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BACHELOR THESIS

**Political Connections and Public
Procurement: Evidence from the Czech
Republic**

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Declaration of Authorship

The author hereby declares that he compiled this thesis independently, using only the listed resources and literature. This thesis was not used to obtain any other academic degree.

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Prague, May 14, 2014

Signature

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Abstract

According to the existing literature, political connections can add value to the connected firms. This thesis analyzes whether political connections created by donations to political parties affect the allocation of public funds through procurement spending in the Czech Republic. Using a novel dataset on all corporate political contributions made between 2006 and 2013, it focuses on the extreme change in control of the regional councils following the 2008 elections. We start by observing the general patterns of behavior of regional governments as contracting authorities which seem to support the potential of corruption. In the second part, we focus on the effects of donations to the two most powerful political parties in the regional councils during the examined period on regional public procurement outcomes. The applied econometric methods suggest that donating companies win public contracts of higher value compared to non-connected firms in times when their supported party is in power. Controlling for the size of the firms, the results remain significant and confirm the notion that larger companies win contracts of higher value than smaller firms.

JEL Classifications D72, H57, K4

Keywords political connections, public procurement, corruption, politics, government contracts, political donations

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Abstrakt

Literatura dokazuje, že vazby na politické strany mohou propojeným firmám přinášet různé výhody. Tato práce se zaměřuje na analýzu chování krajských samospráv jakožto zadavatelů veřejných zakázek a na vliv darů právnických osob velkým politickým stranám na výsledky výběrových řízení veřejných zakázek. K tomuto účelu jsou využity ručně čištěné databáze veřejných zakázek a darů politickým stranám. První část práce zkoumá krajské samosprávy jakožto zadavatele veřejných zakázek a potvrzuje hypotézu, že v procesu zadávání veřejných zakázek existuje prostor pro korupční jednání. V druhé části se zaměřujeme na samotný vliv darů dvěma největším politickým stranám v České republice - ODS a ČSSD. Výsledky ukazují, že firmy, které mezi lety 2006 a 2013 přispěly do rozpočtu jedné z těchto stran, vyhrály ve sledovaném období více výběrových řízení k veřejným zakázkám větší hodnoty. Navíc, propojené firmy vyhrávaly více veřejných zakázek v době, kdy jimi podporovaná strana měla v krajských radách převahu a naopak. Po zahrnutí efektu velikosti firmy si výsledky zachovávají svoji vypovídající hodnotu a dle očekávání potvrzují, že velké firmy získávají zakázky větší hodnoty než malé firmy.

JEL klasifikace

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Klíčová slova

politické konexe, politické vazby, veřejné zakázky, korupce, politika, dary politickým stranám

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Contents

List of Tables	ix
List of Figures	x
Acronyms	xi
Thesis Proposal	xii
Introduction	1
1 Literature review	3
2 Background of the study	6
2.1 Public procurement	6
2.1.1 Size of the market	7
2.1.2 Legal framework	8
2.1.3 Awarding a public contract	11
2.2 Political reality of the Czech Republic	13
2.2.1 Regional administration history	14
2.3 Czech Republic and its advantages for my study	16
3 Data	17
3.1 Public procurement data	17
3.2 Political donations data	20
4 Quantitative analysis of public procurement data	23
4.1 Canceled contracts	23
4.2 Portfolio of public procurement auction winners	25
4.3 Number of bidders	28

5	Effects of political donations	30
5.1	The contracts hypothesis	30
5.2	The party in power hypothesis	33
6	Conclusions	36
	Bibliography	38
A	Figures	I
B	Tables	IV

List of Tables

2.1	Summary of the size of the public procurement market	8
2.2	Summary of the regional elections results	16
3.1	Summary of the database on public procurement.	18
3.2	Summary of the database on political donations.	22
4.1	Results of the Wilcoxon-Mann-Whitney U test.	26
B.1	Descriptive statistics of the database on public procurement. . .	IV
B.2	Summary of the constructed variables.	V
B.3	OLS, Model 5.1	VI
B.4	OLS, Model 5.2	VI
B.5	OLS, Model 5.3	VII
B.6	OLS, Model 5.4	VII

List of Figures

3.1	Number of regional public contracts over time	19
3.2	Number of regional public contracts over time, excluding con- tracts funded or co-funded by the EU	19
3.3	Value of regional public contracts over time	20
4.1	Value of canceled regional public contracts over time	24
4.2	Share of new firms in the public procurement recipients portfolio over time	27
4.3	Number of bidders in the regional public procurement auctions .	28
A.1	Procurement-to-GDP ratio in OECD countries.	II
A.2	Number of regional public contracts by category	III
A.3	Value of regional public contracts by category	III

Acronyms

CAE	Center for Applied Economics
CZK	Czech Koruna
ČSSD	Czech Social Democratic Party (Česká strana sociálně demokratická)
GDP	Gross Domestic Product
ISVZUS	Information System on Public Procurement
KDU-ČSL	Christian and Democratic Union – Czechoslovak People’s Party (Křesťanská a demokratická unie - Československá strana lidová)
KSČM	Communist Party of Bohemia and Moravia (Komunistická strana Čech a Moravy)
NGO	Non-Governmental Organization
ODS	Civic Democratic Party (Občanská demokratická strana)
OLS	Ordinary Least Squares
OECD	Organization for Economic Co-operation and Development
USD	United States Dollar
VAT	Value Added Tax

Bachelor Thesis Proposal

Author	Miroslav Palanský
Supervisor	Petr Janský, Ph.D.
Title	Political Connections and Public Procurement: Evidence from the Czech Republic

My thesis proposal

In this thesis, I will analyze whether political connections created by corporate donations to political parties affect the connected firms' probability of winning a public procurement auction. If the level of political connectedness does influence the amount and value of the government contracts received, then firms with connections to the political parties in power receive more contracts compared to firms connected to political parties that are not in power and to firms which are not politically connected at all. I will focus on public procurement administered at the regional level, because there was a big shift in the leading political powers at this level following the 2008 elections. This, together with the availability of high quality data for this time period, gives a great opportunity to study the effects of political connectedness.

In the first part of the thesis, I will sum up the previous approaches to estimating the value of political connections by Faccio M. (2002), Fisman R. (2001) and others. I will also introduce other related literature. There have been extensive studies on the topic carried out on American S&P 500 firms by Goldman E., et al. (2010) or on Italian companies by Coviello, C. & Gagliarducci, S. (2008).

In the next part, I will describe the background of public procurement and the political reality of the Czech republic. Then, I will study the basic patterns of behavior of regional governments as contracting authorities, focusing on

areas that might uncover the potential of rent-seeking. Finally, I will present and discuss the results of my estimation of the relationship between political donations and regional public procurement outcomes.

Outline

1. Introduction
2. Literature Review
3. Background of the study
4. Data
5. Results for the Czech Republic
6. Conclusions

Core bibliography

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Introduction

Why do firms donate money to political parties? In many countries, campaign contributions by legal persons are forbidden by law, since there are many ways in which politicians can return the favor. They can, for example, pass (vote against) legislation that helps (hurts) the connected firms, they can relax the regulatory oversight of the involved companies, or they can influence the outcomes of public procurement auctions. Public procurement has been a widely discussed topic for many years. After the economic crisis, the effectiveness and transparency of public tenders have played a more important role than ever. However, public procurement is a very complex area and its vulnerability to corruption is palpable.

This thesis addresses three fundamental economic policy questions: (i) Are there suspicious patterns in the behavior of regional governments as contracting authorities when awarding public contracts? (ii) Do higher campaign contributions buy firms preferential treatment when deciding about public tender winners? (iii) If so, to what extent and under which circumstances? Using quantitative methods and econometric tools, this study examines data on all public procurement administered at the regional level between July 1, 2006 and March 11, 2014, and data on political donations made between 2006 and 2013 to reveal first answers to these questions and make path for further research on this topic in the Czech Republic.

The remainder of this thesis is structured as follows. First, the existing literature on political connections and the ways they pay off is reviewed. In Chapter 2, the general background of public procurement and the political reality of the Czech Republic are described. Chapter 3 summarizes the data used in this study. In Chapter 4, regional administrations are examined as contracting authorities, and the basic patterns of their behavior concerning public procurement are revealed. Chapter 5 focuses on the effects of corporate contributions

to political parties on the outcomes of public procurement auctions and finally, Chapter 6 concludes.

Chapter 1

Literature review

A growing number of economists explore in their research that firms that are politically connected enjoy significant benefits compared to non-connected firms. Most of this literature concentrates on connections such as membership on the boards of companies, family relationships or friendships of the politicians with these board members, connections through political donations and so on. The benefits obtained from the connectedness can add value to the firms. Empirical studies such as (Roberts, B. E., 1990; Fisman R., 2001) detect a relationship between political connectedness of firms and their stock market returns. They argue that rationally behaving firms should therefore tend to create personal, financial or other connections to political parties that are currently, or will be in the future, able to help them in some way.

Faccio, M. (2006) and Jayachandran, S. (2004) demonstrate the added value by examining exogenous changes in political landscape and their corresponding effects. Voth, J. & Ferguson, T. (2008) reached the same results using data on German firms' political connectedness during the era of the Nazi movement. The findings of an exception from these papers, (Fisman, R. et al., 2012), which did not observe any impact of the connections to the former U.S. senator Dick Cheney, are, however, consistent with Faccio, M. (2002), who argues that the effect of political ties is dependent on the quality of institutions. Even though these studies do find that political connections can add value to the firms, little do they focus on the ways through which this added value is generated.

This thesis contributes to three related strands of literature. First, several studies have successfully tried to unveil channels through which the added value

is generated, especially in less-developed countries. Khwaja, A.I. & Mian, A. (2005) showed that Pakistani firms associated with politicians enjoy better access to credit, Claessens, S. et al. (2008) obtained similar results in Brazil. de Figueiredo, R.J.P. & Edwards, G. (2007) found a significant effect of private money on regulatory outcomes. Researchers who look specifically on the effects of connections on the allocation of public funds through procurement spending include, among others, Goldman, E. et al. (2013), who focused on American S&P 500 firms, or Coviello, C. & Gagliarducci, S. (2008), who showed that a change in the identity of the mayor of a municipality rationalizes its public spending using Italian data. The majority of similar studies only examines publicly listed firms and central government agencies. One of the exceptions, Dombrovsky, V. (2008), who draws on the universe of all registered firms in Latvia, obtains results supporting the hypothesis that connections help to add value to firms. Similar results were reached by Straub, S. (2014), who examined the case of Paraguay using high-quality data on both public procurement and 700 largest public procurement winners.

Second, most of the related literature defines a political connection as the membership of politicians or their relatives on the boards of directors or politicians' ownership of company shares. Given the rather strict definition of political connections, the literature is likely to underestimate the extent to which firms are connected - many firms that are classified as unconnected are, in fact, connected through friendships and other informal relationships that are undetectable or detectable only by examining every politician and firm individually, which is very time consuming and therefore costly.

This thesis contributes to the existing literature on one specific channel of political connectedness - political donations. Work employing campaign contributions as a proxy for political connections include for example de Figueiredo, R.J.P. & Edwards, G. (2007), who argue that donations to parties can cause regulated prices to increase, creating new potential of profit for the involved companies. Cooper, J. et al. (2010) found a positive and significant correlation between firms' contributions to U.S. political campaigns and their future stock returns. However, evidence on the positive effects of campaign contributions on firm value is mixed. In fact, several studies, such as (Aggarwal, R. K. et. al, 2012), strongly reject the hypothesis that donations represent an investment in political capital. Nevertheless, Claessens, S. et al. (2008) successfully revealed

a relationship between Brazilian firms' contributions to political parties that won the elections and their bank financing. Snyder, J. M., Jr. (1990), confirming this pattern, argued that firms view political donations as an investment, yielding returns on a quid-pro-quo basis. The results of Ansolabehere S. et al. (2003) show that in developed countries, the importance of political connections is lower than in less-developed countries (which is, again, consistent with Faccio, M. (2002)). A summary of the literature on this topic is well provided by (Stratmann, T., 2005).

Third, this thesis adds to the relatively scarce empirical studies on Czech public procurement. Pavel, J. (2010) focused on the number of bidders and its effects, Chvalková, J. & Skuhrovec, J. (2010) analyzed the potential of e-Government tools and Chvalková, J. et al. (2012) examined the relationship between transparency of ownership structure and public procurement winning. They all suggest there might be potential for corruption as well as efficiency improvements in Czech public procurement. Pertold, F. et al. (2012) concentrated on competition in the awarding process and revealed some practices worth attention. However, the results presented in this study might be interpreted in a too radical manner. For example, contract price clustering below the thresholds or the relationships between the openness of a tender and the difference between the estimated and final prices of a contract are well understandable even without considering corruption motives. Centrum aplikované ekonomie & Naši politici.cz, o.s. (2012) did not reach very strong results examining Prague's public procurement and politicians' ties with board members of the winning firms, possibly due to the underestimation of political connectedness, as explained above.

Institutions focusing on public procurement improvement operating in the Czech Republic include Transparency International - Czech Republic¹, zIndex², a project of an NGO Center for Applied Economics, which rates contracting authorities based on many different characteristics, or the Platform for Transparent Public Procurement³. Political donations and their impact on Czech public procurement outcomes are often discussed in the media, but to our knowledge, empirical research on this topic has not yet been conducted.

¹<http://www.transparency.cz/>

²<http://www.zindex.cz/>

³<http://www.transparentnizakazky.cz/>

Chapter 2

Background of the study

2.1 Public procurement

Today's developed economies include a relatively important role of state. Along with the legislative function, it has allocation (eliminating market failures), stabilization (macroeconomic cycle smoothing) and redistribution functions (dealing with people's general unhappiness with income variation). To ensure the satisfaction of these needs, the state often needs to buy services or goods and in that case, it has two options. It can either produce the good or service directly (through state-owned enterprises) or buy it from a private company. The main criteria for deciding between these two options should be the lowest cost, i.e. the amount of public money that will be spent.¹ There are a few reasons why private companies can provide lower prices in most cases - public organization lack the profit motive, the threat of bankruptcy or tight budget constraints. This leads to production ineffectiveness, as shown for example by Christoffersen, H. et al. (1999).

Once in a situation where the private sector can provide cheaper goods or services that are needed, the state faces a difficult task – to choose a private provider. Hence the institute of public procurement, an instrument to increase the effectiveness of public spending.

Public procurement is defined in a number of ways. Probably the most relevant definition for the purposes of this study is the one used in the official

¹However, there exist areas such as health care, postal services etc., when the quality and equity for all recipients of the service must be the key criteria (rather than price).

translation of §7 of Act No. 137/2006 Coll. on Public Contracts, which is currently in effect: “Public contract’ shall be a contract for pecuniary interest concluded between the contracting entity and one or more economic operators, having as its subject-matter supply of products or the provision of services or the execution of public works. The public contract which the contracting entity shall be obligated to award under this act shall be carried out on the basis of a contract in writing.”²

2.1.1 Size of the market

In developed countries, public procurement contracts account for about 10-20% of GDP. In the Czech Republic, estimated data on the size of the public procurement market differ, because the value of small-scale contracts (which are generally estimated to be of higher total value than other contracts together) is not recorded by any institution. Based on data from the System of National Accounts and from the European Commission, OECD (2011) estimates that the size of the public procurement market in the Czech Republic accounts for about 17% of the GDP, with expenditures of state-owned utilities on procurement transactions representing additional 9% of the GDP.³ In absolute values, 17% of the GDP corresponded to about CZK 650 billion in 2012.⁴ This reflects the Czech Republic as the country with the second highest procurement-to-GDP ratio from all OECD countries. The full results of (OECD, 2011) concerning the shares of public procurement on GDP are shown in Figure A.1 in Appendix A.

However, according to the latest annual report on the public procurement market in the Czech Republic⁵, public contracts’ share of GDP between 2007

²This definition is cited from the official translation of the statute (available at the official website of the Chamber of Deputies of the Czech Parliament: <http://www.psp.cz/sqw/hp.sqw?k=2027>). Throughout this thesis, I will use definitions from the official translations of acts, if applicable and not stated otherwise.

³However, OECD (2011) does state that the SNA data may provide an overestimation, as the categories considered may include certain expenditures not carried out through government procurement.

⁴The average exchange rate between the years 2006 and 2013 was 26.06 CZK/EUR and 19.37 CZK/USD. Using these exchange rates, CZK 650 billion corresponds to about EUR 25.9 billion or about USD 35.5 billion.

⁵Ministry of Regional Development, *Annual Report on Public Procurement, 2012*, available at: http://www.portal-vz.cz/getmedia/e9520b2c-62ff-47cc-85f4-a493081bf392/Na_vrh-Vyrocni-zpravy-o-stavu-verejnych-zakazek.pdf [CZ]

Table 2.1: Summary of the size of the public procurement market (numbers listed in CZK billions).

	2007	2008	2009	2010	2011	2012
GDP	3 663	3 848	3 759	3 800	3 841	3 844
Total value of PP	474	535	583	593	499	501
Share of PP on GDP	12.9%	13.9%	15.5%	15.6%	13%	13%
Value of PP listed in ISVZ	252	359	349	318	279	317
Small-scale contracts	6.1%	4.6%	6.2%	7.2%	5.7%	4.8%

Source: Author based on Ministry of Regional Development of the Czech Republic (2013).

and 2012 fluctuated between 13 and 16%. A summary of this data is presented in Table 2.1.

2.1.2 Legal framework

The purpose of this section is to briefly describe the legal background and development of the Czech public procurement legislation, focusing primarily on information relevant to the present study, i.e. mainly the process of e-Procurement implementation. Until the end of 1994, public procurement in the Czech Republic had been regulated only by methodical instructions.

Act No. 199/1994 Coll. on Public Contracts

On January 1, 1995, Act No. 199/1994 Coll. on Public Contracts came into effect, unifying all previous legislation. The statute entitled the Office for the Protection of Competition to be the supervisor of the area of public procurement. The basic principles of the act included:

- efficiency and effectiveness of public spending;
- transparency of the procurement process;
- prohibition of discrimination of bidders (the principle of equal treatment)
 - exceptions to this principle, such as the possibility of an authority to restrict competition only to domestic entities were established by the act to a limited extent;
- maintaining a competitive environment.

A big amendment to the statute, Act No. 28/2000 Coll., was passed in 2000 and affected virtually the entire text of the public procurement law. Following

the European Union principles, the act newly included guidelines for public procurement auctions administered by the so-called natural monopolies (mainly network industries) and insurance companies. Since these firms do not face any real competition, it is of great interest to all taxpayers that their public procurement is efficient and transparent. The amendment also introduced a requirement to post information about conditions, deadlines and outcomes of public auctions online in the so-called Central Address.⁶ This helped companies find and apply for public tenders, which created more competition and brought lower prices.

Act No. 40/2004 Coll. on Public Contracts

The Act No. 40/2004 Coll. on Public Contracts came into effect on May 1, 2004, on the day of the accession of the Czech Republic to the European Union. This statute completely changed the process of public tendering in accordance with the European legislation. It introduced price limits for classification of public contracts and defined different guidelines for awarding contracts from each group. However, this act was criticized from the very beginning for its lack of clarity in various matters. For example, the definition of awarding authority allowed some entities to be eligible in more than one category, the process of public tendering of contracts classified as below-the-threshold remained the same as for the ones that were above-the-threshold and so on. (Halmová, S., 2008) It was modified by many amendments, until the Act No. 137/2006 Coll. on Public Contracts was passed. The act came into force on July 1, 2006, and has been in effect ever since.

Act No. 137/2006 Coll. on Public Contracts

The main reason for the creation of a new statute was not only the technical imperfection of the previous act, but also the need to implement new EU directives.⁷ These directives recognized the importance of implementing modern electronic purchasing techniques: “Such techniques help to increase competition and streamline public purchasing, particularly in terms of the savings in

⁶<http://www.centralniadresa.cz/>

⁷Namely Directive 2004/17/EC coordinating the procurement procedures of entities operating in the water, energy, transport and postal services sectors and Directive 2004/18/EC on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts.

time and money which their use will allow.” (European Commission, 2004)

This principle reflected in Act No. 137/2006 Coll. by the introduction of electronic auctions and the contracting authority’s obligation to publish information about certain public contracts in the new Public procurement information system (ISVZUS - Informační systém veřejných zakázek - uveřejňovací subsystém).⁸ The act divided public contracts by their estimated value into three categories:⁹

1. **over-the-threshold public contracts** (estimated value equal to or greater than the financial threshold laid down in implemented legal regulations for individual categories of contracting entities and types of public contracts)
2. **below-the-threshold public contracts** (estimated value less than the limits set for over-the-threshold contracts and greater than CZK 2,000,000 (excluding VAT) in case of public supply contracts or public service contracts, or CZK 6,000,000 (excluding VAT) in case of public works contracts.)
3. **small-scale public contracts** (estimated value less than CZK 2,000,000 (excluding VAT) in case of public supply contracts or public service contracts, or CZK 6,000,000 (excluding VAT) in case of public works contracts .)

The law requires all contracting authorities to use ISVZUS to inform the general public and competing firms about all tenders except for the small-scale ones. Awarding small-scale contracts is therefore subject only to internal instructions of each contracting authority. In accordance with this statute, the National Plan of Introducing Electronic Public Procurement for 2006-2010¹⁰ was created to draft a detailed outline of the process. It defined the first steps in the long-term plan to implement fully electronic public procurement and stated objectives to be fulfilled by 2010.

⁸<http://www.isvz.cz/>

⁹Throughout this thesis, I will also use the term ‘large-scale contracts’, which represents the sum of over-the-threshold and below-the-threshold contracts.

¹⁰See (Ministry of Regional Development of the Czech Republic, 2006).

Amendment No. 55/2012 Coll.

The theme of the next amendment, Act No. 55/2012 Coll., which came into effect on April 1, 2012, was transparency. Its main objectives were to ensure effective public procurement without corruption, to correct the shortcomings of the previous legislation and to strengthen the transparency of public tender awarding. The limits for categories of contracts stated above (and therefore the limits for the ISVZUS publication duty) were lowered to CZK 1,000,000 in case of public supply contracts or public service contracts and CZK 6,000,000 in case of public works contracts with the premise of unifying these limits at CZK 1,000,000 for all contracts starting January 1, 2014.

Furthermore, all contracting authorities were newly obligated to make all documents concerning public tenders available to the public, the economic operators were required to uncover structures of their significant sub-contractors and other anti-corruption measures were adopted.¹¹

Amendment No. 341/2014 Coll.

The continuing rise of bureaucracy and public tendering costs forced the Senate to prepare an amendment which stopped the changes that were to come into effect on January 1, 2004, according to the previous amendment. Moreover, some of the aspects most presented as transparency increasing were abolished. Instead of unifying at the CZK 1,000,000 level, the limits for small-scale contracts returned to their previous levels. The amendment also lets contracting entities award a tender even if only one offer is submitted and cancels some of the anti-corruption measures introduced by the previous legislation that have proven to be useless or costly.

2.1.3 Awarding a public contract

The contracting entity initiates the award procedure by the publication of a contract notice or a dispatch of a call for competition. There exist a number of methods of public contract awarding, distinguished mainly by their level of openness. In this section, I will describe the process of choosing an eco-

¹¹The press release by the Ministry of Regional Development of the Czech Republic which summarizes the changes brought by Act No. 55/2012 Coll. is available at <http://www.mmr.cz/cs/Ministerstvo/Ministerstvo/Pro-media/Tiskove-zpravy/2012/Transparentni-zakon-o-verejnych-zakazkach-zacina-p> [CZ]

conomic operator using different awarding procedures, as provided for by Act No. 137/2006 Coll. on Public Contracts.

Open procedure

The open procedure can be used always. It lets any legal or natural person to apply in the auction and then proceeds with choosing the best offer (the main criteria, after fulfilling the requirements of the contract proposal, is the lowest price).

Restricted procedure

In the restricted procedure, the contracting authority must decide about the number of companies and invite them to the tender. If less than 3 or 5 (depending on the type of contracting authority) of the invited companies want to participate in the tender, the contracting authority has to use the open procedure, until the initial number of applicants is fulfilled.

Negotiated procedure with publication

This procedure is less formal. The contracting authority makes known its intention to award a public contract by means of a notice, which serves as an invitation for companies to submit a request to participate in the procedure and to demonstrate the fulfillment of qualifications. After the deadline for requests passes, the contracting authority proceeds to further negotiations with the applicants.

Negotiated procedure without publication

The negotiated procedure without publication is the least formal procedure that can be used. The contracting entity invites one or more selected candidates to negotiations about the conditions of the contract, leaving other firms no option to join.

Competitive dialogue

In case the contracting authority is not sure about the exact form of the contract, it can initiate a competitive dialogue by inviting at least 3 candidates to submit their requests to participate. Then, the contracting authority conducts

negotiations with the selected candidates with the aim to identify and define one or more suitable solutions capable of meeting its needs and requirements.

Simplified below-the-threshold procedure

For below-the-threshold contracts, a simplified procedure can be used. The contracting entity invites no less than 5 candidates to demonstrate the fulfillment of qualifications for the contract. However, the newest amendment to the status on public contracts lets other firms (which were not invited) participate in the tender as well, creating a more equal environment also for below-the-threshold contracts competitions.

As explained in Transparency International - Česká republika (2005), the more transparent procedures bring higher administration costs which often outweigh the benefits of the more open procedures, especially for small-scale contracts. Lowering these costs (for example by further implementation of e-Government tools) is one of the areas where higher efficiency of public procurement can be achieved. Another disadvantage of the open procedures is that they prove to be limiting in case the goods need to be bought quickly (such as after natural disasters etc.) or when the nature of the necessary goods or services need to be kept secret (such as army or police tenders). For this reason, the legislation sets limits for different procedures based on the estimated value of the public contract. These limits are subject to continuous discussion and changes, as described in Section 2.1.2.

2.2 Political reality of the Czech Republic

The purpose of this section is to describe the political organization of the Czech regions. Historically, the Czech Republic was divided into lands and the so-called higher administration entities. The 14 regions (including a region formed by the capital of Prague) as we know them today were established by Act No. 129/2000 Coll. on Regions on January 1, 2000 and the regional administrations gained competencies on November 12, 2000, on the day of the first elections to regional boards. The political organization of each region consists of the board of representatives, the council, the governor and the regional office administration.

Regional boards' elections take place every four years. Prague is an exception in the matter of timing of its regional boards' elections - its election terms are shifted by two years from the terms of the rest of the regions. Prague is a very specific region. It is governed by a unified 'regional' board and also by city parts' boards. Elections to both of these bodies take place simultaneously. However, as of May 2014, new legislation on harmonizing Prague's regional elections with the rest of the country's regions is currently being discussed in the Chamber of Deputies of the Parliament. For this reason, in the whole thesis, Prague is not considered and the analysis focuses specifically on public procurement administered by the remaining 13 regional governments.

Regional boards consist of 45 (in regions with the number of inhabitants lower than 600 000), 55 (in regions with the number of inhabitants between 600 000 and 900 000) or 65 members (in regions with more than 900 000 inhabitants). After the board is established, its members elect the regional council. In reality, the strongest party either forms the council solely from its members (in case the winning party has the majority in the board) or multiple parties form a coalition and reach a compromise in the matter of the number of their corresponding members of the council. The council consists of 9 (regions with less than 600 000 inhabitants) or 11 members (regions with more than 600 000 inhabitants). In total, there are 675 members of the boards, out of whom 129 are also members of the council. After the council takes office, it chooses the governor of the region (hejtman).

Concerning public procurement, the regional boards elections are of relatively high importance. In 2012, the regional administrations (excluding Prague) signed 1020 public contracts (9.4% of the total of 10845 listed in ISVZ). These contracts were worth more than CZK 11.1 billion.

2.2.1 Regional administration history

In the first elections to regional boards ever, the total of 675 positions were in stake, out of which the conservative right-wing Civic Democratic Party (Občanská demokratická strana - ODS) obtained the most mandates (185), followed by a coalition of four parties (led by the Christian and Democratic Union–Czechoslovak People's Party (Křesťanská a demokratická unie - Českoslo-

venská strana lidová - KDU-ČSL)) called Čtyřkoalice with 171 positions, the Communist Party of Bohemia and Moravia (Komunistická strana Čech a Moravy - KSČM) with 161 seats and the strongest left-wing party in the Czech Republic, Czech Social Democratic Party (Česká strana sociálně demokratická - ČSSD), which ended up with only 111 regional board members. As for the councils, ODS took part in every region's council and seized 59 out of 129 council positions and 8 out of 13 regional governor positions.

The following elections in October 2004 again turned out to be a big success for ODS, which won in all regions except for South Moravia, where they finished closely second after KDU-ČSL. This allowed ODS to play the key role in all of the regions' councils, obtaining 12 out of 13 positions of the region's governor. In South Moravia, ODS formed a coalition with KDU-ČSL and obtained 5 out of 11 positions in the council. Altogether, between 2004 and 2008, ODS held 85 out of 129 regional council positions and 291 out of 675 positions in the regional boards. These elections were a major fail for ČSSD, which obtained only 8 council and 105 board positions.

The 2008 turning point

However, as it turned out, ODS's popularity over the next four years were to decrease rapidly and the following elections in 2008 showed general disappointment of its voters. ODS lost all of its governors' of region positions, while ČSSD, having celebrated a huge victory in these elections, gained control (majority) of all the regional councils and between 2008 and 2012 held all 13 regional governors' positions. ČSSD obtained 280 regional board positions, while ODS lost 111 of their previous 291. The councils were occupied by 96 ČSSD members.

In the last elections so far, in 2012, ČSSD confirmed its position by winning the elections, receiving 23.5% of all votes which resulted in 205 board members and 79 councillors. KSČM finished relatively closely second, obtaining 182 and 31 positions in the boards and councils, respectively. ODS lost another 78 board positions, obtaining only 102. Moreover, none of these 102 board members currently serves as councillor. The results of all four elections are summarized in Table 2.2.

Table 2.2: Summary of the regional boards elections results and council outcomes.

Item	2000-2004		2004-2008		2008-2012		2012-2016	
	Board	Council	Board	Council	Board	Council	Board	Council
ODS	185	59	291	85	180	15	102	0
ČSSD	111	12	105	8	280	96	205	79
KDU-ČSL*	171	49	72	26	56	3	61	4
KSČM	161	0	157	0	114	5	182	31
Others	47	9	50	10	45	10	125	15
Total	675	129	675	129	675	129	675	129

Source: Author based on <http://www.volby.cz/> and Horák, P. (2012).

*Note: KDU-ČSL entered some elections in a coalition with other parties under different names, where, in a majority of cases, played the key role.

2.3 Czech Republic and its advantages for my study

There are several reasons why the Czech Republic is a good case to study the effects of political connections. First, based on the findings of Faccio, M. (2006), the value of political connections in the Czech Republic is likely to be higher than in other European countries. According to European Commission (2014), 95% of Czech people think that corruption is widespread in the Czech Republic. To the question 'In the last three years, do you think that corruption has prevented you or your company from winning a public tender or a public procurement contract?', 51% of the people answered 'Yes', placing the Czech Republic among the top 5 most corrupt countries in the EU.

Second, as described in Section 2.1.1, public procurement in the Czech Republic plays a bigger role in the economy than it does in other countries, accounting for around 17% of its GDP according to a third important reason to focus on the Czech Republic is the availability of data of exceptional quality on both public procurement and political donations (see Chapter 3). Finally, the development of the political situation in the regional governments during the examined period gives a unique opportunity to study the effect of an exogenous shift in political powers.

Chapter 3

Data

3.1 Public procurement data

For the purposes of this study, it was necessary to collect data on all public tenders administered by the regional councils. In the Czech Republic, this data is publicly available in the Information System on Public Procurement (Informační systém veřejných zakázek - uveřejňovací subsystém - ISVZUS). This system has been operational since July 1, 2006, and was run by Czech Post, a state-owned enterprise, until November 2011. Since November 2011, the system is administered by a private company called NESS Czech s.r.o. As mentioned in Section 2.1.2, between 2000 and 2006, information about public contracts was published online in the Central Address, but unfortunately, it has not been transferred into the new system, which is why today, it contains only data on public contracts signed after July 1, 2006.

Moreover, under the laws effective during these years, it was mandatory for the contracting authorities to publish only information about contracts worth more than CZK 2,000,000 (excluding VAT) in case of public supply contracts or public service contracts, or CZK 6,000,000 (excluding VAT) in case of public works contracts, which means all contracts except for the small-scale ones.¹ Nonetheless, small-scale contracts may be published as well.

The Center for Applied Economics, a Czech NGO focused on applied eco-

¹Please note that between April 1, 2012 and January 1, 2014, these values were lowered to CZK 1,000,000 and CZK 3,000,000 for public supply and public service contracts and for public works contracts, respectively. Since January 1, 2014, they returned to their previous levels, as described in detail in Section 2.1.2.

conomic policy research, scans the ISVZUS database, collects and then further hand-cleans this data in order to conduct studies that are as accurate as possible. The use of the CAE's database in this thesis ensures exceptional quality of the public procurement data.

On March 11, 2014, the ISVZUS database contained the total of 79,402 entries. For reasons explained in Chapter 2, this thesis focuses specifically on public procurement awarded at the regional level. In total, the obtained database on regional public procurement of regional administrations contains 6,949 signed contracts (and additional 433 canceled contracts) with the release date ranging from July 14, 2006 to March 11, 2014. Out of these, only 6,823 entries contain the final price of the contract and thus form the final database for the analysis in Chapter 5 .

The total of 1,737 different firms won at least one public contract during the examined time period. The database of contracts (divided by categories) is summarized in Table 3.1. Some other descriptive statistics are presented in Appendices A and B (Figure A.2, Figure A.3 and Table B.1).

Table 3.1: Summary of the database on public procurement.

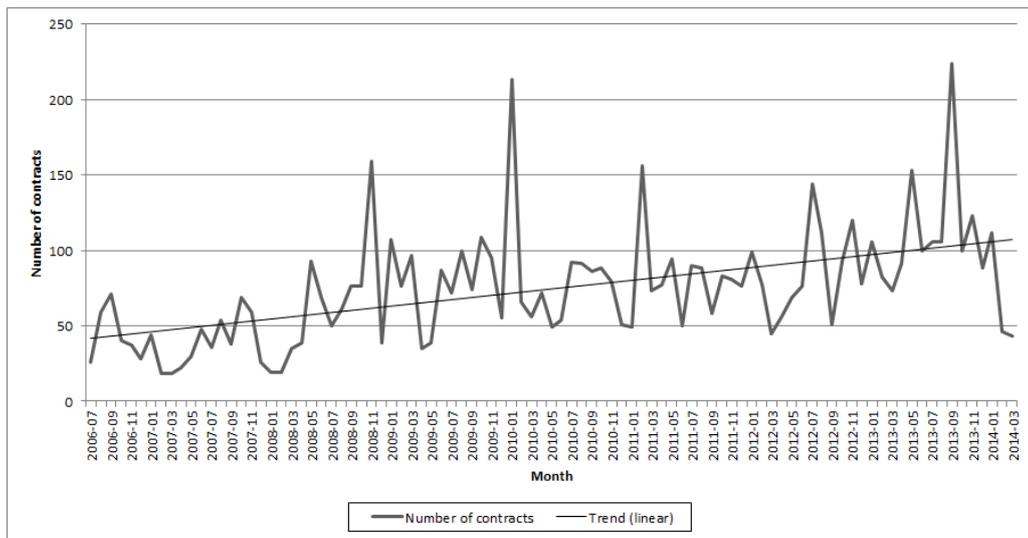
	Large-scale	Small-scale	Canceled	TOTAL
Construction	1785	1301	8	3094
Health, Social & Education	1045	594	319	1958
Legal & Consulting	177	194	10	381
IT & Telecommunications	245	118	8	371
Technical Services	72	216	45	333
Other Services	204	87	1	292
Transportation	123	99	1	223
Office Supplies	79	111	10	200
Machinery Products	56	40	22	118
Medicine Equipment	64	31	7	102
Energetics	82	1	0	83
Forestry & Agriculture	24	43	2	69
Clothing, Shoes & Other	12	14	0	26
Natural Resources	1	5	0	6
TOTAL	3969	2854	433	7256

Source: Author based on data from Center for Applied Economics.

Figure 3.1 shows the historical development of the number of contracts administered by the regional governments. The increasing trend in the number

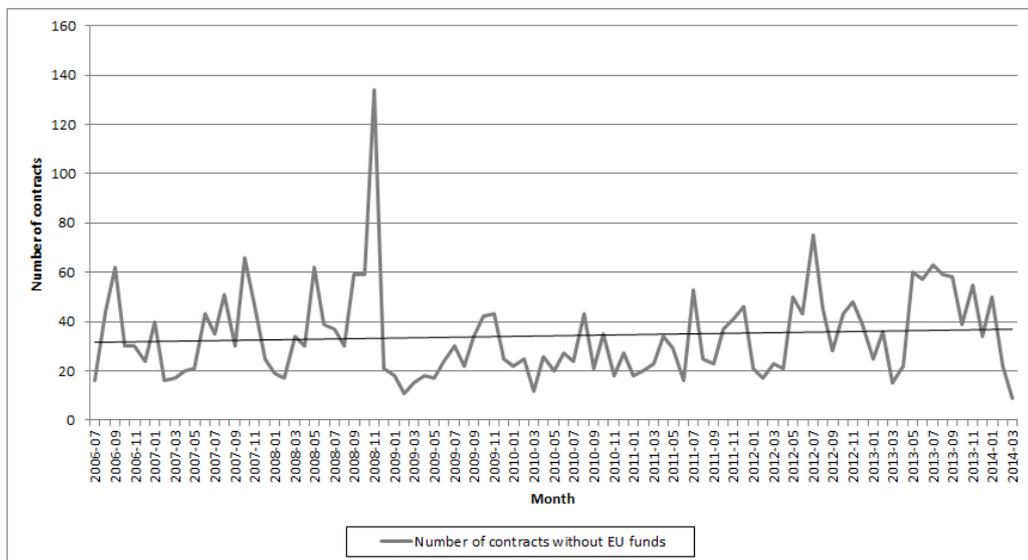
of contracts is caused mainly by public contracts funded or co-funded by the EU, but a slight increase over time is observable also for non-EU funded public procurement (as shown in Figure 3.2 which displays only non-EU funded contracts). However, the average total value of regional public contracts remains fairly constant, as documented by Figure 3.3.

Figure 3.1: Number of public contracts administered by the regional governments between July 2006 and March 2014.



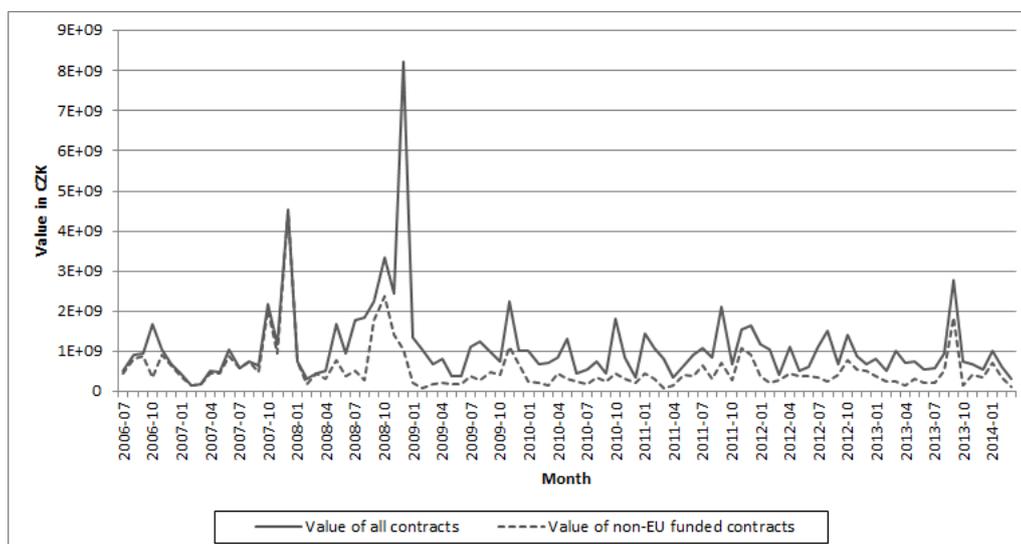
Source: Author based on data from Center for Applied Economics.

Figure 3.2: Number of public contracts administered by the regional governments between July 2006 and March 2014 excluding contracts funded or co-funded by the EU.



Source: Author based on data from Center for Applied Economics.

Figure 3.3: Value of public contracts administered by the regional governments between July 2006 and March 2014.



Source: Author based on data from Center for Applied Economics.

3.2 Political donations data

Around the world, corporate donations to political parties are a widely discussed topic. It is often argued that firms should not be allowed to make donations to political parties since the influence of corporate interests over politics must be controlled. On the other hand, those in favor of political donations claim that any private organization should be able to spend their money supporting any other organization as they see fit. Nevertheless, according to (International Institute for Democracy and Electoral Assistance, 2014), political donations are banned in 38 out of 170 countries for which the relevant data are observed. In Europe, corporate donations to political parties are forbidden in 11 countries including France, Belgium or Poland. In the Czech Republic, both natural and legal persons may donate any amount of money to political parties.

Data on Czech firms' donations to political parties are collected by the CAE's project called Politické finance², and are of high reliability. The Czech law requires every political party to submit their annual financial report each year to the Parliament, and these reports are then made available to the public in the Parliamentary library. Unfortunately, parties are not legally obligated to publish information about their donations online (not to mention publishing

²<http://www.politicefinance.cz/>

it in an online system administered by the government), and even though most of them do, parties are not legally responsible for the accuracy of this information. For this reason, CAE hand-collects these data every year from the official annual reports in the Parliamentary library to ensure the data are as precise as possible and then publishes them online.³

In this study, data on political donations between the years 2006 and 2013 are used. One of the main areas of work conducted for the purposes of this study was to collect data on political donations made in 2013 which were made available to the public in the Parliamentary library on April 4, 2014. The new data were added to the existing database of *Politickefinance.cz*.

As described in Section 2.2.1, between the years 2006 and 2013, two parties were by far the most powerful (and therefore also most able to potentially manipulate the public procurement outcomes) in the regional councils - ODS and ČSSD. For this reason, only firms that donated money to ODS or ČSSD which have won at least one regional public contract since July 1, 2006, are considered. Firms that donated to the next two most powerful parties in the regional boards during this time period, KDU-ČSL and KSČM, were included as well, but none of them have won at least one regional public contract since July 1, 2006, and therefore have not made it to the final cross-referenced database. Other smaller parties are not included, since their influence in the regional councils during the examined time period was minimal.

The final database on political donations of firms that have won at least one regional public contract since July 1, 2006 contains 3453 donations made by 181 different companies. All cash and non-cash donations are taken into account (for non-cash donations, their estimated value as stated in the party's annual financial report is included). 166 of these firms donated to ODS, 25 to ČSSD and, interestingly, 10 of these firms donated to both ODS and ČSSD. Data on donations are summarized in Table 3.2.

³Due to the consequences of Act No. 101/2000 Coll. on Protection of Personal Data, the latest decision of the Office for Personal Data Protection forbids publishing full names of donating natural persons. Nevertheless, some argue that information about donations to political parties can be made available online (not only in the Parliamentary library), because it is subject to Act No. 106/1999 Coll. on Free Access to Information.

Table 3.2: Summary of the database on political donations.

	Number of firms	Total amount donated
ODS	166	CZK 19,122,948
ČSSD	25	CZK 2,201,602
Neither	1556	—

Source: Author based on data from Politickefinance.cz.

The sums of all firms' political donations were then matched with the data on public procurement to construct the final database. The reason why donations are not distinguished by year is that they may well pay back in a different year. Not only does it take time to award a public contract, a firm may as well agree to donate money if the party promises it some preferential treatment in the future, or donate money after the benefits were collected. A summary of all constructed variables in the final database is presented in Table B.2 in Appendix B.

Chapter 4

Quantitative analysis of public procurement data

In this section, we analyze regional administrations as contracting authorities and, using statistical methods and descriptive statistics, try to reveal basic patterns in their behavior. Since regional council elections take place every four years in October, for the purposes of the remainder of this thesis, the following terms are defined:

- 'political year' as one quarter of each 4-year regional council election term. Therefore, 'political year 2007' represents the time period between November 1, 2006 to October 31, 2007; 'political year 2008' represents the time period between November 1, 2007 to October 31, 2008; and so on. Due to unavailability of older data on public procurement, 'political year 2006' represents only the time period between July 1, 2006 and October 31, 2006;
- 'political quarter' as one quarter of a political year, i.e. the 1st quarter of political year 2008 (2008_01) means the time period between November 1, 2007 and January 31, 2008 and so on. Similarly to political year 2006, due to data unavailability, 'political quarter 2006_03' only represents July 2006. Furthermore, political quarter 2008_04 is followed by 2009_01 and so on.

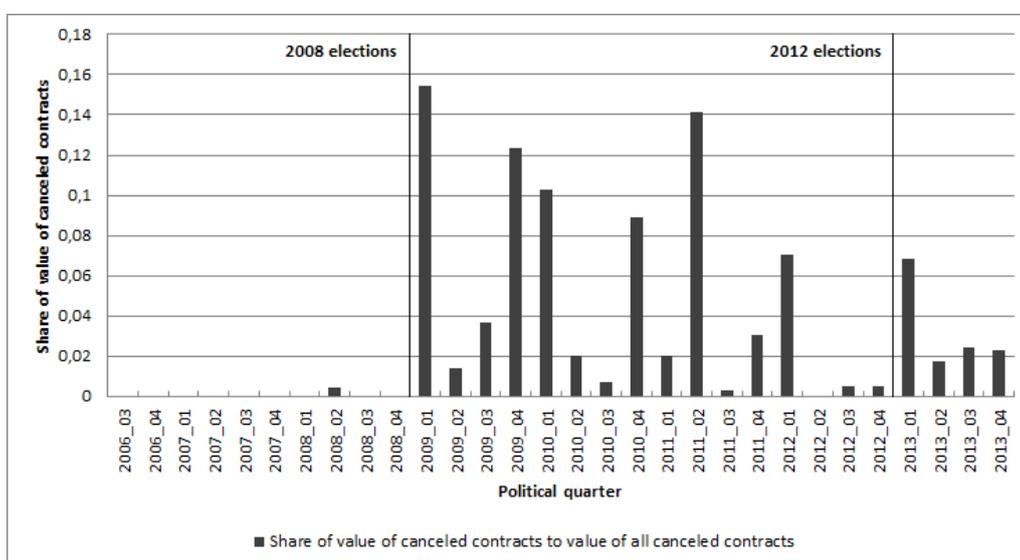
4.1 Canceled contracts

First, we focus on the number of canceled contracts over time. A public procurement process can be canceled due to a number of reasons. The initial

proposal documentation may contain mistakes, the contracting authority may change its strategy plans, the requirements concerning the number of applicants may not be fulfilled and so on. All cases when the contracting authority can or must cancel a public tender are stated in Section 84 of Act No. 137/2006 Coll. on Public Contracts. One of the reasons for canceling a contract can also be that the tender was initiated by the previous administration and the new one wants to be able to manipulate the conditions and other properties of the auctions for their own gain. Either way, canceling contracts is costly and governments should focus on keeping the number of canceled contracts low.

Out of the total of 7382 public procurement contracts administered by the regional governments between July 1, 2006 and March 11, 2014 and published in ISVZUS, 433 were canceled. They were worth over CZK 821 million. The hypothesis is that if the politicians that take office are connected to firms, they might cancel many contracts and try to alter various conditions of the new tenders to ensure the desired outcomes.

Figure 4.1: Share of value of canceled regional public contracts to value of all regional public contracts over time.



Source: Author based on data from Center for Applied Economics

Figure 4.1 shows the ratio of value of canceled contracts in a particular political quarter to the value of all canceled public contracts at the regional level between July 1, 2006 and March 11, 2014. While the ODS administrations (i.e. political quarters 2006_03 to 2008_04) canceled contracts very rarely (only

5 contracts in total), the following ČSSD governments (which were in power from 2008 to 2012) canceled 348 contracts (on average 87 contracts yearly). The increase in the value of canceled public contracts after the 2008 elections, in which the political powers changed extremely, is clearly documented by Figure 4.1. In total, public contracts worth over CZK 127 million were canceled in the first three months of the new governments' election term (i.e. in the political quarter 2009_01). This supports the hypothesis that the newly established governments cancel contracts of significant value to be able to control them from the very beginning.

After the 2012 elections, an increase was observed in the value of canceled contracts as well, but, confirming the initial hypothesis, not as significant as after the 2008 power shift. Nevertheless, to reveal the exact source of the motivation to cancel the contracts, one would have to examine the conditions of each canceled tender individually. These results therefore do not uncover the actual presence of corruption but rather its potential. Also, the reasons for relatively high shares of canceled contracts during the entire election term of the first ČSSD administration remain unclear and are beyond the scope of this thesis.

4.2 Portfolio of public procurement auction winners

Next, the portfolio of firms that win the public contracts is examined. In an ideal case, the portfolio would change continuously, without significant differences over time. The hypothesis is that this portfolio changes more in the first few political quarters after elections in which the leading political powers change than in other times, which might be caused by the new party establishing relationships with connected firms and awarding public contracts to these same firms during the party's whole time in power.

Let us define the variable New_t as the number of firms that won at least one public tender administered by the regional boards for the first time in political quarter t , $t \in \langle 2009_01, 2014_01 \rangle$. Let $NewAvg$ be the average number of new firms in the portfolio in one political quarter between 2009_01 and 2014_01. The reason why previous years (2006—2008) are not considered in the analysis

is that they serve as a base of firms that win public contracts regularly. New_t therefore comprises companies that have not won a regional public contract between July 1, 2006 and October 31, 2008, and won their first regional public contract in the political quarter t .

Theoretically, for each t , the variable New_t should not be significantly different from $NewAvg$. However, if politicians that enter into power are politically connected to firms, they might try to manipulate the outcomes of public procurement auctions for the gain of 'their' firms, increasing New_t for t being equal to the first few political quarters after the elections and decreasing New_t for other t 's. The null hypothesis therefore states that the number of new firms in the first year after the 2008 elections is, on average, the same as for the rest of the examined period:

$$H_0 : New_t|_{t \in \langle 2009.01, 2009.04 \rangle} = New_t|_{t \in \langle 2010.01, 2014.01 \rangle} = NewAvg \quad (4.1)$$

In case the null hypothesis is rejected, it will be possible to incline to the following in the interpretation of results:

$$H_1 : New_t > NewAvg \text{ for } t \in \langle 2009.01, 2009.04 \rangle \quad (4.2)$$

To test the significance of the difference between the number of new firms in the portfolio in the first four political quarters after elections and the average number of new firms in a given political quarter, a relatively small, not normally distributed sample is used. For this reason, the non-parametric Wilcoxon–Mann–Whitney U test is employed (see (Wilcoxon, F., 1945; Mann, H. B. and Whitney, D. R., 1947)), which does not require normality of the sample distribution.

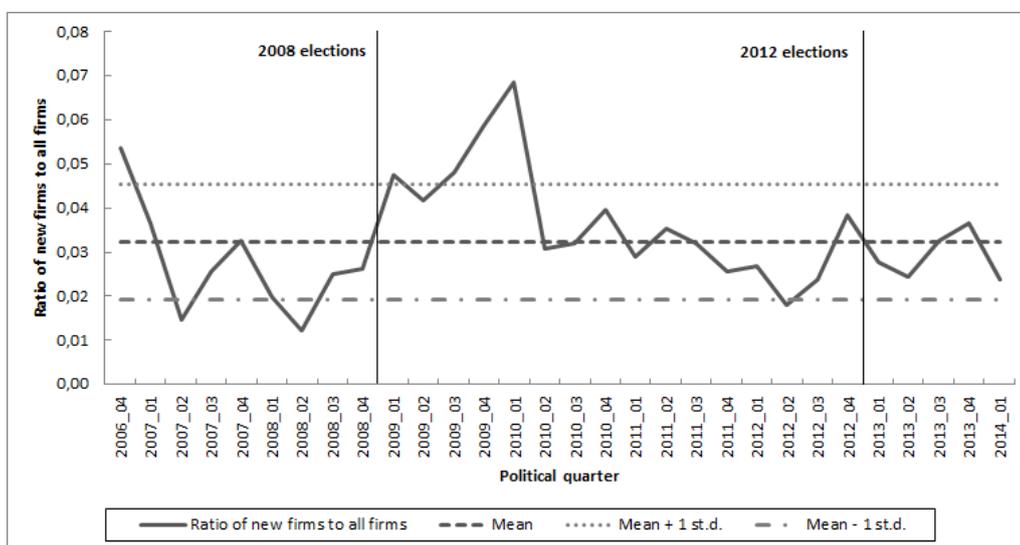
Table 4.1: Results of the Wilcoxon-Mann-Whitney U test.

	Standardized value of the test ($\sim N(0,1)$)	p-value
Two-sided hypothesis	2.68687	0.00721258
One-sided hypothesis	2.68687	0.00360629

Source: Author's calculations based on data from Center for Applied Economics.

The results of the Wilcoxon-Mann-Whitney U test are reported in Table 4.1. They suggest that the null hypothesis can be rejected at the 1% level of significance. This applies to both two-sided and one-sided hypotheses, confirming that the ČSSD governments changed the portfolio of firms receiving public contracts much more during their first year in power than in any other consequent time period.

Figure 4.2: Ratio of new firms (i.e. firms that won their first regional public contract in a particular political quarter) to all firms that won at least one regional public contract between August 2006 and January 2014.



Source: Author based on data from Center for Applied Economics

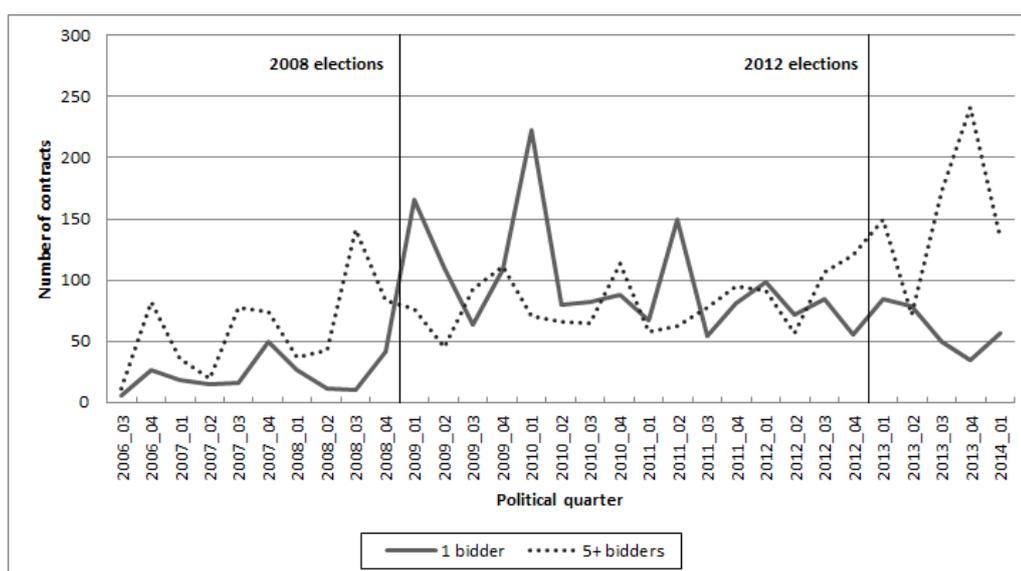
Figure 4.2 shows the ratio of firms that won a regional public contract for the first time in the particular political quarter to the number of all firms that have won at least one public contract between August 2006 and January 2014. Due to the unavailability of data on public procurement from previous years, the numbers for the first few political quarters in the sample are very likely to be overstated, as almost all firms that have signed a public contract in these political quarters signed a public contract for the first time since July 2006. However, the low numbers of new firms entering the portfolio close before the elections suggest that the same small set of firms was receiving public contracts during the ODS administrations as well. However, due to the lack of relevant data, further conclusions cannot be made.

4.3 Number of bidders

In this part, we study the patterns in the number of bidders in public tenders over time. The number of bidders is influenced by many factors. As described in Section 2.1.3, the type of the chosen awarding procedure plays the key role. Other factors include the type of contracting authority, the category of the needed service or good, estimated price of the contract and so on. According to the basic laws of economics, the more companies submit their offer, the more competition is created and the lower price is reached. Therefore, the basic idea is that when applicable, contracting authorities should encourage as many bidders as possible to participate in the public procurement auctions to ensure the most effective use of public funds.

Figure 4.3 shows the number of public procurement auctions in which only 1 bidder and in which 5 or more bidders participated over time. While the number of contracts awarded in auctions with 5 or more competitors increases fairly steadily, one-bidder tenders seem to have experienced a boom after the 2008 elections. Since then, the numbers are decreasing back to their previous level. The general observation therefore suggests that during the time when the portfolio of public procurement receiving firms changed the most, the regional governments were awarding many contracts in auctions with only 1 bidder.

Figure 4.3: Number of bidders in the regional public procurement auctions between July 2006 and March 2014.



Source: Author based on data from Center for Applied Economics.

Firms that concentrate on public contracts might discourage other firms from entering a public procurement auction by threats or by positive motivation (they pay them not to enter the tender). Lower number of bidders thus can mean that the competition in these tenders was lower than it could be and as a result, the price of the contract is higher. At the same time, governments can use awarding procedures which do not require more than 1 company to enter the auction to be able to control the outcome of the auction.

To sum up, lower number of bidders is associated with lower administration costs, but also brings higher potential of corruption or other illegal behavior. The aim of the policy makers should be to ensure that the contracting authorities are able to use open procedures as often as possible by lowering the administration costs, for example by further implementation of e-Procurement.

Chapter 5

Effects of political donations

The purpose of this section is to assess the relationship between firms' donations to political parties, namely ODS and ČSSD, and their chances of winning a public tender from the regional administrations. Based on the discussion in Chapter 2, first, the general relationship between donating to either ODS or ČSSD and chances of winning a public contract is examined. In the second part, we focus on the effects of donating to each party individually.

5.1 The contracts hypothesis

Using contributions to political parties as a proxy for political connectedness, connected firms win public tenders of higher total value than non-connected firms.

Motivation

As described in Chapter 1, political donations can be used as a proxy for political connectedness of firms (see de Figueiredo, R.J.P. & Edwards, G. (2007), Claessens, S. et al. (2008)). These firms then may enjoy preferential treatment which can increase their stock market returns or profits. One channel through which this added value might be generated is the allocation of public funds through procurement spending. As expected, the literature on this topic suggests that this situation is more likely when the examined firms donated money to political parties that are in power, and thus are more able to manipulate the conditions of public contracts to ensure their desirable outcomes.

However, in this section, political donations to ODS and ČSSD are not distinguished. The rationale behind this is that firms that donate to one of these parties are more likely to be politically active and thus could influence the outcomes of public procurement also in other ways (through members of the board of the company, owner's friends or relatives, shareholders and so on), as there are not many reasons for a firm to donate money to a political party. The companies can subtract the donations from their taxes base or they may just feel a civic responsibility, nevertheless, if companies expect something in return for their donations, the only way a political party can repay the favor is by engaging in illegal or immoral activities such as manipulating the outcomes of public procurement or passing legislation that helps the involved firms.

Data and methodology

Even though further hand-cleaning of the data was performed, the database used in this chapter had to be reduced by 45 firms to the total of 1692 due to the unavailability of data on the number of employees. However, none of these 45 firms donated money to neither ODS nor ČSSD, which leaves us with the same number of 181 donating firms.

Let $VPPC$ be the total value of regional public contracts awarded between July 1, 2006 and March 11, 2014, and $\log VPPC$ be the log of the total value of these contracts. Furthermore, let $Ddon$ be a dummy variable with a value of 1 in the case the firm has donated money to ODS or ČSSD between January 1, 2006 and December 31, 2013, and 0 otherwise. Finally, Don represents the value of all donations a firm made during this period and $\log Don$ its logarithm.

Following Goldman, E. et al. (2013) or Faccio, M. (2006), first, only a dummy variable for donating to a political party was included. The second specification then has one key advantage compared to the first one. The actual value of the donation was used as the indicator of political connectedness instead of simply classifying a firm as connected or non-connected, allowing for the intensity of the connection to be measured. Also, a firm-fixed effect (the number of employees, used as a proxy for the size of the firm) is controlled for in both models. To examine the effects of the number of employees, 6 dummy variables which are summarized in Table B.2 were constructed. The following

empirical specifications were then estimated:

$$\begin{aligned} \log VPPC = & \delta_0 + \delta_1 Ddon + \delta_2 Size2 + \delta_3 Size3 + \delta_4 Size4 \\ & + \delta_5 Size5 + \delta_6 Size6 + \mu \end{aligned} \quad (5.1)$$

$$\begin{aligned} \log VPPC = & \delta_0 + \delta_1 \log Don + \delta_2 Size2 + \delta_3 Size3 + \delta_4 Size4 \\ & + \delta_5 Size5 + \delta_6 Size6 + \mu \end{aligned} \quad (5.2)$$

Results

For Model 5.1, the coefficients were first estimated using the standard OLS method, but the White's test suggested the presence of heteroskedasticity, which is why the robust standard errors were employed. The results of the regression are reported in Table B.3. They suggest that donating pays off very well. Following Wooldridge, J. (2008), the exact percentage difference can be computed as follows:

$$\log VPPC_{don} - \log VPPC_{non-don} = 0.45.$$

Exponentiating and subtracting 1 gives:

$$\frac{\log VPPC_{don} - \log VPPC_{non-don}}{\log VPPC_{non-don}} = e^{0.45} - 1 \approx 0.568.$$

i.e. the fact that a firm donated money to ODS or ČSSD increased, on average, the value of its obtained regional public procurement contracts by approximately 57%. This result is significant at the 1% level. Furthermore, all coefficients for the size dummies are significant and positive, with larger firms experiencing a larger effect. This is understandable—smaller firms are often

not able to fulfill the requirements of complex public procurement contracts of high value.

Model 5.2 is also estimated using OLS and robust standard errors, because the Breusch-Pagan test suggested the presence of heteroskedasticity. The results, presented in Table B.4, confirm the findings of Claessens, S. et al. (2008) and others by suggesting that there is a small but positive effect of political donations on the outcomes of public procurement, which might add value to the connected firms. A one-percent increase in the amount of political donations of a firm increased the value of its obtained regional public contracts by 0.095%.

Moreover, unlike the mentioned studies which found no impact of firm-fixed variables, we again unveil that smaller firms were less likely to win public contracts of high value. All results are significant at the 1% level.

5.2 The party in power hypothesis

Using contributions to the two largest political parties in the Czech republic, ODS and ČSSD, as a proxy for political connectedness, connected firms win public tenders of higher total value during the time 'their' party is in power than non-connected firms or firms that are connected with the party currently not in power.

Motivation

Goldman, E. et al. (2013) showed that connections to politicians that win elections can have a significant positive effect on these firms' performance in the public procurement auctions. Using data on the American S&P 500 firms, they focused on the effects of a change in control of both House and Senate following the 1994 elections in the United States. In the history of the Czech Republic, one of the most significant changes in political power occurred in the regional boards after the 2008 elections. As described in Section 2.2, ODS almost completely lost its power in the regional councils, while ČSSD obtained the majority of seats in all 13 regional councils. In this section, this unique opportunity is used to estimate the effect of the shift in political powers on the allocation of funds through public procurement spending.

Studies such as (Claessens, S. et al., 2008; Aggarwal, R. K. et. al, 2012; de Figueiredo, R.J.P. & Edwards, G., 2007) used political donations as a proxy for political connectedness and their outcomes support the hypothesis that campaign contributions to the parties or officials that become elected result in various benefits for the donating firms during the time when their supported party or official is in power. Moreover, in countries with less-developed economies or in post-transition and in-transition countries, the effect is more likely to be higher.

Data and methodology

To distinguish the effect of donating to each party, new variables were constructed using existing data. The value of total donations, *Don*, was divided into two variables, *Don_cssd* and *Don_ods*, for donations to ČSSD and ODS, respectively. *Dods* (*Dcssd*) are dummy variables taking a value of 1 in case a firm has donated to ODS (ČSSD) and 0 otherwise. Because ODS has been in power until October 2008 and ČSSD since, the variable *VPPC* was divided as follows:

- *VPPC0608*, representing the total value of public contracts a firm signed between July 2006 and October 2008;
- *VPPC0814*, representing the total value of public contracts a firm signed between November 2008 and March 11, 2014.

Using the number of employees as a proxy for the size of the firm, the following models were constructed:

$$\begin{aligned} \log VPPC0608 = & \beta_0 + \beta_1 \log Don_ods + \beta_2 Size2 + \beta_2 Size3 + \beta_3 Size4 \quad (5.3) \\ & + \beta_4 Size5 + \beta_5 Size6 + \mu \end{aligned}$$

$$\begin{aligned} \log VPPC0814 = & \beta_0 + \beta_1 \log Don_cssd + \beta_2 Size2 + \beta_2 Size3 + \beta_3 Size4 \quad (5.4) \\ & + \beta_4 Size5 + \beta_5 Size6 + \mu \end{aligned}$$

Results

Models 5.3 and 5.4, similarly to Model 5.2, have the advantage of using the sum of all donations made by a firm to the given party as an explanatory variable instead of dummy variables for donating to a party. The results of the estimation of Model 5.3 (using robust standard errors, because the White's test suggested heteroskedasticity) are reported in Table B.5 and suggest that a one-percent increase in donations to ODS between 2006 and 2013 reflected in a 0.38% increase in the total value of regional public procurement contracts signed between July 2006 and October 2008. The result is significant at the 1% level. The estimates of the coefficients for the size dummies confirm the previous findings that smaller firms won contracts of lower value by showing a positive significant effect for larger firms.

Using standard OLS, Model 5.4 was proven to contain heteroskedasticity by the Breusch-Pagan test. For this reason, the robust standard errors were used as well. The results of the regression, presented in Table B.6, again confirm that smaller firms signed contracts of lower value—the results for all the size dummies are positive, with larger firms obtaining higher estimated coefficients. All the estimates of the size dummy coefficients are significant at the 1% level. The results further show that the estimated effect of a 1% increase in donations to ČSSD equals to a 0.15% increase in the total value of signed contracts. This result is, however, significant only at the 10% level.

The obtained results support the findings of Goldman, E. et al. (2013) and many others, confirming that political connections created by corporate donations may bring firms benefits when applying for a public procurement auction. However, it must be kept in mind that these findings assume that political donations can be regarded as a proxy for political connectedness. We do not reveal direct cases of corruption, but rather provide supporting evidence that the allocation of public procurement may be a potential channel through which political connections pay off.

Chapter 6

Conclusions

Using a novel dataset on firms' contributions to political parties in the Czech Republic and hand-cleaned data on public procurement administered by the regional governments, this thesis contributes to the growing body of research confirming the hypothesis that political connectedness can add value to firms. First, it addresses the question whether there are any suspicious patterns in the behavior of regional governments as contracting authorities. It focuses on three fundamental areas - the number of canceled contracts, the portfolio of public procurement contract winners and the number of bidders in individual public tenders. The obtained results support the general notion that there exists potential for illegal behavior in public procurement. Especially after the 2008 elections, when the political powers in the regional councils shifted extremely, the data suggested suspicious behavior of the regional governments.

In the second part of the thesis, the effect of political donations on the outcomes of public procurement is assessed. Focusing on firms that donated money to the two strongest Czech political parties in the regional councils during the examined period, ODS and ČSSD, the study estimated the effect of such connections. The results suggest that there is a significant positive effect between donating to any of the two parties and the value of public contracts signed. Between July 2006 and March 2014, donating companies signed contracts worth 57% more than non-donating firms. When controlling for the size of firms, a positive effect on the value of signed contracts was perceived for larger firms, which is understandable—smaller firms cannot compete against large firms for contracts of high value.

Moreover, a relatively strong positive effect of corporate contributions on the allocation of public funds was unveiled for the corresponding time periods in which the supported parties were in power. A 1% increase in the donations to ODS and ČSSD between 2006 and 2013 reflected in a 0.38% and 0.15% increase of the value of the signed public contracts during the supported party's time in power, respectively. Again, the size of the firms was controlled for and the results confirmed the notion that larger firms are awarded with public contracts of higher value.

While public procurement might not be the only channel through which firms make use of being politically connected, this thesis provides supporting evidence that political connections created by corporate donations to political parties may bring firms such benefits and makes path for further research on this topic. At the same time, it represents further corroboration of the importance of making public procurement more open and transparent.

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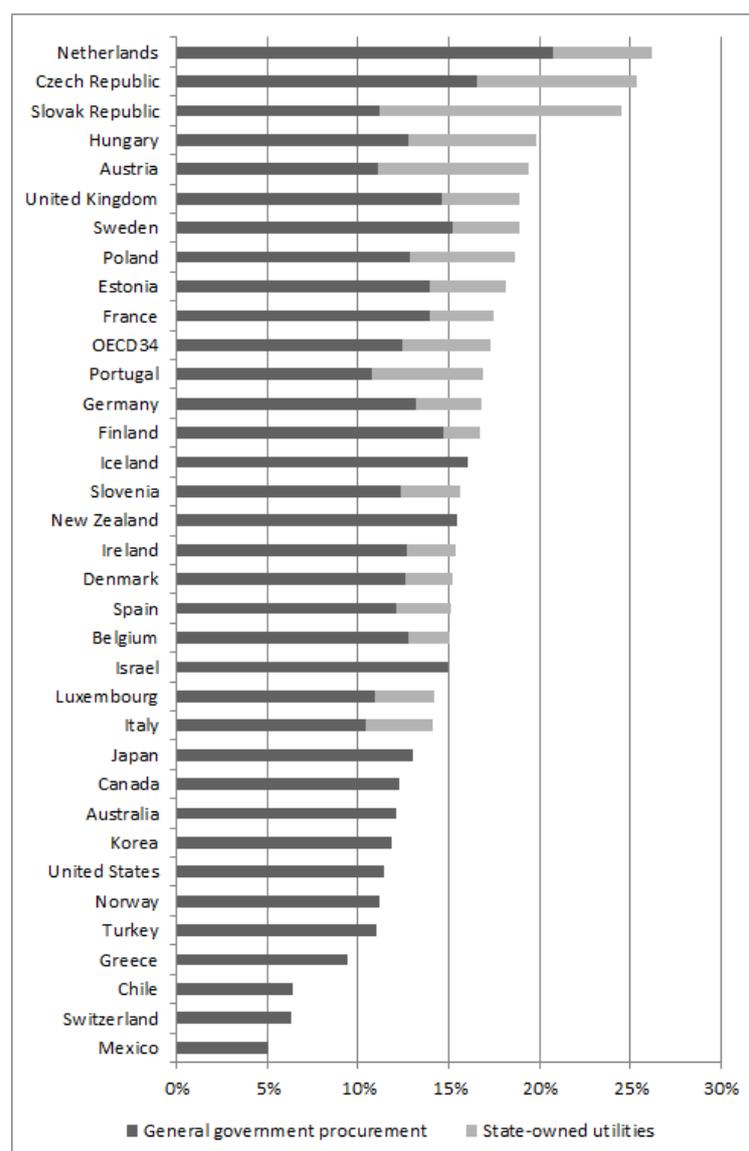
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Appendix A

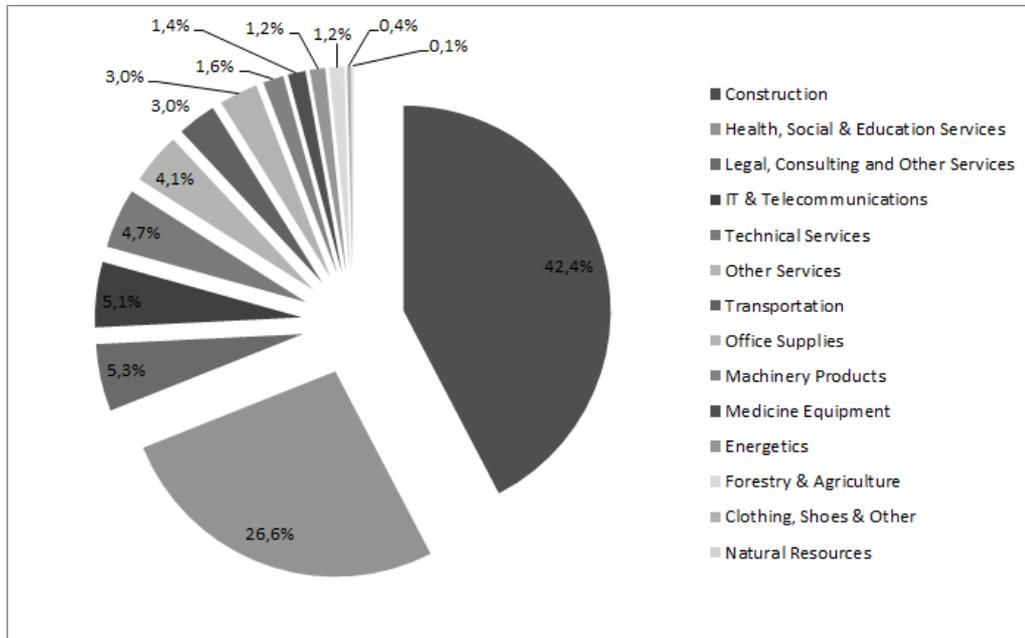
Figures

Figure A.1: Procurement-to-GDP ratio in OECD countries. OECD34 marks the average in all 34 OECD countries.



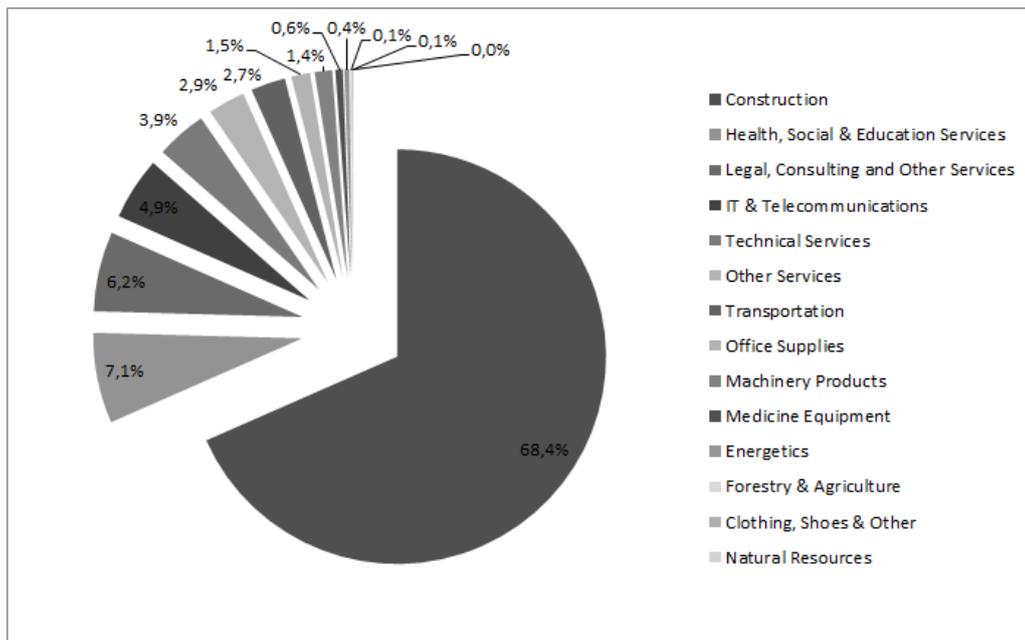
Source: OECD (2011), 'Government at a Glance'.

Figure A.2: Number of public contracts by category listed in ISVZUS and administered by the regional governments between July 1, 2006 and March 11, 2014.



Source: Author based on data from Center for Applied Economics.

Figure A.3: Value of public contracts by category listed in ISVZUS and administered by the regional governments between July 1, 2006 and March 11, 2014.



Source: Author based on data from Center for Applied Economics.

Appendix B

Tables

Table B.1: Descriptive statistics of the database on public procurement contracts administered by Czech regional governments between July 1, 2006 and March 11, 2014. Only contracts with their price listed in the CAE database are included. Numbers in *italics* are listed in CZK thousands, numbers marked with a star are listed in CZK.

Region	Value of PPC	No. of PPC	Mean	St. Dev.	Min.	Max.
Ústecký kraj	<i>13,029,466</i>	771	<i>16,899</i>	<i>48,937</i>	1,596*	<i>577,992</i>
Středočeský kraj	<i>12,538,934</i>	725	<i>17,295</i>	<i>53,794</i>	4,000*	<i>1,201,775</i>
Moravskoslezský kraj	<i>11,352,611</i>	854	<i>13,293</i>	<i>41,784</i>	2,105*	<i>519,998</i>
Kraj Vysočina	<i>10,639,532</i>	914	<i>11,641</i>	<i>29,341</i>	1,070*	<i>317,785</i>
Královehradecký kraj	<i>9,261,832</i>	506	<i>18,304</i>	<i>193,803</i>	25,000*	<i>4,350,593</i>
Liberecký kraj	<i>9,034,848</i>	272	<i>33,215</i>	<i>404,715</i>	18,000*	<i>6,677,754</i>
Olomoucký kraj	<i>8,639,365</i>	632	<i>13,670</i>	<i>28,764</i>	25,700*	<i>299,507</i>
Jihočeský kraj	<i>6,928,519</i>	481	<i>14,404</i>	<i>24,111</i>	32,000*	<i>268,889</i>
Zlínský kraj	<i>5,560,132</i>	437	<i>12,723</i>	<i>49,465</i>	3,348*	<i>603,789</i>
Pardubický kraj	<i>5,264,161</i>	390	<i>13,498</i>	<i>24,287</i>	5,000*	<i>186,774</i>
Jihomoravský kraj	<i>3,971,709</i>	301	<i>13,195</i>	<i>22,510</i>	50,000*	<i>198,287</i>
Karlovarský kraj	<i>2,789,183</i>	275	<i>10,142</i>	<i>37,028</i>	12,200*	<i>486,788</i>
Plzeňský kraj	<i>2,422,933</i>	265	<i>9,143</i>	<i>53,489</i>	7,900*	<i>788,974</i>
ALL REGIONS	<i>101,432,923</i>	6823	<i>14,866</i>	<i>103,378</i>	1,070*	<i>6,677,754</i>

Source: Author based on data from Center for Applied Economics.

Table B.2: Summary of the constructed variables.
P=Politickefinance.cz; C=CAE.

Variable	Shortcut	Description	Source
Donations to ČSSD	Don_ČSSD	The total sum of donations made by a firm to ČSSD between 2006 and 2013.	P
Donations to ODS	Don_ODS	The total sum of donations made by a firm to ODS between 2006 and 2013.	P
Dummy for donations to ČSSD	DČSSD	Dummy variable, equal to 1 if a firm donated to ČSSD between 2006 and 2013, and 0 otherwise.	P
Dummy for donations to ODS	DODS	Dummy variable, equal to 1 if a firm donated to ODS between 2006 and 2013, and 0 otherwise.	P
Donations	Don	The total sum of donations made by a firm to ČSSD or ODS between 2006 and 2013.	P
Dummy for donations	Ddon	Dummy variable, equal to 1 if a firm donated to ČSSD or ODS between 2006 and 2013, and 0 otherwise	P
Number of PP contracts	PPC	The number of regional public contracts a firm signed between July 1, 2006 and March 11, 2014.	C
Number of PP contracts 2006-2008	PPC0608	The number of regional public contracts a firm signed between July 1, 2006 and October 31, 2008.	C
Number of PP contracts 2008-2014	PPC0814	The number of regional public contracts a firm signed between November 1, 2008 and March 11, 2014.	C
Value of PP	VPPC	The total value of regional public contracts a firm signed between July 1, 2006 and March 11, 2014.	C
Value of PP 2006-2008	VPPC0608	The total value of regional public contracts a firm signed between July 1, 2006 and October 31, 2008	C
Value of PP 2008-2014	VPPC0813	The total value of regional public contracts a firm signed between November 1, 2008 and March 11, 2014	C
Number of employees 9-	Size1	Dummy variable, equal to 1 if a firm has 9 employees or less, and 0 otherwise.	I
Number of employees 10-49	Size2	Dummy variable, equal to 1 if a firm has between 10 and 49 employees, and 0 otherwise.	C
Number of employees 50-249	Size3	Dummy variable, equal to 1 if a firm has between 50 and 249 employees, and 0 otherwise.	C
Number of employees 250-999	Size4	Dummy variable, equal to 1 if a firm has between 250 and 999 employees, and 0 otherwise.	C
Number of employees 1000-4999	Size5	Dummy variable, equal to 1 if a firm has between 1000 and 4999 employees, and 0 otherwise.	C
Number of employees 5000+	Size6	Dummy variable, equal to 1 if a firm has 5000 employees or more, and 0 otherwise.	C

Table B.3: OLS, Model 5.1, using observations 1–1692.

Dependent variable: $\log VPPC$
Heteroskedasticity-robust standard errors, variant HC1

	Coefficient	Std. Error	t -ratio	p-value
const	6.49510	0.0442527	146.7730	0.0000
Ddon	0.450719	0.0766090	5.8834	0.0000
Size2	0.252091	0.0531896	4.7395	0.0000
Size3	0.471112	0.0575299	8.1890	0.0000
Size4	0.427933	0.101470	4.2173	0.0000
Size5	0.655631	0.129028	5.0813	0.0000
Size6	0.735224	0.174974	4.2019	0.0000
Mean dependent var	6.821752	S.D. dependent var	0.850048	
Sum squared resid	1106.608	S.E. of regression	0.811842	
R^2	0.091120	Adjusted R^2	0.087872	
$F(6, 1679)$	24.06830	P-value(F)	1.89e-27	

Source: Author's calculations based on data from Center for Applied Economics.

Table B.4: OLS, Model 5.2, using observations 1–1692.

Dependent variable: $IVPPC$
Heteroskedasticity-robust standard errors, variant HC1

	Coefficient	Std. Error	t -ratio	p-value
const	6.49588	0.0442716	146.7281	0.0000
IDon	0.0950765	0.0157166	6.0494	0.0000
Size2	0.251886	0.0532047	4.7343	0.0000
Size3	0.469720	0.0576674	8.1453	0.0000
Size4	0.423198	0.101641	4.1637	0.0000
Size5	0.650350	0.128462	5.0626	0.0000
Size6	0.734446	0.174979	4.1973	0.0000
Mean dependent var	6.821752	S.D. dependent var	0.850048	
Sum squared resid	1105.978	S.E. of regression	0.811611	
R^2	0.091637	Adjusted R^2	0.088391	
$F(6, 1679)$	24.66569	P-value(F)	3.79e-28	

Source: Author's calculations based on data from Center for Applied Economics.

Table B.5: OLS, Model 5.3, using observations 1–1692.

Dependent variable: IVPPC0608
Heteroskedasticity-robust standard errors, variant HC1

	Coefficient	Std. Error	<i>t</i> -ratio	p-value
const	1.19028	0.126656	9.3978	0.0000
lDon_ods	0.389521	0.0633617	6.1476	0.0000
Size2	−0.0128832	0.164721	−0.0782	0.9377
Size3	0.896300	0.203343	4.4078	0.0000
Size4	1.88097	0.365908	5.1406	0.0000
Size5	1.57599	0.576265	2.7348	0.0063
Size6	3.67553	1.36433	2.6940	0.0071
Mean dependent var	1.807675	S.D. dependent var	3.089510	
Sum squared resid	14733.06	S.E. of regression	2.956968	
R^2	0.087211	Adjusted R^2	0.083961	
$F(6, 1685)$	20.15650	P-value(F)	7.17e−23	

Source: Author's calculations based on data from Center for Applied Economics.

Table B.6: OLS, Model 5.4, using observations 1–1692.

Dependent variable: IVPPC0814
Heteroskedasticity-robust standard errors, variant HC1

	Coefficient	Std. Error	<i>t</i> -ratio	p-value
const	5.37312	0.116600	46.0817	0.0000
lDon_cssd	0.159871	0.0940762	1.6994	0.0894
Size2	0.610269	0.144102	4.2350	0.0000
Size3	0.848401	0.161024	5.2688	0.0000
Size4	0.825413	0.278823	2.9603	0.0031
Size5	1.11224	0.397119	2.8008	0.0052
Size6	2.48898	0.283401	8.7825	0.0000
Mean dependent var	5.952520	S.D. dependent var	2.343354	
Sum squared resid	9043.653	S.E. of regression	2.316712	
R^2	0.026077	Adjusted R^2	0.022609	
$F(6, 1685)$	15.30949	P-value(F)	3.76e−17	

Source: Author's calculations based on data from Center for Applied Economics.