenty paragraphs specifying exceptions, including procurements related to defense, security, and intelligence needs; purchases of SEEs and of economic enterprises of the municipalities not exceeding €2.38 million; and procurements of agriculture or livestock products by contracting authorities. Sectors and areas such as utilities, prisons, schools, state railways, air transport and research and development activities are not covered by PPL. In addition, Article 68/c exempts the Housing Development Administration (TOKI) from the provisions of PPL as regards all projects.[12] In addition to the exemptions stipulated in PPL, several other laws introduce more exemptions, either for individual institutions or for specific types of contracts, or even for individual projects.

2.2 The Public Procurement Authority

There are various functions of a public procurement system that need to be tackled at the central level. These functions concern the preparation of national public procurement legislation, the publication of contract notices, co-operation with other international institutions, advice to contracting authorities and economic operators on the application of legislation, the provision of public procurement training, and monitoring and compliance assessment.

In the WTO GPA, there is no mention of public procurement authority, rather it operates through procuring entities. On the other hand Article 53 PPL establishes the Turkish Public Procurement Authority (PPA) as an administratively and financially autonomous body with a link to the Ministry of Finance. The mandate of PPA is to ensure the proper implementation of the PPL, to support participants in the procurement process, and to provide legal resolution of disputes over public procurement. PPA—realizing that the announcement of contract opportunities is vital to secure the transparency, competition, and equal treatment of economic operators in awarding public contracts—is mandated to publish procurement notices of the contracts covered by the PPL.[13] PPA performs this duty by publishing the Public Procurement Bulletin, which is available in electronic

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[11] The thresholds, updated every two years, are in Turkish lira (TL). The SDR figures stated above are approximate figures obtained using the exchange rate 3.5747 TL to US Dollar prevailing on February 23, 2017, and 1.35072 US Dollar to SDR.

[12] TOKI, founded by Mass Housing Law No 2985 of 1984, is the leader official institution of Turkey in terms of dealing with housing and settlement issues.

[13] If the contract in question is not covered by the PPL or its value is below the thresholds for publication of notices stated in the PPL, then the announcements of these contract opportunities are made through either the Official Gazette or national and/or local newspapers.

format.[14] PPA is financed mainly by contracting authorities through a fee of 0.05 percent of the value of the public contracts above €103,509. The PPA consists of the Public Procurement Board (PPB), the presidency, and the service units. The PPB is the main decision-making body of the PPA. In addition, the PPB examines complaints and may take corrective action and determine the remedies, cancel the tender decision, and terminate the tender proceedings, or decide that the complaint is irrelevant. The PPB has nine members including the chairperson, who is appointed by the Council of Ministers on the recommendation of the Minister of Finance. The Council of Ministers selects the chairperson of the PPB from among its members.

2.3 Methods of Procurement and Procurement Tools

The WTO GPA encourages competitive tendering procedures. Procurements have to be carried out in a transparent and impartial manner avoiding conflict of interest and preventing corrupt practices using methods such as open tendering, where any supplier may respond to a published call for tenders, or selective tendering, where bids are restricted to prequalified suppliers who have demonstrated that they meet technical competence norms. Limited tendering, under which potential suppliers are directly solicited to bid by the procuring entity, is noncompetitive and may be used in only three circumstances: situations in which no tenders were submitted; no tenders that conform to the essential requirements of the tender documentation were submitted; no suppliers satisfied the conditions for participation; or the tenders submitted have been collusive. Note that this seems to contemplate use of other methods of procurement provided these are consistent with the agreement's more specific rules.

On the other hand, four procurement procedures are specified in Articles 18-22 of the PPL: (i) open procedure, (ii) restricted procedure, (iii) negotiated procedure, and (iv) direct procurement. While under the "open procedure" all tenderers can submit their qualification documents and bids, under the "restricted procedure" only tenderers who following an open invitation to pre-qualify, are evaluated as qualified are invited by the contracting entity to submit tenders. Under the "negotiated procedure", following Article 21 of PPL, at least three tenderers will be invited to submit their qualification documents and price offers, and in those cases there is no need for the advertisement of contract notice.[15] Under "direct procurement" applied in cases specified in Article 22 of PPL there is no need for the fulfillment of most of the requirements specified in PPL such as advertisement of contract notice. In November 2013 the scope of direct procurement has

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[14] The Public Procurement Bulletin publishes the following tender notices: contract notices, pre-qualification notices, correction notices, cancellation notices, and contract award notices. The Public Procurement Bulletin is published in electronic media and is accessible online and free of charge.

[15] Under the "negotiated procedure" at least three tenderers will be invited to submit their qualification documents and price offers in the following cases: (i) tender procedure has to be conducted 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; (ii) specific events relating to defense and security; and (iii) procurements of goods, material and services by contracting authorities not exceeding EUR 51.8 thousand.

been increased to public elections at different levels. On the other hand, a legislative amendment in 2008 introduced provisions regarding the use of framework agreements, dynamic purchasing systems, and electronic auctions into Turkish legislation.

2.4 Rules Applicable to Public Procurement

The WTO GPA requires that calls for open tenders must be published in electronic or paper medium, stating the description of procurement including the nature and quantity of the goods or services to be procured, dates of delivery, the procurement method, and list of brief description of any conditions for participation of suppliers, and so on. The procuring entity, where appropriate, is required to set out the technical specification in terms of performance and functional requirements, and base the technical specification on international standards. In addition, the procuring entity is to allow all qualified suppliers to participate in a particular procurement, unless procuring entity states in the notice of intended procurement any limitation on the number of suppliers that will be permitted to tender and the criteria for selecting the limited number of suppliers. The procuring entity may exclude from procurement suppliers for 'significant or persistent' deficiencies in past performance, serious crimes or other offenses, professional misconduct or acts or omissions.

The procuring entity has to guarantee the fairness and impartiality of procurement process, and the confidentiality of tenders. Entities are obliged to award contracts to the supplier that the entity has determined to be capable of fulfilling the terms of the contract and that has submitted either the *most advantageous tender* (MAT) or where price is the sole criterion the lowest price. The essence of the MAT is to allow the procuring authorities to carry out a comprehensive assessment on the technical merits, quality, function, terms and prices of tenders in accordance with the judging criteria listed on the tendering document. In this way, the award of contract can be determined that ensures the best quality within the budget and encourages good competition among tendering parties while eliminating vicious price undercutting. Finally, note that the WTO GPA has provisions to control the making of changes to a concluded contract such as a significant increase in the price of a contract in a manner that undermines the application of the agreement.

To procure goods, services, or works in Turkey, a contract notice must be published except in those cases when the award was made by "direct procurement" or by "negotiated procedure" in certain cases specified in PPL. The technical criteria specified in the technical specifications of the contract notice must aim for efficiency and functionality, must ensure equal opportunities for all tenderers, and must not contain conditions impeding competition. Technical specifications, where possible, must refer to national and/or international technical standards. No specific brand, model, patent, origin, source, or product can be specified, and no feature or definition indicating any brand or model can be included in them. The contract notice period and the relevant media for publication differs depending on the estimated cost of the contract. The contract notice period is forty days for contracts in open procedure, which can be reduced to twenty-four

days if a pre-qualification notice is published. All contract notices are published online on the Electronic Public Procurement Platform (EPPP).

Article 11 PPL excludes certain persons or authorities from participation in any procurement, directly or indirectly or as a sub-contractor, either on their own account or on behalf of others. Furthermore, the tenderers participating in the procurement proceedings are required to submit information and documents for evaluation of their economic and financial standing, as well as for the evaluation of their professional and technical qualifications (Art. 10). Award procedures are similar to those that apply in the EU. Only two criteria are permissible: either the *most economically advantageous tender* (MEAT) or the lowest price bid that satisfied the performance requirements specified in the call for proposals. The EU's MEAT criterion is narrower than the MAT criterion used under the WTO GPA. When the MEAT criterion is used, the relative weighting of the different factors, as well as the method of calculation of the best tender, must be expressed in tender document.

The procurement process starts when the contracting authority determines its needs. The properties of the need are described by the contracting entity, specifying in detail the technical requirements of the goods, services, or construction works. The contracting entity performs detailed market research and estimates the procurement cost. The public institution that is associated with the contracting entity determines the procurement method. Article 5 of PPL specifies that government agencies will not be able to issue tender notices unless adequate funds have been allocated in the budget and an Environmental Impact Assessment report is prepared. Thereafter, auction documents are prepared. The contracting authority applies to PPA for the permit to conduct the procurement process. Once the permit is granted, the tender commission is constructed by the contracting entity, and auction details are announced to the public. Tender documents can be viewed at the premises of the contracting authority and online on the Electronic Public Procurement Platform (EPPP). It is possible to acquire a tender document through EPPP by using an e-signature or m-signature free of charge. Otherwise, the document has to be purchased by tenderers willing to participate in procurement. Next, the tenders are prepared and submitted to the contracting entity according to the conditions that had been announced.

Regarding the assessment of tenders, we note that tenders are opened in the place and time stated in the tender documentation. The session for the opening of tenders is open to the public. Prices submitted by each tenderer are announced to all tenderers in this session. The tender commission checks if there is any missing documents in the tenders and if the offer letters and the bid guarantees are proper. Before closing the first session, the documents submitted by tenderers and their bids are recorded in official minutes and a copy of them is provided to those who request them. A detailed assessment of the documents submitted by the tenderers is carried out by the tender commission in a closed session. Tenders which do not meet the qualification criteria specified in the tender document are rejected, and valid tenders are evaluated based on the contract award criteria. All decisions and transactions regarding the assessment and evaluation of tenders

must be recorded in official minutes by the commission. The contract is awarded after all the assessments are completed. As indicated above, only two criteria are permissible: MEAT and the lowest price. The contract award decision must be notified to the parties within three days of the decision being approved by the authorized official. Contract award decisions are published online in the Public Procurement Bulletin.

2.5 Electronic Methods

Electronic tools can be used for various processes and decisions on a par with more traditional means of communication. Electronic methods reduce the administrative costs of individual procurements, streamline procurement procedures, result in faster procurement procedures and increased transparency, provide better monitoring of procurement, encourage cross-border competition, promote the effectiveness of procurement, encourage the integration of various administrative processes, and support developments that make the process more efficient.

The WTO GPA embraces advances in information technology. Electronic tools can be used for various processes and decisions on a par with more traditional means of communication. The WTO GPA reduces the minimum timescales that apply to procurements when electronic means are used, and also encourage their use. Article II.1 of the WTO GPA states that the agreement applies to any measure regarding covered procurement, whether or not it is conducted exclusively or partially by electronic means. GPA increases transparency of procurement practices through electronic methods, and offers more flexibility for parties' procurement authorities in the form of shorter notice periods when electronic tools are used.

Electronic auctions are a method of inviting revised final tenders following the conduct of a full tender process which has included the submission and evaluation of initial tenders. E-auctions involve an online electronic system which allows economic operators to submit new, downwards revised, prices and/or other revisions to elements of their tenders for a particular contract in real time, and in direct, anonymous competition with other economic operators. Where a procuring entity intends to conduct a covered procurement using electronic auction, the entity according to the WTO GPA shall provide each participant, before commencing the electronic auction, with the automatic evaluation method, the results of any initial evaluation of the elements of its tender where the contract is to be awarded on the basis of the most advantageous tender, and any other relevant information related to the conduct of the auction.

In Turkey, the concept of e-procurement was introduced in 2008 in order to improve the efficiency of state purchases. Following the legislative changes, the EPPP has been established as a part of the e-government project, and an E-procurement Research and Development Centre has been established. The PPA has started to provide training for the public agencies through the cooperation agreements with universities for professional assistance for training, and a call center has also been established to provide the procuring entities with advisory services. EPPP became operational in 2010, and since

then, transactions related to public procurement have been carried out through or registered on the platform. Contract notices are published on EPPP, and contract documents of contracting authorities are made available on EPPP. Economic operators can download the contract documents from EPPP, and they can access information on their tax liabilities and social security premium debt, as well as information on their balance sheets and income statements. Alsaç (2012) emphasizes that since March 2012, E-notice preparations and electronic access to tender documents have been possible. However, electronic auctions have not started yet.

2.6 Concessions and Public-Private Partnerships

Although the concept of public-private partnerships (PPP) has no specific meaning under the WTO GPA, three WTO GPA parties have added a type of PPP to their coverage of construction services. The countries are the EU on work concessions, Japan on private finance initiatives, and the Republic of Korea on build-operate-transfer (BOT) contracts. Similarly, the legal framework governing concessions and PPPs in Turkey has not yet been established. Separate regulations govern different sectors. The main regulation is the law on projects carried out under build-operate-transfer (BOT) contracts and a decree, revised in the middle of 2011, regulating the application of this law. Other related laws are Law No. 3465 on Assignment of Institutions for Highway Construction with Tolls, Maintenance and Operation; Law No. 6428 on Building, Renovating Facilities and Receiving Service on PPP Model; and Law No. 3096 on the Assignment of Institutions for Electricity Production Generation, Transmission, Distribution and Trade.

2.7 Procurement by Utilities

Annex 3 of Appendix to the WTO GPA lists all entities such as utilities that produce in accordance with the provisions of the WTO GPA. Thus, those utilities are subject to the same rules as other covered government entities. On the other hand, in Turkey the PPL does not explicitly deal with entities operating in the utilities sector. It is stated in Article 2 of the PPL that enterprises, establishments, and corporations that carry out activities in the energy, water, transport, and telecommunications sectors are outside the scope of PPL. Nevertheless, Interim Article 4 of PPL states that enterprises, establishments, and corporations that carry out activities in the energy, water, transport, and telecommunications sectors, until their special laws enter into force, shall be subject to the provisions of PPL for procurement of goods, services, and works. Subparagraph (g) of Article 3 of PPL stipulates that goods or services procurements of the institutions listed in sub-paragraphs (b) and (d) in Article 2 of PPL for their commercial and industrial activities in contracts not exceeding €2.45 million, except those financed by treasury guarantee or by means of transferring directly from the transfer order of budget, shall not be governed by PPL except for those requirements of the PPL concerning prohibitions and criminal provisions.

2.8 Defense Procurement

While the WTO GPA excludes defense procurements, special exclusions are provided in Turkey for the state's defense and security needs. But non-defense procurements must be done according to PPL. In February 2014, the "omnibus" law amended various aspects of Turkish public procurement legislation. The law amendment introduced an offset option in public tenders and exempted acquisitions involving offsets from PPL.

2.9 Below-Threshold Contracts

In GPA there is no mention of below-threshold contracts. On the other hand, in Turkey the PPL applies to tenders regardless of the thresholds set out in Article 8. Therefore, contracts below the thresholds are still subject to the provisions laid down in the PPL, but they are not subject to the PPL requirements on transparency and equal treatment. The particular rules regarding transparency are specified in Article 13/B of PPL and Communique 2017/1.

According to communiqué 2017/1 of PPA, negotiated procedures will be used in Turkey as long as estimated costs of procurement do not exceed US$54,607. In such cases, there is no need for advertisement of the contract notice. According to Article 22 of PPL and communiqué 2017/1 of PPA, direct procurement can be used for purchases with regard to accommodation, trips, and subsistence within the scope of representation expenses, and procurements not exceeding US$16,380 for the needs of authorities within the boundaries of metropolitan municipalities, and US$5,457 for the needs of other contracting authorities. In these cases, there is no need for either the advertisement of contract notice or the fulfillment of requirements specified in PPL. Finally, note that according to Article 38 of PPL, the PPA is entitled to set limit values and enquiry criteria in order to identify and evaluate abnormally low tenders defined as tenders with bid values below limit values. In February 2014 the procurement legislation was amended through Law 6518 in order to increase the flexibility of decision-making by PPA. But the Law requires that a performance bond calculated at not less than 6% and not more than 15 % and usually at 9% of the estimated cost be received from the successful tendered prior to signing of the contract.

2.10 Corruption, Developing Countries, Social Policies and Environmental Policies

Procurement markets are often considered lucrative markets for potential bribery. Corruption may take the form of payment of a bribe as a reward for an official who can influence the procurement process, manipulation of tender documents to favor a specific bidder, and the use of intermediary companies to cover the illegal activities of the corrupt official. In addition, favoritism may also endanger the integrity of the procurement process. Noting that the liberalizing impact of non-discriminatory international public procurement regulations is deeply undermined by corrupt procurement practices, the preamble of the WTO GPA makes a clear reference to the 'UN Convention against Corruption'. Moreover, a new substantive provision namely Article V.4 provides that procurement practices should be conducted in a transparent manner in order to "avoid conflict of interest and prevent corrupt practices ". The inclusion of this provision inside

the WTO GPA has a particular value, since the prohibition of corrupt procurement practice has been included for the first time in a trade agreement regulating public procurement.

WTO GPA offers improved transitional measures for developing countries that accede to the agreement. These measures include price preferences, use of offsets, phased-in addition of specific entities and sectors, and thresholds that are initially set higher than their permanent level. The measures are to be tailored to the particular needs of the individual accession countries.

Since the very purpose of the WTO GPA is to promote in government markets competition based on comparative advantage, derogations provide little scope for using procurement as a policy tool for achieving industrial and social objectives. On the other hand regarding environmental considerations while Article X.6 states that Parties and entities may prepare, adopt or apply technical specifications to promote the conservation of natural resources or protect the environment, Article X.9 notes that contract evaluation criteria may include environmental characteristics.

In Turkey the PPL contains significant provisions that aim to combat corruption. It defines and prohibits forms of bribery and corruption in a separate article. In addition, the PPL provides for sanctions and penalties in the event of discovery of corruption, which apply to both individuals and companies. The PPL and PPCL also require the collection of detailed information on all public procurement auctions that are held in Turkey by the PPA. The PPA dataset contains detailed information on public procurements conducted within the country.

2.11 Transparency, Enforcement and Collection of Statistics

WTO GPA requires that each party shall provide a timely, effective, transparent and non-discriminatory administrative or judicial review procedure through which a supplier may challenge a breach of the Agreement, or where the supplier does not have a right to challenge directly a breach of the Agreement under the domestic law of a Party, a failure to comply with a Party's measures implementing the agreement, arising in the context of a covered procurement, in which the supplier has, or has had, an interest. Thus, the WTO GPA requires members to establish bid protest or challenge procedures, under which bidders can correct breaches of the WTO GPA in order to preserve commercial opportunities. Such measures may involve suspension of the procurement process, or the award of compensation for loss or damages. The domestic challenge mechanism is complemented by the WTO's multilateral dispute settlement process. To ensure transparency and facilitate the application of these procedures, procuring entities must provide information explaining why a supplier's application to qualify was rejected; why an existing qualification was terminated; and why a tender was not selected. They must also identify the winning bidder and clarify the characteristics and relative advantages of the tender selected.

WTO GPA requires that each party shall collect and report to the Committee on Government Procurement statistics on its contracts covered by the agreement. Each report shall contain for Annex 1 procuring entities the number and total value for all such entities, of all contracts covered by the agreement; the number and total value of all contracts covered by the agreement awarded by each such entity, broken down by categories of goods and services according to an internationally recognized uniform classification system; and the number and total value of all contracts covered by the agreement awarded by each such entity under limited tendering. On the other hand, for Annex 2 and 3 procuring entities, the number and total value of contracts covered by the agreement awarded by all such entities, broken down by Annex; and estimates for the data required for Annex 1 entities with an explanation of the methodology used to develop the estimates, where it is not feasible to provide the data.

In Turkey Articles 55–57 of the PPL establish a three-tier system for reviewing complaints lodged by disappointed suppliers. In the first stage, a complaint is submitted and reviewed by the contracting authority itself. A complainant who is dissatisfied with the decision of the contracting authority may, as a second step, appeal this decision to the PPA, and the decision on this appeal is made by the PPB. The final decision on the appeal made by the PPB is then subject to the jurisdiction of the regular courts. On the other hand, in Turkey the PPL and PPCL call for the collection of detailed information about all public procurement auctions that are held in Turkey by the PPA. The PPA dataset contains detailed information on public procurements conducted within the country.

2.12 Participation of Foreign Tenderers

The main objective of the WTO GPA is to open up market access to companies from each of the WTO GPA member countries by removing the barriers on government procurements. Covered procurements should not discriminate among foreign suppliers of goods and services (non-discrimination), and all procurements should be carried out in a transparent and impartial manner such that conflicts of interest and corrupt practices will be avoided. On the other hand, in Turkey foreign economic operators can access the contract notices and tender documents through EPPP, and they can submit their tenders in person or by post. When applying, they can use qualifications obtained in a foreign country. They also have the right to submit a complaint against decisions of the contracting authorities to the PPA and to the courts. In case of below-thresholds procurements, participation of foreign tenderers may be prevented by the contracting authority if this condition is stated explicitly in the tender document.

In September 2011, the Prime Ministry published a circular stipulating that the implementation of the PPL should favor the participation of domestic bidders. In case of above-threshold procurements, the contracting authorities cannot block the participation of foreign tenderers, but a price advantage up to 15 percent could be applied in favor of domestic tenderers or to tenderers offering domestic goods in the procurement of goods above threshold if this condition was stated explicitly in the tender document. Domestic

preference was not applied automatically, and contracting authorities could choose not to apply the domestic preference. Since maximum domestic preference was 15 percent, contracting authorities could choose to apply a smaller rate. However, this provision was not applicable to domestic bidders that participated in the tender proceedings by forming joint ventures with foreign tenderers.[16] In February 2014, the "omnibus" law amended various aspects of Turkish public procurement legislation and introduced language that makes the previously optional domestic price advantage of up to 15 percent compulsory for "medium and high-technology industrial products." In contrast to many other countries, the PPL does not include specific provisions favoring small and medium enterprises.

3. Public Procurement Markets in Turkey

Public procurement is very important in Turkey. As shown in Table 1, total procurement as a share of GDP over the period 2007-15 fluctuated between 5.6 percent and 8.8 percent. The average value was 6.95 percent. However, TEPAV (2009) emphasizes that this value represents a minimum value for the period 2011 onwards, since the table does not include the statistics on housing and other construction procurements by the Mass Housing Administration (TOKI) for the years after 2011. TOKI was initially included in Chart No. II of the Public Financial Management and Control Law No. 5018 of 2003 as a special budget public administration, and was subject to PPL. In 2011, TOKI was removed from this chart. Furthermore, according to Article 68/c of PPL, TOKI was exempted in 2003 from the provisions of PPL as regards mass housing projects. In 2011, the exemption was extended to all projects conducted by TOKI. Since after 2011 TOKI was no longer a special budget public administration, it no longer fell within the scope of PPL, and the large tenders it was conducting were not reported in the statistics provided by PPA after 2011.

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[16] In order to benefit from the price advantage, in the case of goods procurements the tenderer had to be of Turkish nationality and the goods concerned had to be of domestic origin; in the case of services and works procurements, the tenderer had to be of Turkish nationality.

Table 1: Public Procurement as a Fraction of GDP

Year	Total Procurement Value (Million TL)	GDP (Million TL)	Share of Total Procurement in GDP (%)
2007	65,978.3	843,178	7.82
2008	83,915.3	950,534	8.83
2009	66,224.8	952,559	6.95
2010	69,510.3	1,098,799	6.33
2011	91,771.4	1,297,713	7.07
2012	94,398.7	1,416,798	6.66
2013	105,504.1	1,567,289	6.73
2014	97,420.8	1,748,168	5.57
2015	128,244.1	1,953,561	6.56
Average			6.95

Another reason for the relatively low value of public procurement as a fraction of GDP is the exclusion of concessions, such as the construction of highways and bridges, from the public procurement statistics. The problems related with concessions should be carried out by considering the provisions of the Law No. 3996/1994 (including Amending Law No. 4993/1999) on the build-operate-transfer (BOT) model and the related Decree No. 5907/1994. Other laws also contain provisions related to concession, such as Law No. 5272/2004 on municipalities, Law No. 3096/1984 on the Electricity Market, Laws Nos. 406/1924 and 2813/1983 on Telecommunications, and Law No. 3465/1988 on Transportation and Motorways.

Once TOKI and concession contracts are subject to the provisions of PPL, one can expect the value of public procurement as a fraction of GDP to increase considerably from its present value of 6.95 percent.

Table 2 shows the developments in the shares of different procurement types—such as open procedure, restricted procedure, negotiated procedure, and direct procurement—in terms of total number as well as total value of public sector procurements over the period 2007-15. The table reveals that the number of exemptions as a percentage of the total number of procurements fluctuated between 17.2 percent and 27.4 percent, with an average value of 24.7 percent. There are no figures on the total number of direct procurements. The share of negotiated procedures fluctuated between 11.6 percent and 20.8 percent of the total number of procurements, the share of restricted procedures fluctuated between 0.2 percent and 0.5 percent, and the share of open procedures fluctuated between 52.5 percent and 70.8 percent. The average figures are 58.2 percent for open procedures, 0.4 percent for restricted procedures, and 16.7 percent for negotiated procedures.

Table 2: Public Procurement Statistics

Quantity

	Open Procedure (Quantity)	Restricted Procedure (Quantity)	Negotiated Procedure (Quantity)	Direct Procurement (Quantity)	Exemptions (Quantity)	Others (Quantity)	Total Procurement Value (Quantity)
2007	127,307	856	20,806	-	30,859	-	179,828
2008	93,383	600	22,629	-	33,175	-	149,787
2009	77,309	679	20,154	-	32,686	-	130,828
2010	68,551	560	18,865	-	32,475	-	120,451
2011	77,151	616	22,479	-	36,585	95	136,926
2012	71,414	624	22,135	-	33,440	88	127,701
2013	72,414	435	25,158	-	30,958	128	129,093
2014	65,016	296	25,795	-	32,589	82	123,778
2015	68,508	359	24,006	-	35,051	-	127,924

Share of Different Procurement Types in Total Number of Procurement (%)

	Open Procedure	Restricted Procedure	Negotiated Procedure	Direct Procurement	Exemptions	Others	Total
2007	70.8	0.5	11.6	-	17.2	-	100
2008	62.3	0.4	15.1	-	22.1	-	100
2009	59.1	0.5	15.4	-	25.0	-	100
2010	56.9	0.5	15.7	-	27.0	-	100
2011	56.3	0.4	16.4	-	26.7	0.1	100
2012	55.9	0.5	17.3	-	26.2	0.1	100
2013	56.1	0.3	19.5	-	24.0	0.1	100
2014	52.5	0.2	20.8	-	26.3	0.1	100
2015	53.6	0.3	18.8	-	27.4	-	100
Average	58.2	0.4	16.7	-	24.7	0.1	

Value

	Open Procedure (Million TL)	Restricted Procedure (Million TL)	Negotiated Procedure (Million TL)	Direct Procurement (Million TL)	Exemptions (Million TL)	Others (Million TL)	Total Procurement Value (Million TL)
2007	46,022.1	1,639.4	5,154.2	5,009.3	8,153.3	-	65,978.3
2008	59,413.1	1,348.7	7,418.0	4,989.3	10,746.3	-	83,915.3
2009	45,850.5	983.0	6,629.2	4,806.1	7,956.0	-	66,224.8
2010	46,749.2	2,242.1	5,299.9	5,866.9	9,352.2	-	69,510.3
2011	52,680.9	5,757.2	4,520.8	16,913.0	11,870.2	29.4	91,771.4
2012	61,977.9	7,749.4	6,907.4	10,554.3	7,121.7	88.0	94,398.7
2013	69,690.8	9,272.6	10,274.2	6,433.8	9,213.5	619.3	105,504.1
2014	83,499.7	4,642.2	9,279.0	7,420.0	8,393.4	260.7	113,494.9
2015	110,732.0	5,842.1	11,670.1	8,276.8	11,913.9	-	148,434.8

Share of Different Procurement Types in Total Procurement (%)

	Open Procedure	Restricted Procedure	Negotiated Procedure	Direct Procurement	Exemptions	Others	Total
2007	69.8	2.5	7.8	7.6	12.4	-	100
2008	70.8	1.6	8.8	5.9	12.8	-	100
2009	69.2	1.5	10.0	7.3	12.0	-	100
2010	67.3	3.2	7.6	8.4	13.5	-	100
2011	57.4	6.3	4.9	18.4	12.9	0.0	100
2012	65.7	8.2	7.3	11.2	7.5	0.1	100
2013	66.1	8.8	9.7	6.1	8.7	0.6	100
2014	73.6	4.1	8.2	6.5	7.4	0.2	100
2015	74.6	3.9	7.9	5.6	8.0	-	100
Average	68.3	4.5	8.0	8.6	10.6	0.2	

Note: Others refer to procurements conducted according to State Tender Law 2886 of 1983, and Build-Operate-Transfer Law No 3996 of 1994, and all reported to EPPP.

When we consider the shares of the different procurement types of the total value of public sector procurements, we note that the share of exemptions in the total value of procurements fluctuated between 7.4 percent and 13.5 percent. Direct procurement fluctuated between 5.6 percent and 18.4 percent of the total value of public procurement, the share of negotiated procedures fluctuated between 4.9 percent and 10 percent, and the share of restricted procedures fluctuated between 1.5 percent and 8.8 percent. Finally, the share of open procedures fluctuated between 57.4 percent and 74.6 percent. The average figures are 68.3 percent for open procedures, 4.3 percent for restrictive procedures, 8

percent for negotiated procedures, 8.6 percent for direct procurement, 10.6 percent for exemptions, and 0.2 percent for other procurement types.

Table 3, showing the shares of procurements below and above the thresholds, reveals that on average 93.3 percent of the total number of public procurements (34.7 percent in terms of value) are below thresholds. These are considerably high figures, and they are partly the result of relatively high threshold values adopted by Turkey. From previous section we know that for below-threshold contracts the rules for publication of advertisements and time limits are less demanding than those for above-threshold contracts. As a result, there is less competition for those procurements. Furthermore, the high limits reduce the opportunities for foreign bidders to apply. In addition, complicated qualification procedures form bureaucratic obstacles and increase the cost of participation in public tenders. As indicated above, the Turkish regulations require more information and documents than do the regulations in industrial countries. The complicated qualification procedures thus form an obstacle to wider competition in public tenders.

Table 3: Procurements below and above Thresholds

	Below Thresholds (Quantity)	Percentage Distribution	Above Thresholds (Quantity)	Percentage Distribution	Below Thresholds (Million TL)	Percentage Distribution	Above Thresholds (Million TL)	Percentage Distribution
2007	174,617	97.1	5,211	2.9	20,013.2	32.8	40,955.8	67.2
2008	141,749	94.6	8,038	5.4	21,196.4	26.9	57,729.6	73.1
2009	124,229	95.0	6,599	5.0	18,156.9	29.6	43,261.9	70.4
2010	83,303	94.7	4,673	5.3	19,978.9	36.8	34,312.3	63.2
2011	94,285	94.1	5,961	5.9	26,786.7	42.5	36,172.1	57.5
2012	88,082	93.5	6,091	6.5	30,273.5	39.5	46,361.2	60.5
2013	91,075	92.9	6,932	7.1	36,163.4	40.5	53,074.2	59.5
2014	81,788	89.8	9,319	10.2	32,550.0	33.4	64,870.8	66.6
2015	82,078	88.4	10,795	11.6	39,192.4	30.6	89,051.8	69.4
Average		93.3		6.7		34.7		65.3

We note that the Turkish legislation is not in line with the principle of equal treatment, given that below-threshold procurement is reserved mostly for domestic bidders, while a 15 percent national preference applies above the thresholds. The existence of such a preferential provision presents an obstacle to fair competition. Furthermore, the offset option in public tenders introduced in 2014 contradicts the WTO GPA violating the principle of non-discrimination.

The WTO (2016) notes that approximately half of the annual amount procured is open to foreign suppliers. Over the period 2011-14, the percentage subject to a price advantage to domestic suppliers ranged from 29 to 42% of the amount open to foreign suppliers as shown in Table 4. But as shown in Table 5 the vast majority of procurement is from Turkish suppliers, averaging over 97% during the period while the next largest suppliers are the EU and U.S., which accounted for 0.9% and 0.1% of 2014 procurement levels, respectively.

Table 4: Domestic Preferences 2010-14

Year	Open to Foreign Suppliers (1000 TL)	Price Advantage for Domestic Suppliers in Procurements open for Foreign Suppliers (1000 TL)	%
2010	36,118,855	7,629,614	21.1
2011	38,540,528	13,175,547	34.2
2012	49,330,467	20,569,063	41.7
2013	56,327,860	21,265,178	37.8
2014	68,416,378	19,912,863	29.1

Source: WTO (2016)

Table 5: Major Procurement Suppliers, 2010-14

	Turkey		EU		US		Other	
Year	Amount of Contract (1000 TL)	%	Amount of Contract (1000 TL)	%	Amount of Contract (1000 TL)	%	Amount of Contract (1000 TL)	%
2010	62,497,212	98.2	793,000	1.3	103,029	0.16	250,114	0.4
2011	71,994,795	94.9	3,495,440	4.7	140,937	0.19	217,276	0.3
2012	81,514,069	97.2	1,051,825	1.3	59,713	0.08	1,218,589	1.5
2013	97,014,878	97.9	1,310,054	1.3	55,421	0.06	689,973	0.7
2014	104,359,989	98.4	975,251	0.9	64,973	0.06	674,717	0.6

Source: WTO (2016)

Table 6 shows data on challenge procedures. The table reveals that over the period 2008-15, there were on average 4,442 challenges, with the number challengeable tenders amounting to 121,729. The average challenge rate was therefore 3.67 percent. The challenge data show a considerable degree of variation among goods, works, and services contracts. The average challenge rate for goods contracts was 1.51 percent, the challenge rate for works contracts was 4.92 percent, and the challenge rate for services contracts was 5.47 percent. According to OECD (2009), the number of complaints lodged by dissatisfied tenderers amounted to some 900 in 2003. Table 4 reveals that the number grew to about 5,000 in 2013—a considerable increase. OECD (2009) further asserts that from 2003 to May 2009, 1,585 decisions of the PPB were brought to the courts, and that of the court cases opened against decisions of PPA, 198 have been finalized, of which 138 were concluded in favor of the of the PPA and 60 in favor of the complainant.

Table 6: Challenge Procedures

	Number of Challenges in Goods Contracts	Number of Challengeable Tenders	Share in Number of Challengeable Tenders	Number of Challenges in Work Contracts	Number of Challengeable Tenders	Share in Number of Challengeable Tenders	Number of Challenges in Services Contracts	Number of Challengeable Tenders	Share in Number of Challengeable Tenders	Number of Total Challenges	Number of Challengeable Tenders	Share in Number of Challengeable Tenders
2008	1,096	68,715	1.60	1,009	28,095	3.60	3,487	53,784	6.48	5,592	150,594	3.71
2009	535	58,043	0.92	721	20,633	3.49	1,698	48,829	3.48	2,954	127,505	2.32
2010	747	57,643	1.30	1,650	24,047	6.86	1,884	51,651	3.65	4,281	133,341	3.21
2011	839	54,470	1.54	1,423	24,145	5.89	2,408	46,011	5.23	4,670	124,626	3.75
2012	913	50,331	1.81	1,463	23,500	6.23	2,906	45,917	6.33	5,282	119,748	4.41
2013	854	45,781	1.87	1,205	25,227	4.78	3,034	45,560	6.66	5,093	116,929	4.36
2014	621	40,446	1.54	784	17,633	4.45	2,537	41,967	6.05	3,942	100,473	3.92
2015	611	40,530	1.51	884	21,936	4.03	2,225	37,795	5.89	3,720	100,614	3.70
Average	777	51,995	1.51	1,142	23,152	4.92	2,522	46,439	5.47	4,442	121,729	3.67

Alyanak (2006) points out that the Turkish review system is very intricate and formalistic. Turkey can be criticized mainly due to the complexity of the review system and the absence of fully effective rules on review. In fact, the related Turkish legislation has to ensure that the review provisions are clear, precise, and binding, and that the implementing legislation is properly fulfilled.

4. Empirical Analysis of Government Procurement

The EU recently released the extensive Tenders Electronic Daily (TED) data set that covers more than three million tenders conducted in the European Economic Area (EEA), Switzerland and Macedonia during the years 2006-2015.[17] A very interesting feature of this data set is the variable 'B_GPA' which records whether the 'contract is covered by the WTO GPA'. The data set contains detailed information about 1,716,713 tenders that are covered by the WTO GPA and 1,463,361 tenders that are not covered by the WTO GPA. For each tender the dataset gives the following information: (i) unique contract ID; (ii) year of the contract; (iii) contracting authority name; (iv) contracting authority country; (v) CPV sector code; (vi) whether the procurement is covered by the WTO GPA; (vii) value of the contract; (viii) estimated cost; (ix) procurement procedure; (ix.a) ACN 'accelerated negotiated'; (ix.b) ACR 'accelerated restricted'; (ix.c) AWP 'award without prior publication of a contract notice'; (ix.d) COD 'competitive dialogue'; (ix.e) NOC/NOP 'negotiated without a call for competition'; (ix.f) NIC/NIP 'negotiated with a call for competition'; (ix.g) OPE 'open'; (ix.h) RES 'restricted'; (x) winner firm name; (xi) winner firm country; and (xii) number of offers received.

Table 7 displays the number of WTO GPA-covered contracts, as well as the number of contracts not covered by the WTO GPA for selected winner countries of tenders from the EU countries, EEA countries, Switzerland and Macedonia called home country. Note that while Canada, EU member countries, Hong Kong, Republic of Korea, New Zealand, Chinese Taipei, and the US are parties to the WTO GPA, the following countries are not: Australia, Egypt, India, Israel, Malaysia, Mexico, Pakistan, Russian Federation, Thailand, and Turkey. The table reveals that the main beneficiaries of home country public procurement contracts are home country firms. While the second-largest beneficiaries of home country public procurement contracts are the countries that are party to WTO GPA, the countries that benefit the least from home country public procurement contracts are

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[17] The data set is open to public and can be downloaded at https://data.europa.eu/euodp/en/data/dataset/ted-csv.

those that are not party to WTO GPA. On the other hand, we note that government institutions implement different procurement procedures. Table 8 presents the distribution of these procedures. The most common procedure is "open tender". TED data set also provides information about procurement results, namely procurement price, estimated cost and number of offers received.

Table 7

Number of Successful Firms in EU tenders from Selected Countries

Country	GPA Covered		Not Covered By GPA	
	Frequency	Percent	Frequency	Percent
Party to GPA				
Canada	313	0,02	163	0.0.
France	618,328	36,02	95,276	6.51
Germany	141,660	8,25	109,460	7.48
Hong Kong	29	0,00	10	0.00
Italy	38,259	2,23	67,188	4.59
Korea	43	0,00	24	0.00
Netherlands	43,162	2,51	13,113	0.90
New Zealand	12	0,00	9	0.00
Norway	24,736	1,44	1,461	0.10
Poland	152,975	8,91	710,047	48.53
Spain	38,771	2,26	38,714	2.65
Switzerland	12,806	0,75	3,438	0.23
Taiwan	11	0,00	3	0.00
UK	162,132	9,44	77,119	5.27
USA	1,371	0,08	783	0.05
Not Party to GPA				
Australia	61	0,00	38	0.00
Egypt	8	0,00	5	0.00
India	137	0,01	75	0.01
Israel	84	0,00	44	0.00
Malaysia	4	0,00	2	0.00
Mexico	1	0,00	1	0.00
Pakistan	12	0,00	8	0.00
Russian Federation	211	0,01	67	0.00
Thailand	8	0,00	41	0.00
Turkey	56	0,00	60	0.00
Total	1,235,190	100	1,117,149	100

Table 8

Procedure Type

Procedure Type	GPA Covered	Not Covered by GPA
accelerated negotiated	2,960	3,976
accelerated restricted	10,066	11,476
award without prior publication of a contract notice	38,037	32,738
competitive dialogue	3,740	1,616
negotiated without a call for competition	44,346	53,154
negotiated with a call for competition	86,238	54,182
Open	1,405,288	1,234,645
Restricted	118,430	66,607
Total	1,709,105	1,458,394

Note: Procedure information is missing for some of the contracts.

Using the data set, we examine the following research questions:

- Does the WTO GPA foster openness of government procurement markets by increasing the probability that a foreign firm will win a contract?
- Does the WTO GPA promote competition by increasing the number of offers submitted?
- Does the WTO GPA improve procurement efficiency by lowering procurement price compared to estimated costs?
- Does the WTO GPA lower corruption risk in government procurement?

We first examine whether the WTO GPA eliminate barriers for foreign firms to win government procurement contracts. To this end, we implement a multivariate logit model, as used by Kutlina-Dimitrova and Lakatos (2016). The authors analyze a subsection of the TED dataset for the 2008 to 2012 period and study the determinants of cross-border public procurement in EU Member States. We estimate the following logit regression specification:

$$Prob(C_{irt} = 1|\text{x}) = F(x'_{irt}\beta) \tag{1}$$

where C_{irt} is a dummy variable, that is, 1 if procurement is awarded to a foreign firm when the authority and winner countries are different.[18] $F(x'_{irt}\beta)$ is a logit probability

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[18] We follow Kutlina-Dimitrova and Lakatos (2016) when identifying foreign firms. We call a firm *foreign* if the country of the procuring authority is different from the country of the firm. For 2813 contracts, there is noinformation on the winner's name or country, and for 37,512 contracts, information is missing on the CPV code. We do not examine these contracts and remove them from the data set.

function of $x'_{irt}\beta$ and x'_{irt} contains the explanatory variables GPA_{irt}, C_{rt}, P_{irt}, and FE. GPA_{irt} is the dummy variable, which is 1 if the procurement is covered by the WTO GPA. The coefficient of GPA$_{irt}$ provides us the impact of the WTO GPA on the probability that a foreign firm wins a government procurement contract in EU Member and affiliated countries. C_{rt} are country-specific factors such as trade-to-GDP ratio and GDP per capita. We obtain these variables from the World Development Indicator database of the World Bank. P_{irt} contains procurement-specific variables such as number of offers, contract value, dummy variables for procurement method (type), and dummy variables for type of contracting authority. Finally, FE contains fixed-effects dummy variables for the years 2007 to 2015 and sector dummy variables, identified by the first two digits of the CPV codes.[19]

Table 9 shows the results of the multivariate logit regression estimation of Equation 1. We estimate different regression specifications with different sets of explanatory variables to assess the robustness of our results. The coefficient of the WTO GPA-covered variable is significant, with a positive sign for all regression specifications. Accordingly, we conclude that foreign firms are more likely to win government procurement contracts when the contract is covered by the WTO GPA. This result indicates that the WTO GPA is successful in lowering the barriers for foreign firms to win government procurement contracts in EU Member and affiliated countries.

Next, we consider a different definition of "foreign firm" and examine whether the WTO GPA promotes non-EU firms. We note that during the period 2006-2015 10,153 non-EU firms had won 15,901 government procurement contracts in the EU. We conduct a multivariate logit regression to examine the effect of the WTO GPA on the probability that a non-EU firm wins a contract. We estimate the following logit regression specification:

$$Prob(NEU_{irt} = 1|\text{x}) = F(x'_{irt}\beta) \qquad (2)$$

where NEU_{irt} is a dummy variable that is 1 if procurement is awarded to a non-EU foreign firm. $F(x'_{irt}\beta)$ is a logit probability function of $x'_{irt}\beta$. x'_{irt} contains the explanatory variables GPA_{irt}, C_{rt}, P_{irt} and FE. GPA_{irt} is the dummy variable which is 1 if the procurement is covered by the WTO GPA. The coefficient of GPA_{irt} provides us the impact of the WTO GPA on the probability that a foreign firm wins a government procurement contract in the EU Member and affiliated countries. C_{rt} are country-specific factors such as trade to GDP ratio and GDP per capita.

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[19] Additionally, we use dummy variables for France and Poland in our empirical analysis to control for the asymmetric representation of these countries.

Table 9
Binary Logit Regression analysis of probability of a foreign firm winning a contract

	(1)	(2)	(3)	(4)
GPA Covered	0.19	0.04	0.08	0.10
	(20.53)**	(4.41)**	(8.00)**	(8.72)**
Trade to GDP Ratio		0.00	0.00	0.00
		(44.02)**	(39.07)**	(29.00)**
GDP per capita		0.00	0.00	0.00
		(65.50)**	(61.03)**	(50.43)**
Number of Offers			-0.00	-0.01
			(10.69)**	(12.16)**
Contract Value				-0.00
				(5,115.37)**
accelerated negotiated	0.73	0.69	0.73	0.61
	(11.72)**	(10.86)**	(11.27)**	(7.26)**
accelerated restricted	0.56	0.62	0.57	0.49
	(14.11)**	(15.52)**	(13.26)**	(10.00)**
award without publication	0.25	0.29	0.16	0.20
	(7.74)**	(8.83)**	(4.35)**	(4.91)**
competitive dialogue	1.22	1.22	1.29	1.01
	(20.33)**	(20.38)**	(20.78)**	(12.78)**
negotiated with competition	0.58	0.45	0.45	0.42
	(34.15)**	(25.72)**	(23.90)**	(18.90)**
negotiated without comp.	0.91	1.00	0.98	1.00
	(55.27)**	(59.67)**	(54.39)**	(52.02)**
restricted	0.04	0.06	0.06	0.06
	(2.52)*	(3.42)**	(3.40)**	(2.80)**
Central government	0.88	0.90	0.90	0.86
	(50.10)**	(50.64)**	(47.34)**	(40.53)**
Water, energy, transport	1.15	1.27	1.23	1.19
	(59.85)**	(63.78)**	(58.13)**	(50.21)**
European Union institution	4.65	4.20	4.18	4.16
	(182.73)**	(155.89)**	(149.28)**	(138.63)**
other international org.	2.43	2.57	2.62	2.63
	(17.66)**	(18.68)**	(18.39)**	(16.81)**
governed by public law	0.84	0.84	0.80	0.77
	(52.63)**	(51.92)**	(46.22)**	(39.11)**
Other	0.80	0.84	0.84	0.82
	(47.95)**	(49.49)**	(46.54)**	(40.44)**
National or federal Agency	0.87	0.90	0.87	0.83
	(29.22)**	(30.11)**	(27.72)**	(23.76)**
Regional or local Agency	0.20	0.16	0.14	0.12
	(4.72)**	(3.68)**	(3.15)**	(2.54)*
Not specified"	1.22	1.16	1.13	1.29
	(46.50)**	(44.20)**	(36.64)**	(35.79)**
Constant	-3.94	-5.22	-5.25	-5.12
	(15.81)**	(20.89)**	(16.51)**	(16.05)**
Observations	3,139,602	3,132,267	2,760,487	2,360,900
Pseudo R^2	0.15	0.17	0.17	0.17
Sectoral Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes

Table 10 displays the results of the multivariate logit regression estimation of equation 2. The coefficient of the WTO GPA covered variable is significant with a positive sign for all regression specifications. Accordingly, we conclude that non-EU firms are more likely to win government procurement contracts when the contract is covered by the WTO GPA. Thus, the WTO GPA opens the EU government procurement market to non-EU

firms.

Table 10
Binary Logit Regression analysis of probability of a non-EU firm winning a contract

	(1)	(2)	(3)	(4)
GPA Covered	0.29	0.16	0.25	0.32
	(15.03)**	(8.15)**	(11.67)**	(13.36)**
Trade to GDP Ratio		-0.00	-0.00	-0.00
		(8.82)**	(9.42)**	(8.82)**
GDP per capita		0.00	0.00	0.00
		(27.47)**	(26.53)**	(25.77)**
Number of Offers			-0.00	-0.00
			(0.33)	(0.16)
Contract Value				-0.00
				(0.02)
accelerated negotiated	1.25	1.22	1.25	1.03
	(11.14)**	(10.84)**	(10.64)**	(6.47)**
accelerated restricted	0.84	0.81	0.81	0.62
	(10.35)**	(9.93)**	(9.52)**	(6.17)**
award without publication	0.34	0.33	0.13	0.14
	(5.68)**	(5.45)**	(1.71)	(1.76)
competitive dialogue	1.41	1.34	1.42	0.93
	(13.62)**	(12.92)**	(13.39)**	(6.19)**
negotiated with competition	0.56	0.41	0.41	0.40
	(15.10)**	(10.82)**	(9.81)**	(8.23)**
negotiated without comp.	1.31	1.38	1.40	1.45
	(42.48)**	(44.42)**	(41.71)**	(39.57)**
restricted	0.48	0.38	0.40	0.37
	(14.46)**	(11.30)**	(11.18)**	(9.39)**
Central government	0.42	0.55	0.54	0.50
	(12.28)**	(15.94)**	(14.44)**	(11.97)**
Water, energy, transport	0.51	0.73	0.69	0.73
	(13.09)**	(18.37)**	(16.16)**	(15.41)**
European Union institution	1.33	1.24	1.25	1.15
	(18.25)**	(15.89)**	(15.57)**	(13.30)**
other international org.	1.86	1.96	2.03	1.77
	(6.98)**	(7.34)**	(7.32)**	(4.88)**
governed by public law	0.31	0.42	0.39	0.42
	(10.33)**	(13.82)**	(11.71)**	(11.14)**
Other	0.55	0.65	0.65	0.67
	(17.93)**	(20.83)**	(19.38)**	(17.65)**
National or federal Agency	0.29	0.41	0.39	0.35
	(4.36)**	(6.28)**	(5.66)**	(4.61)**
Regional or local Agency	-0.36	-0.30	-0.34	-0.29
	(3.69)**	(3.11)**	(3.32)**	(2.74)**
Not specified"	1.58	1.50	1.44	1.68
	(41.98)**	(39.61)**	(32.73)**	(33.27)**
Constant	-4.91	-5.67	-5.82	-6.02
	(12.63)**	(14.51)**	(11.30)**	(11.65)**
Observations	3,138,906	3,131,571	2,759,646	2,357,895
Pseudo R^2	0.08	0.08	0.08	0.08
Sectoral Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes

To examine whether the WTO GPA improves the competitive environment by increasing the number of offers submitted for a contract, we implement a negative-binomial regression methodology, as suggested by Bajari and Hortacsu (2003), in order to assess the determinants of the number of bidders. Specifically, we examine the following

Table 11
Effect of GPA on Level of Competition
(Negative Binomial Regression of Determinants of Number of Offers)

	(1)	(2)	(3)
GPA Covered	0.46	0.39	0.38
	(331.26)**	(264.28)**	(240.18)**
Trade to GDP Ratio		-0.01	-0.01
		(315.36)**	(304.81)**
GDP per capita		0.00	0.00
		(121.29)**	(105.03)**
Contract Value			0.00
			(0.76)
accelerated negotiated	-0.51	-0.57	-0.72
	(35.83)**	(39.92)**	(43.57)**
accelerated restricted	0.17	0.07	0.04
	(22.08)**	(8.69)**	(4.68)**
award without publication	0.13	0.17	0.07
	(25.37)**	(33.28)**	(12.47)**
competitive dialogue	-0.30	-0.41	-0.34
	(18.07)**	(25.16)**	(18.83)**
negotiated with competition	-0.04	-0.10	-0.03
	(9.89)**	(26.12)**	(6.58)**
negotiated without comp.	-1.10	-1.04	-1.01
	(244.92)**	(234.38)**	(217.21)**
restricted	0.20	0.05	0.01
	(68.39)**	(18.86)**	(4.06)**
Central government	-0.26	-0.10	-0.09
	(96.88)**	(36.33)**	(31.64)**
Water, energy, transport	-0.08	0.14	0.11
	(22.55)**	(38.46)**	(28.74)**
European Union institution	-0.78	-0.35	-0.31
	(68.86)**	(30.35)**	(26.32)**
other international org.	-0.55	-0.56	-0.48
	(9.28)**	(9.66)**	(7.43)**
governed by public law	-0.17	-0.00	0.02
	(83.80)**	(1.41)	(9.94)**
Other	0.01	0.12	0.11
	(4.44)**	(52.90)**	(44.88)**
National or federal Agency	0.08	0.29	0.36
	(15.58)**	(56.38)**	(63.69)**
Regional or local Agency	-0.37	-0.28	-0.24
	(72.63)**	(55.72)**	(45.58)**
Not specified"	0.26	0.21	0.16
	(58.03)**	(46.36)**	(28.50)**
Constant	1.63	1.74	1.74
	(15.32)**	(16.65)**	(16.68)**
Observations	2,767,856	2,760,617	2,361,017
Pseudo R2	0.8	0.8	0.9
Sectoral Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes

regression equation:

$$N_{irt} = \alpha + \rho GPA_{irt} + \theta C_{rt} + \beta X_{irt} + \delta FE + \varepsilon_{irt} \qquad (3)$$

where N_{irt} is the number of bids submitted for each contract.[20] Table 11 displays the estimation results for the alternative regression specifications. The coefficient of the WTO GPA-covered variable is significant, with a positive sign for all regression specifications. This result indicates that significantly more firms submit offers to WTO GPA-covered procurements. Hence, we conclude that the WTO GPA improves the level of competition in government procurement auctions.

Efficient government procurement requires a competitive and transparent procurement system. Corruption limits competition and artificially increases procurement prices above a competitive level. Therefore, to be able to improve procurement efficiency, authorities should conduct appropriate competition policy actions to deter collusion in public procurement. Collusion prevention is one of the goals of the WTO GPA. We now turn to investigate whether the WTO GPA manages to limit collusion.

We first construct collusion measures to gauge collusive risk in government procurement in the EU. Fazekas et al. (2014) calculate a proxy indicator of corruption by using signs of limited competition such as a single bid received and the same company winning recurrent contracts. We extend Fazekas et al.'s (2014) "red flags" and use a company's connectedness level in the network of firms that win government procurement contracts. The TED dataset contains the names of winning firms, and we use this feature to calculate a firm's win ratios and its eigenvector centrality score, which measures the connection strength of the firm in the network. We examine the impact of the WTO GPA on corruption by assessing how the WTO GPA affects three signs of limited competition: contracts with a single bid, a firm's win ratio, and the strength of a contract-winning firm in the network.

Of all procurements in the time period we study, 673,260 (21%) contracts were conducted when there was only one offer. Of this 21%, 246,811 of these were WTO GPA covered and 426,449 were not. We estimate a multivariate logit regression, where the dependent variable is the dummy variable, that is, 1 when there was only one offer in a contract. We estimate the following regression specification:

$$Prob(SB_{irt} = 1|x) = F(x'_{irt}\beta) \ (3)$$

where SB_{irt} is the single-offer procurement dummy variable and equals 1 if procurement was conducted with only one offer. x'_{irt} contains the explanatory variables GPA_{irt}, C_{rt}, P_{irt}, and FE, as described above.

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[20] Of the contracts we examine, 4919 had no information about the number of offers, so we do not include them in our calculations.

Table 12 displays the regression results with alternative regression specifications. The table shows that the probability of a one-offer procurement is significantly lower for WTO GPA-covered procurements. The coefficient of the WTO GPA-covered dummy variable is negative and significant at the 1% significance level. In other words, it is more likely that WTO GPA-covered procurements attract more than one offer. Accordingly, we conclude that the WTO GPA helps governments promote a competitive procurement environment that is less susceptible to collusive behaviour.

Table 12
Effect of GPA on Corruption Measures
(Binary Logit Regression analysis of Single Bidder Procurement)

	(1)	(2)	(3)
GPA Covered	-0.59	-0.30	-0.25
	(185.21)**	(86.51)**	(69.52)**
Trade to GDP Ratio		0.01	0.01
		(96.74)**	(89.70)**
GDP per capita		-0.00	-0.00
		(233.37)**	(196.23)**
Contract Value			-0.00
			(1.00)
accelerated negotiated	1.22	1.23	1.29
	(44.52)**	(42.20)**	(39.56)**
accelerated restricted	0.50	0.62	0.63
	(28.54)**	(33.30)**	(32.44)**
award without publication	0.30	0.32	0.30
	(31.63)**	(32.48)**	(28.20)**
competitive dialogue	-0.50	-0.25	-0.22
	(10.78)**	(5.34)**	(4.40)**
negotiated with competition	-0.17	0.16	0.23
	(18.68)**	(16.72)**	(21.71)**
negotiated without comp.	2.17	2.09	2.04
	(284.35)**	(268.10)**	(247.00)**
restricted	-0.63	-0.25	-0.20
	(64.71)**	(25.28)**	(18.46)**
Central government	0.41	0.01	-0.01
	(66.60)**	(1.60)	(0.80)
Water, energy, transport	0.17	-0.37	-0.32
	(21.20)**	(43.59)**	(35.89)**
European Union institution	0.47	0.58	0.55
	(18.04)**	(21.84)**	(20.39)**
other international org.	0.06	0.02	0.26
	(0.50)	(0.17)	(1.83)
governed by public law	0.34	0.01	-0.00
	(69.03)**	(2.27)*	(0.34)
Other	0.23	-0.03	-0.02
	(44.86)**	(5.99)**	(3.65)**
National or federal Agency	0.02	-0.46	-0.48
	(1.59)	(32.88)**	(32.73)**
Regional or local Agency	0.35	0.09	0.07
	(29.64)**	(7.50)**	(5.36)**
Not specified	-0.77	-0.55	-0.50
	(69.13)**	(49.02)**	(35.08)**
Constant	-2.95	-1.46	-1.59
	(13.64)**	(6.91)**	(7.58)**
Observations	3,135,693	3,128,359	2,575,969
Pseudo R2	0.13	0.16	0.15
Sectoral Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes

Table 13 displays the summary statistics of total number of wins by each firm. GPA covered procurements are won by firms with slightly lower average number of total wins, namely 0.65 compared to 0.67. The difference between GPA covered and non-covered procurements are statistically significant with a p-value of 0.002.

Table 13

Recurrent contract award to the same company. Win ratio of companies in GPA and non-GPA procurements

	Number of Observations	Mean	Standard Deviation	Minimum	Maximum
GPA Covered	357,903	0.65	3.3	0.001	100
Not Covered by GPA	357,730	0.67	3.7	0.001	100
Test-Statistic	3.11				
P-value	0.002				

Note: 347,942 firms won both GPA covered and non-GPA contracts.

We identify the potentially collusive networks in government procurement by calculating the connections with the firms that have won at least 1% of all contracts in a sector in a country. Among 331,541 firms 23,772 firms won at least 1 % of the all contracts. We use the percentage of wins by a firm as a measure of the strength of its influence in the network. Then, we calculate the eigenvector centrality measure for each firm. Table 14 and Figure 1 display the summary statistics and the histogram of eigenvector centrality measures respectively. On the other hand, Figure 2 graphically displays the network structure in two EU countries, namely Finland and France. Finally, we conduct a regression analysis to assess whether less connected wins GPA covered contracts. Table 15 displays the OLS regression results of the eigenvector score of the contract winner on GPA dummy variable and other control variables. We conclude that the WTO GPA covered dummy variable is significant with a negative coefficient. Accordingly, less connected firms are able to win contracts when the procurement is covered by the WTO GPA. If network connection is used as a red flag for potential corruption, we can conclude that GPA covered procurement is less susceptible to corruption.

Table 14

Summary Statistics of Eigenvalue Scores

	Number of Observations	Mean	Standard Deviation	Minimum	Maximum
Eigenvector Centrality Scores	23,772	0.09	0.12	0	1

Note: Firms which win at least 1% of all procurement in a sector in a country.
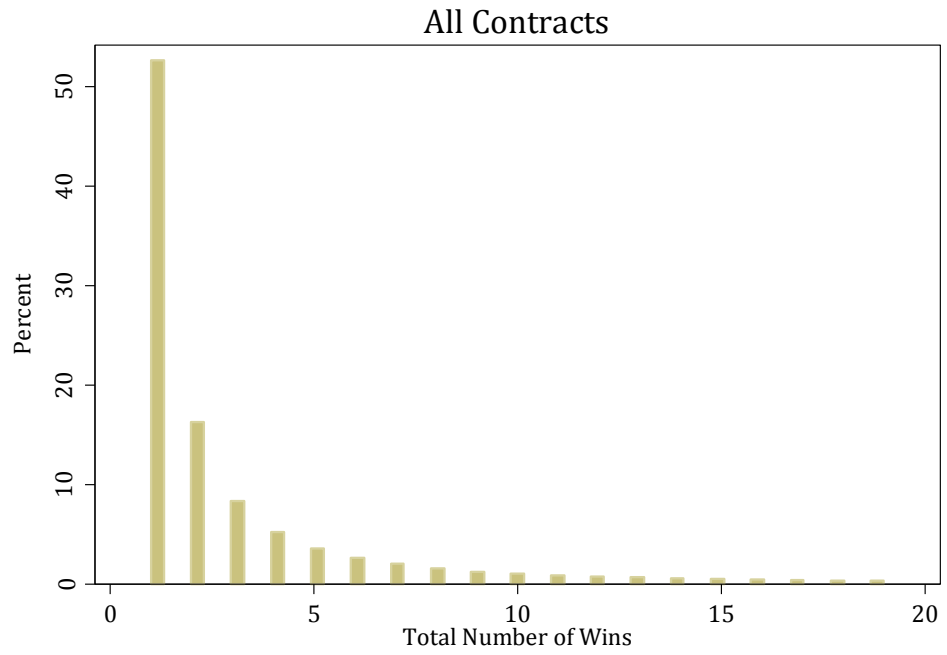
All Contracts

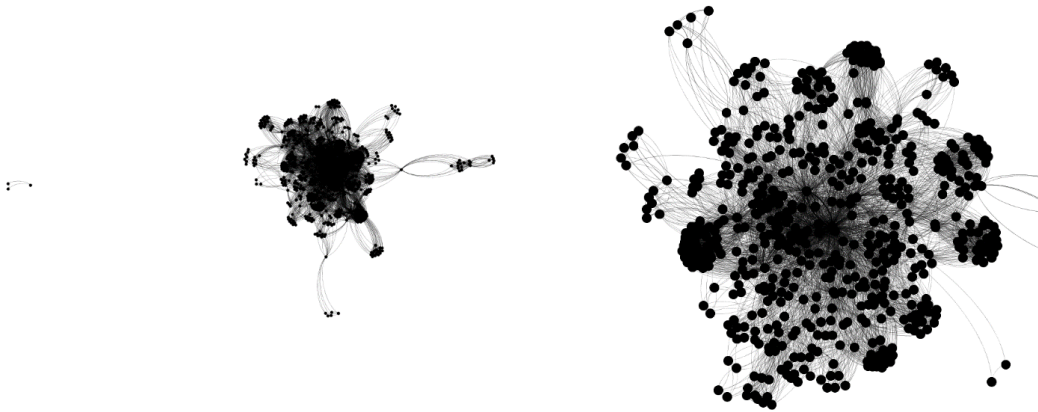Figure 1: Histogram of Total Number of Wins

Figure 2: Network Structure in Finland (left figure) and France (right figure)

Table 15

Eigenvector centrality Scores of Winners in GPA covered Procurements and Procurements not covered by GPA

	Dependent Variable: Eigenvector centrality of Winner
GPA Covered	-0.01
	(16.96)**
accelerated negotiated	-0.01
	(1.93)
accelerated restricted	-0.01
	(3.15)**
award without publication	0.00
	(2.30)*
competitive dialogue	0.05
	(6.22)**
negotiated with competition	-0.09
	(67.73)**
negotiated without comp.	-0.01
	(8.66)**
restricted	-0.07
	(48.40)**
Central government	0.04
	(43.64)**
Water, energy, transport	0.09
	(75.20)**
European Union institution	-0.13
	(29.39)**
other international org.	-0.04
	(2.14)*
governed by public law	-0.00
	(1.00)
Other	0.03
	(41.64)**
National or federal Agency	0.15
	(79.58)**
Regional or local Agency	0.02
	(8.49)**
Not specified	-0.02
	(11.58)**
Constant	0.19
	(7.81)**
R2	0.
Observations	1,487,427
Sectoral Fixed Effects	Yes
Year Fixed Effects	Yes

Finally, we examine the impact of the WTO GPA on the efficiency of government procurement. We measure efficiency using the ratio of procurement price to the estimated value. We can use 1,019,448 observations for this analysis. Estimated value is missing for a substantial number of contracts. Additionally, we eliminated some of the outliers. We implement the 'BACON' (Blocked adaptive computationally efficient outlier nominators) methodology proposed by Billor et al. (2000) to identify outliers. We observe very extreme values because of wrong entries. Although, both the contract price and estimated cost should be in Euros, some of the observations are entered in local

currencies. Additionally, the contract price can be entered in units but the estimated cost may present the total amount which causes the ratio to be unrealistically large. All of these wrong entries are identified as outliers and are eliminated. Table 16 displays the summary statistics of the ratio.

Table 16
Summary Statistics of Ratio of Procurement Price to Estimated Cost

	Number of Observations	Mean	Standard Deviation	Minimum	Maximum
Ratio	1,097,103	0.89	0.22	0.25	1.86

Next, we conduct a regression analysis to investigate whether GPA covered procurements are more efficient, with lower ratios. We also examine the impact of collusive behavior on procurement efficiency by analyzing the effect of single offer and eigenvector centrality. Specifically, we estimate the following regression specification:

$$Price/Estimate_{irt} = \alpha + \rho GPA_{irt} + \tau\, Collusion_{irt} + \theta C_{rt} + \beta X_{irt} + \delta FE + \varepsilon_{irt}$$

Table 17 displays the estimation results. The GPA covered dummy variable has a significant positive coefficient. This result indicates that the efficiency of the WTO GPA covered procurements are lower compared to non-GPA contracts. GPA covered contracts have higher procurement prices compared to their estimates. We find that level of competition is essential in improving procurement efficiency. The coefficient of number of offers is negative and significant. The third and fourth columns of Table 17 examines the impact of potential corruption on procurement efficiency. We examine the proxies for potential corruption: single bidder procurement and network strength of the winner. We conclude that corruption significantly lowers government procurement efficiency. Single bidder contracts have significantly higher ratios showing that procurement price compared to the estimated cost is significantly higher in single bidder contracts. The influence strength of a firm in the network also lowers procurement efficiency. When firms with higher eigenvector centrality measures win contracts the procurement prices are significantly higher compared to the estimated costs.

In conclusion we can state that (i) GPA significantly increases the probability that a foreign firm will win a government procurement contract in the EU member and affiliated states; (ii) GPA promotes the competitive environment by increasing the number of offers; (iii) GPA significantly lowers corruption risk by decreasing contracts with single offer, decreasing winning ratio of firms and allowing firms with lower network strengths to win contracts; (iv) firms with higher degree of connections in a network win contracts with higher prices; (v) GPA lowers single offer procurements; and (vi) firms that win the WTO GPA covered contracts have significantly lower network strength. On the other hand, we note that (a) the WTO GPA allows less connected firms to win contracts; (b) GPA does not improve procurement efficiency, but increases the contract price compared to the estimated cost; competitive environment is a significant

determinant of government procurement efficiency, and an increase in number of offers decreases the ratio of price and estimated cost; (c) single offer procurements have significantly lower efficiency, and the procurement price is higher compared to procurement with more than one offer.[21]

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[21] For a related study of the Turkish government procurement system see Appendix II.

Table 17
Effect of the WTO GPA and Corruption on Procurement Efficiency:
Lewbel (2012) Instrumental Variable Estimation

	(1)	(2)	(3)
GPA Covered	-0.001	0.002	0.019
	(0.41)	(0.93)	(7.36)**
Number of Offers	-0.001	-0.003	-0.001
	(2.64)**	(27.90)**	(4.82)**
Single Bidder		0.101	0.015
		(144.93)**	(11.96)**
Eigenvector centrality			0.064
			(7.60)**
accelerated negotiated	0.078	0.045	0.015
	(12.49)**	(7.37)**	(3.18)**
accelerated restricted	0.030	0.023	0.050
	(9.28)**	(7.33)**	(15.42)**
award without publication	0.036	0.026	0.082
	(15.93)**	(11.63)**	(5.20)**
competitive dialogue	0.084	0.090	0.027
	(8.87)**	(9.64)**	(9.40)**
negotiated with competition	0.043	0.045	0.037
	(20.93)**	(22.43)**	(18.06)**
negotiated without comp.	0.047	-0.004	0.003
	(30.53)**	(2.66)**	(1.09)
restricted	0.022	0.032	-0.010
	(12.67)**	(18.37)**	(6.22)**
Central government	-0.013	-0.012	0.031
	(10.56)**	(10.43)**	(15.45)**
Water, energy, transport	0.017	0.016	0.080
	(11.51)**	(10.93)**	(12.40)**
European Union institution	0.081	0.092	0.067
	(19.10)**	(22.06)**	(2.35)*
other international org.	0.061	0.059	0.018
	(2.70)**	(2.64)**	(12.95)**
governed by public law	0.014	0.007	0.014
	(13.61)**	(6.63)**	(9.46)**
Other	0.004	-0.005	0.058
	(3.81)**	(4.71)**	(18.46)**
National or federal Agency	0.047	0.057	-0.012
	(19.78)**	(24.31)**	(4.54)**
Regional or local Agency	-0.020	-0.019	0.040
	(10.15)**	(10.07)**	(8.73)**
Not specified	0.024	0.024	0.019
	(6.85)**	(7.14)**	(7.36)**
Constant	0.929	0.926	0.924
	(31.80)**	(32.22)**	(28.66)**
R²	0.02	0.05	0.02
Observations	1,092,659	1,092,659	598,452
Sectoral Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes

5. Benefits and Costs of Turkish Accession to the WTO GPA

As emphasized by Anderson and Osei-Lah (2011), Anderson et al. (2011) and
Chakravarty and Dawar (2011) a major potential benefit for countries to join the WTO
GPA is the possibility of realizing enhanced competition and improved governance in the

acceding country's own procurement market. The empirical analysis of WTO GPA in Section 4 revealed that the Agreement has in fact been effective in promoting non-discriminant, open, transparent and competitive government procurement.

Turkey's public procurement system has significantly improved since the adoption of PPL and PPCL in 2002 in achieving the primary goals of sound public procurement system such as competition, transparency, non-discrimination and integrity. The new system of public procurement was of a high standard, and during the period since 2002 Turkey has shown remarkable progress in adjusting to the new system of public procurement. Furthermore, considerable progress has been made in improving the efficiency and effectiveness of the PPA operations through the use of IT technologies and through e-procurement tools. But over time, problems started to accumulate. Economic units adversely affected by the changes in government procurement legislation started to complain. Policy-makers responded to these complaints by making amendments to PPL directly and indirectly. While in the case of direct method the government has introduced changes in PPL by amending the Law No 4734 of 2002 through a separate legislation, indirect methods were used when the government inserted the amendments to PPL to other laws adopted and also inserted these amendments to different government decrees. Some of the changes to PPL were made in order to align the public procurement legislation to EU public procurement *acquis*. But the majority of changes were introduced that led to further deviations from satisfying the primary goals of a sound procurement system.

Once a sector becomes exempt from the rules of PPL, the principles and procedures concerning public procurement are determined with the regulations prepared by the related ministries or institutions taking account of the opinions of PPA. Accordingly, these rules should reflect the main principles of public procurement, such as equal treatment, transparency, and competition of PPL, when awarding the contracts. However, it is difficult to say that these regulations are in full compliance with the main principles of the PPL. In particular, the transparency requirements for advertising the contracts are in most cases violated. Besides, tender procedures are not similar to the PPL tender procedures. Under exemptions, the efficient functioning of public procurement could be distorted by collusions and/or corruptions, or both, reducing competitiveness and efficiency in the public sector.

Turkey, as explained above in Section 3, is an extensive user of exceptional procedures (negotiated procedures and direct procurement). Here we ask the question what advantages negotiated procedures and direct procurement methods have over open procurement and restricted procurement methods. According to PPL procedures other than open and restricted may be used in Turkey under special circumstances set in Articles 21 and 22 of PPL. Procurement of the consulting services with the restricted procedures are subject to special regulations (Article 48-52 of PPL). Furthermore, "direct procurement" does not require the advertisement of contract notice and can be applied under certain specified conditions stated in Article 22 of PPL. Tenderers participating in the procurement proceedings are no longer required to submit information and documents

for evaluation of their economic and financial standing or for the evaluation of their professional and technical qualifications. Similarly, the "negotiated procedure" is used under certain specified conditions stated in Article 21 of PPL. In some of these cases, there is even no need for advertisement of the contract notice.

Since the requirements of "direct procurement" and "negotiated procedure" are less restrictive than those of "open procedure" and "restricted procedure," the efficient functioning of public procurement may be distorted by collusions or corruptions, or both, reducing competitiveness and efficiency in the public sector and thus violating the primary goals of sound procurement such as transparency, non-discrimination, and integrity. Finally, note that the government by passing Law No. 5812 in 2008 allowed the contracting authorities the right to forego the open auction procedure for any construction auction where the estimated cost of a procurement project was above half the value of a specified 'threshold'. According to the law only those tenderers invited following a pre-qualification evaluation by the contracting authority may submit a tender. As pointed out by Gürakar and Meyersson (2016) this represented a significant change as previously restricted auctions were only used when the nature of the subject necessitated 'speciality and/or high technology'. Thus, the 2008 amendment significantly increased government discretion of construction procurement contracts.

Note that PPL applies to all tenders regardless of the thresholds set out in Article 8 of PPL. Although contracts below the thresholds are still subject to the provisions laid down in the PPL they are not subject to the PPL requirements on transparency and equal treatment. Hence there is less competition. As a result the level of thresholds are of prime importance. Since thresholds in Turkey have been set above the levels set by the WTO GPA, the policy makers in Turkey are given more flexibility in decision making compared to decision makers in the WTO GPA countries. Furthermore, if the value of the contract is below threshold, a procuring entity may confine the participation of procurement proceedings solely to domestic suppliers or contractors. On the other hand, 15% price advantage may be granted for tenderers of above thresholds who offer domestic products violating the principle of non-discrimination.

Finally note that PPL does not contain provisions on works and services concessions such as construction of highways and bridges by the private sector. Since Turkey does not have a comprehensive legislative framework for concessions and public-private partnerships, tender procedures, award criteria, and the inclusion of social and environmental considerations in public contracts are in general different from those stipulated under PPL. Thus, uniform and coherent laws on utilities are still missing. As a result of opaque tendering procedures and poor governance, contract prices tend to be higher and delays and cost over-runs affect taxpayers negatively, as they end up paying more for less.

In the following we assume that Turkey during the accession negotiations to the WTO GPA will be forced by existing WTO GPA Parties to repeal exceptions not in line with WTO GPA rules, reduce the use of exceptional procedures (negotiated procedures and

direct procurement) to levels consistent with WTO GPA rules, reduce the threshold values to values consistent with average threshold values of the WTO GPA Parties, and not discriminate against foreign suppliers in below threshold as well as above threshold contracts. Under such policies Turkey for covered procurements will realize enhanced competition and improve the governance in its own procurement market. Accession to the WTO GPA will thus secure better value for the money spent by the government on its procurement as a consequence of increased level of competition, and application of the principles of non-discrimination, national treatment and transparency. Furthermore, Turkey will reduce corruption as a result of the explicit anti-corruption agenda of the WTO GPA. Procuring entities will conduct covered procurements in a transparent and impartial manner that avoids conflicts of interest and prevents corrupt practices.

The above considerations reveal that the WTO GPA allows for covered procurements the opening of markets to international competition through legally enforceable provisions. The provisions on contract awards, qualification of suppliers, and conditions on procurement process ensure the achievement of transparency and non-discriminatory conditions of competition between suppliers resulting in cost savings to procuring governments. Access to WTO's dispute settlement mechanism helps to enforce fair and non-discriminatory competition in public procurement. Thus, accession to the WTO GPA will bring about lower prices, better quality, and will reduce corruption and rent seeking tendencies in Turkey. In addition, accession to the WTO GPA will send powerful signals to both foreign investors and governments, that there is commitment to the principles of transparent, non-discriminatory and competitive procurement markets.

Turning to market access considerations we note that an obvious incentive for countries to join the WTO GPA is to gain assured access to the procurement markets of other WTO GPA Parties subject to terms set out in the Parties' schedules. In the case of Turkey the problem is to estimate for Turkey the gain in terms of assured access to the procurement markets of other countries. Noting that total value of market access opportunities under GPA has been valued at around $1.6 trillion and that the EU and the US provide for around 75% of the total value of existing market access opportunities under the WTO GPA, Anderson et al. (2011) come out with an estimate of $675.6 billion for EU, Japan and US. Table 5 reports six sectors of importance for Turkey. As shown in Table 17, the total value of possible market access opportunities is estimated at $493.6 billion. Thus, the possibilities for actual export sales resulting from GPA accession are very significant. With a success rate of 3.5% as in Anderson et al. (2011), the figures would translate for Turkey into $17 billion export sales annually.

Table 18: Market Access opportunities of potential interest to Turkey (Billion $)

Specific Sectors	European Union (2007)	Japan (2008)	United States (2008)	TOTAL
Construction Services	125.7	11	287	423.7
Chemical Products	21	7.2	2.24	30.44
Machinery and Associated Products	14	0.33	0.52	14.85
Textile, Clothing and Footwear	4.4	19		23.4
Plastic and Rubber Products	0.9	0.003	0.053	0.956
Wood Products	0.2	0.062		0.262
TOTAL	166.2	37.595	289.813	493.608

Source: Anderson et al. (2011)

To estimate the size of potential Turkish government procurement market under GPA we make use of approach of OECD (2002) which estimates the approximate size of total government procurement market by making use of data series on government accounts by OECD and UN Standard National Accounts and IMF's Government Finance Statistics. Shingal (2012) notes that total government expenditure includes government's final consumption expenditures as well as final investment or gross capital formation expenditure. To this amount OECD (2002) adds the intermediate consumption expenditures and then subtracts from the sum total estimates of defense expenditure, compensation of employees, expenses on items like interest payments, subsidies, debt write-offs, welfare payments, grants and loans and payments to international organizations like the IMF. The final figure providing an estimate of public procurement according to OECD (2002) amounts to 6.84% of GDP for Turkey. But this figure is close to the figure reported in Table 1 above which was said to underrepresent the share of government procurement in GDP. Recently, the OECD (2011) estimated the share of general government procurement as a percentage of GDP as 11.79% during 2007, 11.33% in 2008, 12.56% in 2009, 11.82% during 2010 and 10.82% during 2011. The average value of the share of general government procurement as a percentage of GDP for the period 2007-2011 comes out to 11.664%.[22] According to the World Bank Turkish GDP during 2015 has amounted to $718.2 billion. Assuming the proportion of the aggregate size of government procurement markets as a share of GDP to remain at 11.664% during 2015, total value of government procurement during 2015 will amount to $83.77 billion.

In order to determine the size of potential Turkish government procurement market under GPA we follow the approach of Anderson et al. (2011). We multiply the above figure with the proportion of GDP of government procurement actually covered by the WTO GPA commitments in the EU and the US. These proportions are 2.5% and 6.4% for 2007. Assuming these proportions to represent the relevant proportion for Turkey we come out

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[22] See the website https://stats.oecd.org/Index.aspx?DataSetCode=GOV_2015.

with two estimates for Turkey, namely $2.1 billion and $5.36 billion forming 0.3% and 0.75% of 2015 Turkish GDP. These numbers represent the Turkish government procurement markets likely to be covered by the WTO GPA.

Regarding the costs in the WTO GPA accession, Anderson et al. (2011) consider three different costs: costs of preparing an offer and negotiating with the existing GPA Parties; institutional costs relating to the implementation of the WTO GPA's requirements; and costs relating to the adjustment of domestic firms to competition from foreign entities based in other GPA Parties, including possible employment and other effects. Since PPL is broadly in line with the 2004 European Union (EU) public procurement directives and the EU is a member of the WTO GPA, the Turkish procurement procedures are broadly in line with the requirements of the WTO GPA the costs associated with Turkish accession to the WTO GPA could largely be discounted.

6. Conclusion

Public procurement concerns how public authorities spend taxpayers' money when buying goods, services, and works. While countries in general may have rules aimed at ensuring public money is spent in a transparent, efficient, and non-discriminatory way, thus securing competition and integrity, some countries may not observe these goals of a sound public procurement system. One such country that did not observe the goals of sound public procurement was Turkey prior to the adoption of Public Procurement Law (PPL) in 2002. In 2002, Turkey adopted PPL which was prepared by taking into account the then prevailing EC Directives on public procurement, the 1994 UNCITRAL Model Law, and the WTO's 1994 GPA. But the high standard of the initial PPL could not be maintained over time. Instead of aligning the public procurement legislation closer to EU public procurement *acquis,* Turkey chose to deviate more and more from the EU *acquis* over time. As a result, the Turkish system of public procurement as of 2017 is in need of major reform, and accession to the WTO GPA would provide the platform for reform of the Turkish public procurement system thus providing major benefits to Turkey.

Empirical analysis of the WTO GPA reveals that the WTO GPA commitments will secure better value for the money spent by governments in their procurement processes as a consequence of applying the WTO GPA principles of transparency, non-discrimination, integrity, and competition. Given that the WTO GPA's provisions will certainly benefit Turkey, it is surprising that to date Turkey has not become a signatory of the WTO GPA.

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Appendix I: Main Differences between Turkish Government Procurement System and WTO GPA

	WTO GPA	Turkish Gov. Pro. System
Thresholds	Central Gov. entities SDR 130,000 Local Gov. entities SDR 200,000 Other entities SDR 400,000 Construction SDR 5 million	General and Annex Budget entities SDR 222,000 Other entities SDR 370,000 Construction SDR 8,152,342 Thus, in Turkey the number of below threshold contracts, which in general are not subject to transparency and equal treatment requirements of PPL
Exceptions	Contracts specified in Article II.3 of WTO GPA are exempt. Furthermore, defense procurements are exempt.	Far too many exemptions were introduced through amendments Article 3 of PPL. In addition, several laws introduced more exemptions, either for individual institutions or for specific types of contracts, or even for individual projects. When certain sectors or specific contracts are exempted from the rules of PPL, transparency requirement is usually violated.
Method of Procurement	Procurement methods are open tendering, selective tendering and limited tendering. WTO GPA encourages the use of competitive tendering procedures. Under selective tendering bids are restricted to prequalified suppliers who have demonstrated that they meet technical competence norms. Limited tendering can be used only under very restrictive conditions.	Procurement methods are open procedure, restricted procedure, negotiated procedure, and direct procurement. Under direct procurement and negotiated procedure transparency requirement could easily be violated. Turkey is an extensive user of these two exceptional procedures.

Concessions, Public Private Partnerships (PPP) and Utilities	PPPs have no specific meaning under WTO GPA. On the other hand utilities specified in Annex 3 of Appendix I are subject to WTO GPA.	Turkey has not established the legal framework governing concessions and PPPs. Separate regulations govern different sectors. On the other hand PPL does not deal with entities operating in the utilities sector. However Interim Article 4 of PPL states that entities carrying activities in the energy, water, transport and telecommunications sectors will be subject to provisions of PPL until their special laws enter into force. Article 3 of PPL states that contracts of utilities not exceeding 2.45 million Euros shall not be governed by PPL
Defense Procurements	WTO GPA excludes defense procurements.	.PPL excludes defense procurements. Omnibus Law of 2014 introduced an offset option in public tenders and exempted acquisitions involving offsets from PPL.
Below Threshold Contracts	In WTO GPA there is no mention of below threshold contracts.	PPL applies to above threshold as well as below to below threshold contracts. But below threshold contracts are in general not subject to transparency and equal treatment requirements of PPL
Participation of Foreign Tenders	WTO GPA aims to open up market access to companies from each of the WTO GPA member countries.	In case of below threshold procurements, participation of foreign tenderers may be prevented by the contracting authority if this condition is stated explicitly in the tender document. In case of above threshold procurements a price advantage of up to 15% could be applied in favor of domestic tenderers. The omnibus law of 2014 made the 15% price advantage compulsory for medium and high-technology industrial products.

Appendix II: Empirical Analysis of Turkish Public Procurement

We examine the network structure of winning firms and the effect of network strength in Turkish public procurement using the Pubic Procurement of Turkey (PPAT) dataset. Public Procurement Authority of Turkey (PPAT) provides a detailed data set about contract details of Turkish public procurement. This dataset allows us to calculate network statistics and conduct regression analysis to examine the effects of network dynamics on public procurement efficiency. We examine 622,346 auctions conducted in 2010-2012. 59,781 firms won at least one contract. We calculate the network measures and examine the network structure in Turkish public procurement auctions. Additionally, we examine the effect of alternative network centrality measures and their impact on public procurement efficiency. We find that similar to the results with the EU data firms with higher "Eigenvector centrality" win auctions with higher procurement prices. Furthermore, we find that number of bidders have a significant and negative impact on public procurement prices. Accordingly, competition plays a critical role in promoting cost-effective public procurement practices.

Table A.1 below displays the summary statistics of network centrality measure of firms that have won at least one contract in public procurement auctions. We calculate network strength by considering total number of times firms bid in the same auction.

Table A.1
Summary Statistics of Network Measures

	Mean	Standard Deviation	Minimum	Maximum
Eigenvector Centrality	0.017	0.05	0	1
Closeness Centrality	0.279	0.324	0	1
Betweenness Centrality	0.001	0.00	0	0.014

Figures A.1 and A.2 provide examples of the complex network structure by displaying two major sectors: chemistry and construction.

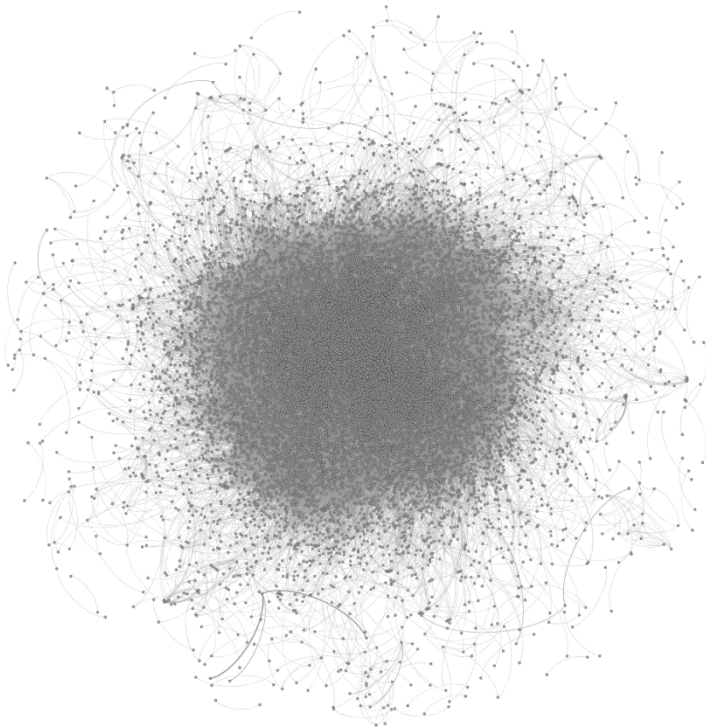Figure A.1: Network Structure of Chemistry Sector

Figure A.2: Network Structure of Construction Sector

Table A.2 presents the correlation of three alternative network measures. We focus on eigenvector centrality because it directly measures the connection strength of a firm by taking into account the total number of connections a single firm has. We provide alternative network measures to assess different dimensions of the network structure.

Table A.2
Correlation of Network Measures

	Eigenvector Centrality	Closeness Centrality	Betweenness Centrality
Eigenvector Centrality	1		
Closeness Centrality	-0.046	1	
Betweenness Centrality	0.326	-0.041	1

Table A.3 shows the logit regression analysis of the impact of network strength on the probability of winning an auction. We find that network centrality has a positive significant coefficient stating that firms with higher network centrality measures have significantly higher probabilities of winning an auction. Consequently, firms with higher network strengths are more likely to win public procurement contracts.

Table A.3

Network Centrality and Probability of Winning an Auction (Logit Regression Analysis)

	(1)	(2)	(3)	(4)
Eigencentrality	0.132			0.211
	(4.28)**			(6.26)**
Closeness Centrality		-0.01		-0.011
		(1.08)		(1.14)
Betweenness Centrality			-8.323	-13.581
			(4.18)**	(6.18)**
Number of Bidders	-0.395	-0.394	-0.394	-0.395
	(258.20)**	(258.62)**	(258.29)**	(258.19)**
Above Threshold	0.005	0.004	0.004	0.005
	(1.30)	(1.19)	(1.17)	(1.26)
Stimulus Region 2	-0.038	-0.038	-0.038	-0.038
	(8.00)**	(8.04)**	(8.03)**	(8.00)**
Stimulus Region 3	-0.028	-0.029	-0.029	-0.028
	(5.45)**	(5.53)**	(5.50)**	(5.40)**
Stimulus Region 4	-0.01	-0.011	-0.011	-0.010
	(1.95)	(2.05)*	(2.07)*	(1.89)
Stimulus Region 5	-0.012	-0.013	-0.014	-0.012
	(1.97)*	(2.11)*	(2.18)*	(1.98)*
Stimulus Region 6	-0.027	-0.029	-0.029	-0.027
	(4.41)**	(4.72)**	(4.80)**	(4.46)**
Constant	0.83	0.833	0.832	0.836
	(56.83)**	(56.11)**	(56.96)**	(56.24)**
Number of Observations	1,872,759	1,872,759	1,872,759	1,872,759

Notes: ** indicates significance at 1% level, * indicates significance at 5% level. Dummy variables for 45 CPV codes are not presented.

We examine the effect of network strength on total number of wins by a firm and auction participation in table A.4. Table A.4 shows that eigenvector centrality has a positive significant effect on total number of wins and total number of bids by each firm. Accordingly, firms with higher network strength participate to more auctions and win more contracts compared to firms with lower network strength.

Table A.4
Effect of Connectedness on Auction Participation and Winning
(Poisson Regression Analysis)

	Total Number of Wins	Total Number of Bids
Total Number of Bids	0.001	
	(42.68)**	
Eigencentrality	1.92	1.94
	(4.58)**	(5.33)**
Closeness	-0.46	-0.62
	(10.30)**	(8.73)**
Betweenness	391.67	416.6
	(9.25)**	(10.34)**
Constant	2.16	3.51
	(70.74)**	(51.19)**
Number of Firms	59,781	59,781

Notes: Robust z statistics in parentheses. ** indicates significance at 1% level, * indicates significance at 5% level.

Finally, we examine the effect of network strength on procurement cost-effectiveness. We implement a GMM methodology to study the impact of network strength on the ratio of procurement price and estimated cost. Table A.5 shows that the coefficient of Eigenvector centrality is positive and significant. Consequently, procurement price is significantly higher when a well-connected firm with higher network strength wins an auction.

Table A.5
Effect of Connectedness on Winning Bids (GMM estimation)

	(1)	(2)	(3)	(4)
Eigencentrality	6.58			0.71
	(11.33)**			(6.11)**
Closeness		-0.47		-0.46
		(18.43)**		(18.50)**
Betweenness			-57.77	-76.98
			(10.46)**	(16.23)**
N	-4.03	-1.00	-0.96	-0.95
	(14.85)**	(19.43)**	(19.16)**	(18.13)**
N^2	0.15	0.04	0.04	0.04
	(14.82)**	(19.05)**	(18.79)**	(17.90)**
Log Estimated Cost	1.08	0.63	0.63	0.62
	(25.83)**	(74.81)**	(76.22)**	(74.03)**
Above Threshold	-0.34	-0.21	-0.21	-0.21
	(10.82)**	(18.00)**	(18.43)**	(18.31)**
Stimulus 2	-0.85	-0.49	-0.48	-0.48
	(21.58)**	(42.55)**	(43.18)**	(42.52)**
Stimulus 3	-0.83	-0.40	-0.40	-0.40
	(17.11)**	(30.39)**	(30.78)**	(30.31)**
Stimulus 4	-0.31	-0.32	-0.32	-0.32
	(12.70)**	(30.47)**	(31.66)**	(30.94)**
Stimulus 5	-0.43	-0.36	-0.37	-0.36
	(14.79)**	(28.83)**	(29.93)**	(29.39)**
Stimulus 6	0.27	-0.06	-0.06	-0.06
	(6.59)**	(4.35)**	(4.48)**	(4.45)**
Inflation	0.18	0.09	0.09	0.09
	(17.54)**	(27.43)**	(27.99)**	(27.45)**
CB Rate	-0.13	-0.04	-0.04	-0.04
	(12.56)**	(11.41)**	(11.55)**	(11.27)**
Growth	-0.02	0.00	0.00	0.00
	(5.85)**	(1.47)	(1.91)	(2.00)*

Constant	5.94	4.30	4.14	4.29
	(27.99)**	(60.99)**	(61.92)**	(60.81)**
R^2	-2.94	0.31	0.33	0.34
Observations	622,346	622,346	622,346	622,346

Notes: The dependent variable is the logarithm of winning bid. Dummy variables for 45 CPV codes are not presented. Year dummy variables are not presented. Robust z statistics in parentheses. ** indicates significance at 1% level, * indicates significance at 5% level.