

**CHARLES UNIVERSITY**  
**FACULTY OF SOCIAL SCIENCES**  
Institute of Economic Studies

**Alice Navrátilová**

**Does donating to political parties pay off?  
Evidence from the Czech Republic**

*Bachelor thesis*

Prague 2018

**Author:** Alice Navrátilová

**Supervisor:** Mgr. Miroslav Palanský M.A.

**Academic Year:** 2017/2018

## **Bibliographic note**

NAVRÁTILOVÁ, Alice. *Does donating to political parties pay off? Evidence from the Czech Republic*. 57p. Bachelor thesis. Charles University, Faculty of Social Sciences, Institute of Economic Studies. Supervisor: Mgr. Miroslav Palanský M.A.

## **Abstract**

According to the existing literature, political connections can lead to favouritism towards the connected companies. This thesis approximates connections through donations to political parties and analyses their effect on the value of public procurement administered by Czech Ministries between 2007 and 2017. Donations from legal entities are used along with contributions from natural persons who are matched with companies' officials to account for the possibility of masking the real identity of donors. We analyse the impact of donations on procurement from three perspectives. Firstly, we focus on donations made to parties with the largest representation in government, but do not find that firms connected to these parties win more favourable procurement contracts. We then extend the analysis to include other political parties present in the Chamber of Deputies during the examined period and each election term is assessed separately. The results suggest that donating firms received contracts of higher value than non-donating firms during two of the three election periods. Finally, we develop a novel panel-based approach with the aim to determine whether there exists a causal relationship between political connections and public procurement. The results show that connections to political parties elected to the Chamber of Deputies, some of which were directly in control of Czech Ministries, did not induce a higher value of supplied contracts to these Ministries. This observation points to the benefits of high public control at this level of government and, potentially, to the importance of other channels through which corporate donations may pay off.

## **Keywords**

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

**Range of thesis: 85 384 characters**

## **Abstrakt**

Literatura ukazuje, že politické konexe mohou vést ke zvýhodňování napojených subjektů. Tato práce aproximuje konexe prostřednictvím darů politickým stranám a analyzuje jejich dopad na hodnotu veřejných zakázek zadaných ministerstvy mezi lety 2007 a 2017. Kromě darů od právnických osob jsou zahrnuty i příspěvky od osob fyzických, které jsou spárovány s funkcionáři českých společností. Zahrnujeme tak možnost skrytí pravé identity dárců. Dopad darů na ministerské zakázky zkoumáme ve třech rovinách. Nejprve se zaměřujeme pouze na dary politickým stranám s největší účastí ve vládě. Firmy napojené na tyto strany ale výhodnější zakázky nevyhrávají. Naši analýzu tedy rozšiřujeme o další strany, které byly v tomto období zvolené do Poslanecké sněmovny a analyzujeme každé funkční období zvlášť. Výsledky ukazují, že darující firmy získávají zakázky o vyšší hodnotě než firmy, které neposkytly žádný dar během dvou ze tří zkoumaných funkčních období. Ve třetí části představujeme zcela nový přístup k této problematice, který staví na panelové transformaci dat. Tato metodologie nám umožňuje vyhodnotit existenci kauzálního vztahu mezi politickými vazbami a hodnotou veřejných zakázek. Docházíme k závěru, že konexe na strany přítomné v Poslanecké sněmovně, z nichž některé stanuly ve vládě a ovládaly tedy zkoumaná ministerstva, nevyvolaly růst hodnoty veřejných zakázek. Toto pozorování poukazuje na důležitost fungování veřejné kontroly na této úrovni veřejné správy, a dále na jiné možnosti zvýhodnění firem poskytujících dary politickým stranám.

## **Klíčová slova**

politické konexe, dary politickým stranám, veřejné zakázky, ministerské zakázky, politika

## **Declaration of Authorship**

1. The author hereby declares that she compiled this thesis independently, using only the listed resources and literature.
2. The author hereby declares that all the sources and literature used have been properly cited.
3. The author hereby declares that the thesis has not been used to obtain a different or the same degree.

Prague 26.7.2018

Alice Navrátilová

## **Acknowledgments**

I would like to express my gratitude to the supervisor of my thesis, Miroslav Palanský, for his valuable notes, advice on the methodology, expert guidance, patience, and the provision of data on behalf of EconLab. Furthermore, I would like to thank Vítězslav Titl for the matching of donors and Petr Pleticha for his useful comments on the methods used. I am grateful to my boyfriend, family and friends for all of their support and patience during my studies. This study has also benefited from the H2020-MSCA-RISE project GEMCLIME-2020 GA No. 681228.

**Institute of Economic Studies**  
**Bachelor thesis proposal**

**Proposed Topic:**

*Does donating to political parties pay off? Evidence from the Czech Republic*

**Preliminary scope of work:**

***Research question and motivation***

Donations from both natural and legal persons comprise not a negligible source of the income to political parties. Specifically, in the Czech Republic, political party revenues consist mainly of government subsidies (around 64%) and political donations (around 22%).<sup>1</sup> Therefore, one might possibly ask whether the relation between political parties and those individuals or firms, refer to as a donor hereinafter, is reciprocal, meaning whether donors require some favour in return. For instance, the party can pass legislation that might make the donor better-off or influence the outcomes of public procurement auctions and thus stimulate unfair competition.

Together with lobbying and corruption issues, this scenario might be the reason why the corporate donations are banned in many countries around the world. On the other hand, donations are still allowed in the Czech Republic but being restricted to 3 million CZK from one donor per party per year.

Considering the case of the Czech Republic, can we find any evidence of these connections being abused for the benefit of the donor? If yes, how large a benefit does being politically connected bring to the donors? Trying to answer these questions, the considerable part of my thesis will focus on measuring the strength of mutual connections through data on government procurement and donations to political governing and non-governing parties. However, from the statistical perspective, using political donations as a proxy variable for political connections (as this approach is going to be used in this thesis), might lead to the endogeneity problem. To be specific, as more successful firms are likely to donate more money to political parties, the self-selection positive bias might arise. To prevent this scenario, data on donations to NGOs are going to be collected and the comparison will be drawn to the first analysis.

The main research question of the thesis would be:

Are there any connections between political parties and donating individuals or firms? If yes, are they truly significant or are they caused by a self-selection bias?

Considering the research question, several subproblems are proposed to be analysed:

- Which of the interconnections prevail, those between natural persons and parties, or the connections between legal persons and parties?
- Are these connections more important in case of the governing parties or in case of the non-governing parties?

***Contribution***

Regarding the study of political connections, considerable amount of literature can be found, however, varying by a different usage of variables. Specifically, in the case of the Czech

---

<sup>1</sup> Skuhrovec, J., Titl V., Palanský M. "Political Party Financing Report." Econlab z.s. (2016)

Republic, similar theses were written using both the government procurement as an independent variable and political donations as a proxy variable for interconnections. However, taking an econometrics perspective into account, research focusing specifically on a self-selection problem and thus using a similar analysis to the non-profit sector has not been conducted yet, to the best of my knowledge.

### ***Methodology***

Basic econometric models (OLS estimates) and comparative statistics are going to be used. Time series data for both government procurements and political donations are going to be collected on a personal request from the civic organisation Econlab z.s. which gathers data from The Commercial Register ([www.or.justice.cz](http://www.or.justice.cz)) and the portal [vestnikverejnychzakazek.cz](http://vestnikverejnychzakazek.cz), and the portal [PolitickeFinance.cz](http://PolitickeFinance.cz) which contains data from the political parties' financing reports. Moreover, a new database, gathering corporate donations to the most significant NGOs in the Czech Republic, is going to be made from the specific annual reports.

### ***Outline***

Introduction

Literature overview

Background of the study – Government procurement, The composition of political party financing in the Czech Republic

Data description

Government procurement and political donations

Conclusion

### **List of academic literature:**

#### ***Bibliography***

1. Palanský, M. "Political Connections and Public Procurement: Evidence from the Czech Republic. " *Bachelor Thesis, Institute of Economic Studies, Charles University in Prague.* (2014)
2. Palanský, M. "The Value of Political Connections: Evidence from the Czech Republic. " *Diploma Thesis, Institute of Economic Studies, Charles University in Prague.* (2016)
3. De Figueiredo Jr J. P. R., Edwards G. "Does Private Money Buy Public Policy? Campaign Contributions and Regulatory Outcomes in Telecommunications." *Journal of Economics and Management* 16.3 (2007): 547-576
4. Faccio, Mara. 2006. "Politically Connected Firms." *American Economic Review* 96.1 (2006): 369-386.
5. Baltrunaite, A. "Political Finance Reform and Public Procurement: Evidence from Lithuania. " *Institute for International Economic Studies, Stockholm University.* (2016)
6. Goldman, E., Rocholl, J., and So, J. "Politically Connected Boards of Directors and The Allocation of Procurement Contracts. " *Review of Finance* 17.5 (2013): 1617-1648.

## Contents

<b>LIST OF TABLES .....</b>	<b>2</b>
<b>ACRONYMS .....</b>	<b>3</b>
<b>INTRODUCTION.....</b>	<b>4</b>
<b>1. LITERATURE REVIEW .....</b>	<b>6</b>
1.1 <i>Defining political connections .....</i>	6
1.2 <i>The value of political connections .....</i>	9
1.3 <i>Political connections and public procurement in the Czech Republic .....</i>	11
<b>2. POLITICAL BACKGROUND.....</b>	<b>13</b>
2.1 <i>Political donations in the Czech Republic .....</i>	13
2.2 <i>Political environment.....</i>	14
2.2.1 <i>Czech parliamentary elections between 2006 and 2013.....</i>	15
2.3 <i>Connections.....</i>	17
<b>3. DATA DESCRIPTION .....</b>	<b>21</b>
3.1 <i>Public procurement.....</i>	21
3.2 <i>Political donations.....</i>	22
3.3 <i>Merging the data sets.....</i>	24
<b>4. EFFECT OF POLITICAL DONATIONS IN THE CZECH REPUBLIC.....</b>	<b>26</b>
4.1 <i>Reduced form analysis .....</i>	27
4.1.1 <i>Data and methodology.....</i>	28
4.1.2 <i>Results.....</i>	30
4.2 <i>Political parties in power.....</i>	31
4.2.1 <i>Data and methodology – the first period .....</i>	32
4.2.2 <i>Data and methodology – the second period .....</i>	34
4.2.3 <i>Data and methodology – the third period.....</i>	35
4.2.4 <i>Results – all examined periods .....</i>	37
4.3 <i>Pooled Model.....</i>	39
4.3.1 <i>Data and methodology.....</i>	40
4.3.2 <i>Results.....</i>	42
<b>CONCLUSION .....</b>	<b>44</b>
<b>BIBLIOGRAPHY .....</b>	<b>46</b>
<b>LIST OF APPENDICES .....</b>	<b>51</b>
<b>APPENDICES.....</b>	<b>52</b>

## List of tables

<b>Table 2.1:</b> Results of the parliamentary elections between 2006 and 2013.....	17
<b>Table 2.2:</b> Summary of the governing cabinets between 2005 and 2017. ....	17
<b>Table 2.3:</b> Illustrative table for the matching procedure.....	19
<b>Table 3.1:</b> Summary of the database of political donations. ....	23
<b>Table 3.2:</b> Merged database of political donations and public procurement. ....	24
<b>Table 4.1:</b> Summary of the database for the reduced form analysis. ....	28
<b>Table 4.2:</b> Summary of the database for the first period.....	33
<b>Table 4.3:</b> Summary of the database for the second period. ....	34
<b>Table 4.4:</b> Summary of the database for the third period. ....	36
<b>Table 4.5:</b> Illustrative table for pooled model.....	40

## Acronyms

<b>ANO</b>	ANO 2011
<b>CZK</b>	Czech Koruna
<b>ČSSD</b>	Czech Social Democratic Party
<b>GDP</b>	Gross Domestic Product
<b>ISPC</b>	Information System on Public Contracts
<b>KDU-ČSL</b>	Christian and Democratic Union – Czechoslovak People's Party
<b>KSČM</b>	Communist Party of Bohemia and Moravia
<b>NGO</b>	Non-Governmental Organisation
<b>ODS</b>	Civic Democratic Party
<b>OLS</b>	Ordinary Least Squares
<b>SLK</b>	Mayors for Liberec Region
<b>STAN</b>	Mayors and Independents
<b>SZ</b>	Green Party
<b>UNK</b>	Dawn of Direct Democracy of Tomio Okamura (later transformed to Dawn – National Coalition)
<b>US-DEU</b>	Freedom Union – Democratic Union
<b>VAT</b>	Value Added Tax
<b>VV</b>	Public Affairs

## Introduction

The topic of connections between politicians and companies has been widely discussed in both the media and the academic sphere. These connections can be abused and lead to favouritism towards affiliated agents, which may stimulate unfair competition. Previous research has shown that connected companies can enjoy benefits in various ways, for instance, easier access to funding, favourable legislation or preferential treatment regarding the allocation of public funds.

Firstly, it is crucial to determine what can be considered as a political connection and how it can be measured. One of the commonly used proxies for political connections are donations to political parties. Representing the source of controversy, there are many beliefs that these contributions serve as a valuable investment for firms and may lead to political favours towards donors. In fact, corporate donations to political parties are banned in 50 countries around the world (IDEA, 2018). In the Czech Republic, donations to political parties are still allowed, making one of their most important sources of income, apart from government subsidies (Palanský, 2016). Can these donations buy political influence?

Therefore, this thesis attempts to evaluate whether some reciprocity hidden behind contributions made to political parties might exist. Unlike other studies focusing on donations from legal entities solely, donations made by natural persons are included to capture the possibility of a third entity hidden behind this donor. The database of political donations was thus completed with the year of birth of natural persons and subsequently matched with the database of members of boards and supervisory boards of all Czech firms. Donations from legal entities between 2006 and 2017 are therefore accompanied by donations from natural persons, which are then treated as being from the matched company. As a potential source of rent extraction, public procurement administered by Ministries between 2007 and 2017 is investigated. The public procurement market represents a non-negligible share of GDP (around 11% in 2017; Ministry of Regional Development, 2018) and with its long-standing non-transparency, constitutes a channel through which companies can gain from political connections.

Using basic statistical and econometric tools, this study addresses the following questions. Do contributions to Czech political parties secure more valuable government contracts? Do more generous contributions buy contracts of higher value?

This thesis is structured as follows. In the first chapter, literature relevant to the topic of political connections and their possible added value is reviewed. Both foreign and Czech studies are mentioned. The second chapter summarises recent changes of legislation related to party funding and describes the political environment of the Czech Republic. The novel approach which allows for the inclusion of donations from natural persons is also presented in this section. The third chapter is dedicated to the description of data used in this analysis. In the fourth chapter, the methodology is explained, the effect of political donations is measured, and the findings are presented. The final chapter concludes with the overall discussion of results and suggests possible future research.

## 1. Literature review

The topic of political connections has been a widely discussed issue in the academic environment. An enormous number of studies have emerged describing both various channels through which political connections can be established and, on the other hand, many different variables which might be affected by these connections. Accordingly, the purpose of this section is to provide an overview of literature connected to both these angles and relevant to this thesis. Concerning the large volume of academic research and the constantly changing environment, this literature review aims to present more recent and contemporary empirical studies. This chapter is further divided into three subchapters: defining political connections, the value of political connections, and political connections and public procurement in the Czech Republic.

In the first section, the literature is summarised based on a measure used for political connections. Different proxy variables have been identified throughout the studies due to data unavailability, many differences across countries<sup>2</sup>, and diverse ideas about what can constitute political connections in general. These cover personal affiliations (professional connections, family relations and other informal ties), financial contributions (donations to political parties made by individuals or firms, lobbying expenditures), and connections established through politicians participating in business activities (companies' top officials, conduct of business).

Many researchers have provided evidence that political connections can bring benefits to connected entities or sometimes can be harmful to the companies. Therefore, the second part of this overview summarises the academic work from the perspective of response variables. In the third subchapter, the literature concerning political connections and public procurement in the Czech Republic is reviewed and the contribution to the Czech academic field is discussed.

### 1.1 Defining political connections

One of the most quoted definitions regarding political connections was formulated by Faccio (2006). In her unique cross-country research, which also included the Czech Republic, she defined a company as being politically connected if '*...one of the*

---

<sup>2</sup> Regarding the scope of political connections, this comprises, for instance, legal environment, structure of government, and political composition.

*company's large shareholders<sup>3</sup> or top officers is: (a) a member of parliament (MP), (b) a minister or the head of state, or (c) closely related to a top official.*' (Faccio, 2006, p.370) Since then, many researchers have focused on the connection between companies' top officials and their political experience. Relying on the definition of Faccio (2006), Boubakri et al. (2012) showed that establishing political connections leads not only to an increase in operating performance, but also to an increase in indebtedness of connected firms. Blau et al. (2013) extended the definition of political engagement by including lobbying expenditures, which were also employed by Duchin and Sosyura (2012). Another similar definition was provided by Goldman et al. (2009) who classified the S&P500 companies as being connected to the Republican (Democratic) Party if they had in their board at least one director with past political experience with only the Republican (Democratic) Party. An almost identical definition was also applied in their later work (Goldman et al., 2013), which focused on the reallocation of government contracts.

Many researchers have pointed to the fact that political connections are more common in weaker institutional environments and countries with widespread corruption. This observation is also relevant to the case of the Czech Republic. According to Transparency International (2018), the Czech Republic ranked 42 in the Corruption Perceptions Index (CPI) in 2017, with 57 obtained points from a maximum of 100. This is a slight improvement in comparison to previous years, however, it is still far from the European average of 66 points. Plenty of studies also inspected the effect of connections in China, as being the country more susceptible to corruption (the CPI equals to 41, as of 2017). These include, for instance, Fan et al. (2007) and Wu et al. (2012) who focused on managers of Chinese companies who had been employed by the government in the past; Li et al. (2008) who narrowed connections to the membership of companies' directors in the Chinese Communist Party and Song et al. (2017) who found that partially state owned companies enjoyed easier access to bank loans. The proportion of government ownership used as a proxy for political connectedness was, besides, employed by Adhikari et al. (2006).

Another stream of literature has been oriented towards the personal relations of individual politicians. In this case, the classification of connected agents can be very strict due to the inability to collect data (for instance, friendship) and therefore, the real scope

---

<sup>3</sup> Faccio (2006) defined 'large shareholder' as a person who controls either directly or indirectly at least 10% of voting shares.

of these connections may be underestimated. Amore and Bennedsen (2013) utilised the access to data containing the official personal identification number of board members, their families and local candidates in Denmark. By merging these data sets, they were able to identify connections between politicians and companies through family members. However, as Palanský (2018) noted, access to similar data is often impossible due to personal data protection laws. Other studies in which the effect of personal ties was examined include (Adhikari et al., 2006; Johnson & Mitton, 2003) and (Acemoglu et al., 2016).

The last type of connections described in this section elaborates on contributions to politicians, campaigns and political parties. As donations to Czech political parties are used as a measure of political connectedness in this thesis, the major stream of contribution can be seen primarily in connection to those studies. Unlike personal connections, which allow only the binary specification, using donations enable us to explore the real value of these connections. We are therefore able to measure the average effect of an increase in donations or decide which donations matter more by sorting them into categories. Nonetheless, using this approach might again lead to an underestimation of the actual extent of connectedness. According to Akey (2015), donations represent only one part of firms' political engagements (lobbying expenditures, hiring former government employees) and these are even substitutable for one another. Moreover, there is anecdotal evidence that Czech political parties do not officially declare all the received contributions or that they try to hide the real source of the money, for instance, behind natural persons (Vymětal, 2017). Skuhrovec et al. (2015) pointed to several errors in the parties' annual reports which might be perceived as such attempts, for example, reporting contributions from donors who were younger than the age of 2 at the time of donating, non-existing identification numbers of donating firms, and others. Even though we partly solve the masking problem by matching non-company donors with companies' officials, there is nothing more we can do about the support which has perhaps been misreported.

Many researchers employed contributions as a measure of political connectedness. These include Akey (2015); Cooper et al. (2010); De Figueiredo and Edwards (2007); Huber and Kirchler (2013); Jayachandran (2006) and Shon (2009) in the United States; Claessens et al. (2008) in Brazil and Baltrunaite (2016) in Lithuania. Findings from these studies have mostly confirmed that contributing companies profit from their provided support in various ways.

## **1.2 The value of political connections**

The impact of political connections and channels through which possible rent extraction can be made have been explored by many economists. These channels can take shape in different forms.

Plenty of evidence has shown that political connections affect the market value of involved firms. Faccio (2006) proved that stock prices of connected firms rose significantly after their officials had entered politics, though not in the opposite way. Several papers have discussed the outcome of the US 2000 presidential elections, in which the candidate of the Republican Party, George W. Bush, celebrated his victory. These include, for example, (Goldman et al., 2009; Knight, 2006) and (Shon, 2009). They demonstrated that firms which were identified as connected to the Republican Party had significantly increased in value. However, Aggarwal et al. (2012) pointed out that results of these studies might have been driven by the use of a short time horizon and a relatively small sample. Besides other things, his results suggested that corporate donations to federal deputies were associated with negative stock returns and could be perceived as an indication of agency problems between shareholders and managers. On the other hand, Huber and Kirchler (2013) argued that a small sample analysis could be reasonable since only the largest contributors might have been influential. Analysing four presidential elections between 1992 and 2004, they found a significant and positive effect of campaign contributions given to the winner based on firms' stock market performance.

Several studies have also demonstrated that companies were worse off after their connections had been terminated. Faccio and Parsley (2009) and Roberts (1990) scrutinised the stock price response to the unexpected deaths of particular politicians. Their conclusions imply that companies connected to these politicians significantly decreased in value in comparison to their nonconnected peers. Comparable results were found by Fisman (2001) who examined the impact of bad news regarding the worsening health of Indonesian president Suharto on politically affiliated firms.

Previous research has shown that connected companies were more likely to outperform non-connected companies, although, the possible source of favouritism was mostly not explored in these studies. According to Claessens et al. (2008) and Khwaja and Mian (2005), easier access to funding may represent such source as their results showed increased financial leverage of connected firms. Faccio et al. (2006) also unveiled that governments were more likely to bailout connected firms, which can be again

perceived as a potential channel through which companies benefit from their connections. Similarly, Blau et al. (2013) or Duchin and Sosyura (2012) studied the access to government funding. Their findings suggested that connected entities were more likely to receive access to funding from Troubled Asset Relief program (TARP).<sup>4</sup>

Furthermore, De Figueiredo and Edwards (2007) ascertained that connected firms were able to influence the regulatory outcomes of the telecommunications industry; Adhikari et al. (2006) and Wu et al. (2012) provided evidence that connected companies in Malaysia and China, respectively, had paid taxes at lower effective rates. The findings of Wu et al. (2012) again implies that connected private firms outperform their non-connected peers and are consistent with the results of Li et al. (2008).

As Czech procurement contracts administered by Ministries between 2007 and 2017 are used, this thesis mainly contributes to the literature exploiting the potential impact of connections on the allocation of public spending. Moreover, the results from these studies mostly indicated that public procurement is likely to serve as a channel through which companies make use of their connections. Baltrunaite (2016) observed declining probability of winning public tenders by donating companies after the ban on corporate donations came into force in 2012 in Lithuania. She also demonstrated that contributing firms probably received confidential information about non-contributing bidders, participating in these procurement auctions. Goldman et al. (2013) focused on the shift in political control after the elections in 1994, when most of the power transferred from the Democrats to the Republicans. Their findings showed that companies connected to the winning Republican Party through board directors (see the discussion in the previous section) had experienced an increase in the value of obtained contracts. On the other hand, they reached the conclusion that donations to these two parties did not induce any allocation favouritism towards the donating firms. Evidence has also shown that the distribution of public procurement could be influenced by tunnelled cash in Russia (Mironov & Zhuravskaya, 2016) or by social connections with the president of South Korea (Schoenherr, 2018). Similar research was also conducted by Albalade et al. (2017) in Spain and by Lehne et al. (2018) in India.

---

<sup>4</sup> TARP was a financial funding program proposed by the U.S. Treasury with a prior goal of stabilising the financial system after the 2008 mortgage crisis.

### ***1.3 Political connections and public procurement in the Czech Republic***

This study further contributes to the empirical studies which examined the impact of connections and the public procurement market in the Czech Republic. Palanský (2018) found that donating firms significantly outperform their non-donating peers and he observed an even stronger effect for firms operating in procurement intensive industries. Skuhrovec et al. (2015) pointed to a considerable number of companies which donated to political parties and received public procurement likewise. These observations again suggest that public procurement may serve as a channel through which contributing companies gain from their connectedness. Furthermore, Palguta (2016b) demonstrated that donors received procurement in less transparent systems, however, he mentioned a possibility of managing such procedures accordingly by contracting authorities choosing already proved suppliers.

Several studies assessed the impact of political connections on the outcomes of public procurement prior to this study. Nonetheless, to the best of our knowledge, empirical research studying the effect of donations on the allocation of government procurement contracts has not yet been conducted. We also further extend existing studies by including donations made by natural persons. Palanský (2014) already showed that donating firms gain contracts of approximately 57% higher value than their non-donating rivals, although his study focused on public procurement administered at the regional level only. Therefore, this thesis follows his research in a certain way. Similar findings were provided by Baranek and Titl (2018), who explored personal connections of politicians with Czech companies, and by Titl and Geys (2017), whose results again point to donations as a valuable investment for firms at regional procurement competition. On the other hand, Palguta (2016a) observed that donating companies are less likely to win procurement awarded by local municipalities with broader party representation. Similarly to this thesis, Špolc (2017) examined the effect of personal connections with Ministers on the allocation of government funding. However, he identified subsidy allocation as a primary channel of rent extraction rather than procurement spending.

Finally, this study is also related to the research of Czech NGOs focusing on conflict of interest and corruption in the Czech Republic. These cover, for example,

Transparency International - Czech Republic<sup>5</sup>, which focuses on the transparency improvement of both political donations and public procurement, besides other things; Našipolitici.cz (Our politicians), which assembles activities of publicly engaged persons, and EconLab<sup>6</sup>, which conducts research related to public policies. EconLab also currently operates two projects closely connected to this study: zIndex.cz, which monitors and assesses public contracting authorities, and the database of political party financing, PolitickeFinance.cz, which evaluates the transparency of political party funding.

---

<sup>5</sup> [www.transparency.cz](http://www.transparency.cz)

<sup>6</sup> [www.econlab.cz](http://www.econlab.cz)

## 2. Political background

In this section, we focus on recent changes of the laws regulating political party funding, which relate to donations.<sup>7</sup> Secondly, the Czech political environment and results of the elections to the Chamber of Deputies are briefly summarised, since they motivate the selection of parties whose donations are further used in the analysis. Thirdly, we present the novel approach connected to the matching of donors, as this methodology is designated specifically for this study.

### 2.1 Political donations in the Czech Republic

The financing of political parties is regulated primarily by the Act No. 424/1991 Coll. on the Association in Political Parties and Political Movements. This law had been amended multiple times, however, the key points have remained relatively stable over time. This changes with the recent reform,<sup>8</sup> which came into force on January 1, 2017 and represents a significant step towards more transparent funding (Frank Bold, 2016). Besides other important amendments, this act also implements new regulations which directly apply to political donations.

Due to recent changes to the law, donations cannot exceed CZK 3 000 000 per donor in one year and parties are also obliged to keep a permanent and transparent account for all received state contributions and donations, which is accessible to the public. Moreover, transfers whose total value surpasses CZK 5000 must flow through the official bank accounts of the political parties. Transparent accounts enable public inspection and increase transparency of political funding, which is one of the leading factors influencing voters' confidence in political parties in the Czech Republic<sup>9</sup>

Donations can take the form of either cash or non-cash support. Nevertheless, starting in 2017, all non-cash donations and their estimated market value must be disclosed in the parties' annual reports. Besides giving a more accurate picture on the

---

<sup>7</sup> We focus specifically on changes which are related to the topic of donations and therefore to this study. More detailed evaluation can be found in Frank Bold (2016) or Vymětal (2017).

<sup>8</sup> Act No. 302/2016 Coll. amending Act No. 424/1991 Coll. on the Association in Political Parties and Political Movements, as amended, and other related acts.

<sup>9</sup> According to the results of survey conducted by MEDIAN. Retrieved from: <https://www.rekonstrukcestatu.cz/cs/archiv-novinek/9803-vyzkum-median-duvera-pro-politicke-strany-zavisi-hlavne-na-pruhlednem-financovani>

volume of received support, this may also be an important change for future research. In our study, we were forced to reduce our examined sample by such donations since in several cases their amounts were not disclosed in the reports. What remained unchanged was the prohibition imposed on parties to accept donations from entities such as state companies and legal persons owned by state or municipalities with more than 10% of controlled shares, foreign legal persons (excluding foundations and political parties), and others.

The most important reform is, however, connected to the newly established independent supervisory body, the Office for the Supervision of the Finances of Political Parties and Movements (Úřad pro dohled nad hospodařením politických stran a politických hnutí, referred to as ÚDHPSH).<sup>10</sup> Until 2017, funding of political parties was overseen by the Control committee of the Chamber of Deputies. In other words, political parties controlled themselves, as pointed out by Skuhrovec et al. (2015). Among other things, ÚDHPSH is able to supervise and control the financing of political parties, impose sanctions in case of breaches of the law, and publish annual reports of parties online. This again opened parties' financing to the public, since these reports were mostly available in paper form in the Parliamentary Library.

## **2.2 Political environment**

The current Chamber of Deputies was established on January 1, 1993 by the Constitution of the Czech Republic. Together with the Senate, they constitute the Parliament of the Czech Republic, which exercises legislative power in the country. The Chamber of Deputies is comprised of 200 Deputies who are elected to a four-year term of office. These seats (mandates) are divided among political parties and candidates based on the system of proportional representation. For a party to acquire any seat, it must receive at least 5% of all valid votes.

Following the election results, the president appoints the Prime Minister (usually the leader of the winning party), and Deputy Prime Ministers and Ministers based on the Prime Minister's proposal. Together, they comprise the government which constitutes the highest executive body in the Czech Republic. Ministers are then entrusted with the governance of corresponding Ministries. The total number of members of government changes with different governments since several members can hold more than one post,

---

<sup>10</sup> All information about ÚDHPSH can be found at <https://udhpsh.cz/>.

in specific cases, or can be appointed as Ministers without Portfolio. The government is further responsible to the Chamber of Deputies, which also adopts a resolution of confidence in the government. When the confidence is not pronounced, appointed members shall submit their resignation and the process regarding the formation of a new government is repeated.

Currently, there are 14 Ministries established (see Appendix 2) and they differ from other central bodies as being controlled by the member of government. Functioning of central administration, including Ministries, is governed by the Competence Act.<sup>11</sup>

### **2.2.1 Czech parliamentary elections between 2006 and 2013**

Two large parties dominated the political scene after the creation of the Czech Republic, ČSSD (1998-2006) and ODS (1992-1998). However, over the following period, their support levels have decreased substantially with the establishment of new political parties.

In the 2006 election, liberal-conservative ODS experienced a rise in popularity. They received 81 seats and therefore overtook its dominant rival ČSSD, which acquired only 74 seats. As in previous periods, other parties succeeded in the election and surpassed the 5% threshold. These included KDU-ČSL, KSČM, and for the first time SZ with their campaign focused on ecologic topics. Mirek Topolánek, the leader of ODS at that time, was appointed as the Prime Minister and assigned by the president, Václav Klaus, to form a government. However, the negotiations were prolonged by several issues, mainly by the escalated campaign which reflected in bargaining and equal representation of the left-wing (ČSSD, KSČM) and the centre-right parties (KDU-ČSL, ODS, SZ) (Plecitá-Vlachová & Stegmaier, 2008). Both groups held exactly 100 seats. After months of negotiations and Topolánek's first failed cabinet, comprising of ODS and non-partisans, the government won the final vote of confidence in January 2007. This so-called Second Topolánek's cabinet, comprised of KDU-ČSL, ODS, and SZ, ruled until May 2009, when suffering a defeat in a no-confidence vote. Since the second and relatively stable government was not appointed until January 7, 2007, we decide to exclude procurement contracts awarded in 2006 from the analysis. After the second fall of the Topolánek's government, Jan Fischer, former President of the Czech Statistical

---

<sup>11</sup> Act No. 2/1969 Coll. on the Establishment of Ministries and Other Central Bodies of State Administration of the Czech Republic, as amended.

Office, led caretaker government of experts, nominated by ČSSD and previous governing coalition. This cabinet was in power until July 2010 when the new government was appointed, after the 2010 parliamentary election.<sup>12</sup>

Even though ČSSD celebrated their victory in this election, the president assigned Petr Nečas, the leader of ODS, to form the government. His choice was probably partly influenced by the resignation of Jiří Paroubek, the leader of ČSSD at that time. ODS together with recently founded TOP 09 and VV<sup>13</sup> formed the coalition. Moreover, members of STAN and SLK were elected on the TOP 09 list to the Chamber of Deputies and members of STAN also gained the control of the Ministry of Culture. ČSSD with KSČM again remained in the opposition during this period. Surprisingly, KDU-ČSL did not reach the 5% election threshold, receiving only 4.39% of all votes. Several corruption affairs and scandals accompanied the Nečas' cabinet, including the arrest of Nečas' chief of staff and the charge of several ODS' Deputies from accepting bribes. In consequence, this led to Nečas' resignation and the fall of the government. Instead of nominating a new Prime Minister from the line of ODS, president Miloš Zeman appointed a new caretaker cabinet governed by Jiří Rusnok. However, this government did not pass through a vote of confidence and the Deputies approved the request for the dissolution, requiring early elections.

Since then, ODS's popularity had rapidly decreased, which was also reflected in the outcome of the 2013 early elections. ODS took fifth place and won only 16 seats. Although, ČSSD came in first place, their victory was narrowed to 50 seats by the success of the newly established parties. These included the political movement ANO (47 seats), which built their campaign on the criticism of corruption and previous governments, and UNK (14 seats), which focused on the straight democracy and extension of a referendum agenda. KSČM and TOP 09 maintained its position, however, with both ending up in the opposition. Members of STAN and SLK were again elected on the TOP 09 list. The major coalition, comprising of ANO, ČSSD, and KDU-ČSL, was formed and led by ČSSD' leader Bohuslav Sobotka with the new cabinet appointed in January 2014. The results of

---

<sup>12</sup> Originally, this caretaker cabinet was meant to be established temporarily until early election which should have taken place in 2009.

<sup>13</sup> In April 2012, several members of VV along with Deputy Prime Minister Karolína Peake left VV and established a new parliamentary group LIDEM (Liberal Democrats).

all three elections and a summary of the governing cabinets are presented in Table 2.1 and Table 2.2, respectively.

**Table 2.1: Results of the parliamentary elections between 2006 and 2013.**

<i>Party</i>	<i>2006</i>		<i>2010</i>		<i>2013</i>	
	Vote share	Seats	Vote share	Seats	Vote share	Seats
ANO	-	-	-	-	18.65	47
ČSSD	32.32	74	22.08	56	20.45	50
KDU-ČSL	7.22	13	4.39	-	6.78	14
KSČM	12.81	26	11.27	26	14.91	33
ODS	35.38	81	20.22	53	7.72	16
SZ	6.29	6	2.44	-	3.19	-
TOP 09	-	-	16.70	41	11.99	26
VV	-	-	10.88	24	-	-
UNK	-	-	-	-	6.88	14
Other parties	5.85	-	11.91	-	9.30	-

*Note: Parties which were at least once elected to the Chamber of Deputies are depicted.*

*Source: Author based on Czech Statistical Office (www.volby.cz)*

**Table 2.2: Summary of the governing cabinets between 2005 and 2017.**

<i>Prime Minister</i>	<i>Coalition / caretaker government</i>	<i>Members of the government</i>	<i>Period</i>
Jiří Paroubek	ČSSD, KDU-ČSL, US-DEU	12 - 3 - 3	25/04/05 – 04/09/06
Mirek Topolánek	ODS and non-partisans	15	04/09/06 – 09/01/07
Mirek Topolánek	KDU-ČSL, ODS, SZ	5 - 9 - 4	09/01/07 – 08/05/09
Jan Fischer	caretaker government	18	08/05/09 – 13/07/10
Petr Nečas	ODS, TOP 09, VV	6 - 5 - 4	13/07/10 – 10/07/13
Jiří Rusnok	caretaker government	15	10/07/13 – 29/01/14
Bohuslav Sobotka	ANO, ČSSD, KDU-ČSL	8 - 6 - 3	29/01/14 – 13/12/17

*Note: Members of the government are derived based on the composition at the time of appointment and do not reflect later changes.*

*Source: Author based on www.vlada.cz, Plecítá-Vlachová and Stegmaier (2008), Stegmaier and Vlachová (2011), Stegmaier and Linek (2014)*

## 2.3 Connections

Existing research suggests that when political connections lead to reciprocity, it is more likely in the case of connections established with politicians and parties concentrating a considerable amount of political power. This criterion should be satisfied in the scope of analysing donations and their impact on the allocation of government procurement contracts. Moreover, previously described development of the political

environment gives us an opportunity to analyse the effect with respect to different election terms and changes while transitioning to a new government.

Since the composition of parties which formed the government had changed several times across the election terms, we decide to focus on donations made to political parties which were elected to the Chamber of Deputies between 2006 and 2017 at least once. These include ANO, ČSSD, KDU-ČSL, KSČM, ODS, SZ, TOP 09, UNK, and VV. Donations made to the political party STAN are incorporated additionally as their members won several seats on the TOP 09 list in the 2010 and 2013 parliamentary elections.

The share of donations between natural and legal persons for these parties can be found in Appendix 1. It can be observed that donations made by natural persons represent quite a substantial part of all donations. As described in the first chapter, there exists a possibility that the true source of these donations might be some third entity, which is therefore hidden behind the donor. To partly include this scenario, individual donors are matched with the database containing information about board members and supervisory boards of all Czech firms, which was extracted from the Business Registry. The matching was performed by Vítězslav Titl,<sup>14</sup> who partially followed the methodology used in his study (Baranek & Titl, 2018). Donations from natural persons who had been active in at least one company at the year of the donation<sup>15</sup> are then treated as being from the matched company. Together with donations received from legal persons (as declared in the parties' annual reports), they serve as a proxy for connectedness.

The matching procedure is based on donors' full names and, if possible, additionally specified by their date of birth and city of residence. The original database of political donations contained, in almost every case, the value of the donation and the full name of the donor. However, the details about the city and mainly the date of birth were not always included. To obtain more accurate connections, the birth years of the donors were filled in by hand from the parties' annual reports, capturing donations made

---

<sup>14</sup> Vítězslav Titl is a Doctoral researcher in the field of political and educational economics at University of Leuven, Belgium. Besides, he works as fellow researcher in EconLab.

<sup>15</sup> In some cases, the donor's occupation in the company had been terminated (had commenced) long before (after) the donation had been made. These entries are excluded from the final database because it may not be suitable to assign the source of the donation to the matched company.

between 2008 and 2016<sup>16</sup>. The extension of the database can be perceived as one of the primary tasks of this thesis as it may serve for additional future research.

The reliability of matching is captured by probability. In the first case, the values of all three variables are known. Therefore, the resulting matching is perceived as the most reliable, with probability equal to 1. The second case considers observations in which the donor's name is accompanied only by the city and year of birth. Especially in relation to common Czech names, there is a possibility that two people of the same name and age live in one city. Therefore, the frequency of names is considered when calculating the probability. To include only companies of which matching we can be relatively sure about, companies with resulting probability lower than 0.5 are dropped from the analysis. The third case covers donors of whom only the name and city are known. Due to this data restriction, only donors with unusual names are considered. The probabilities of occurrence are again calculated similarly as in the second case. Matched companies with the resulting probability equal to or higher than 0.5 are included. All three cases are presented in illustrative Table 2.3.

**Table 2.3: Illustrative table for the matching procedure.**

<i>Case</i>	<i>Party</i>	<i>Full name</i>	<i>Year of birth</i>	<i>Date of birth</i>	<i>City</i>	<i>Probability</i>
1.	x	x	x	x	x	1
2.	x	x	x	-	x	0.5 -1
3.	x	x	-	-	x	0.5 -1

*Source: Author's elaboration based on the availability of data  
in the extended database of political donations*

Based on this approach, 1551 contributions whose donor appeared to be affiliated with companies in the Czech Republic are considered in the analysis. These donations are then attributed to 734 different companies as several donors contributed more than once and different donors were related to the same company.

<sup>16</sup> The original idea was to conduct analysis using only donations from the period between 2008 and 2017. Late, it turned up that the observations from 2006 and 2007 would be valuable for this research as well and were included. However, natural donors had been already matched based on the available information at the time of matching. Donations from 2017 could not be neither extended nor matched as they became available to the public later, by the end of April 2018.

A possible drawback of this approach can arise in the situation when the donor represents a member of the corresponding political party simultaneously. In this instance, a donation may represent, for example, part of their membership fee rather than an attempt to hide the real identity of the donor. Matching donors with politicians is beyond the scope of this thesis, however, it opens an opportunity for additional future research.

### 3. Data description

The purpose of this chapter is to describe data used in this thesis. Public procurement administered by Ministries and donations to selected political parties are used as the primary sources. Apart from donations made by legal persons, donations from natural persons who appeared to be affiliated with Czech companies are included. Final data sets of public procurement and donations are merged together and further accompanied by information on the number of employees and industry sections of firms, which was obtained from the EconLab's internal database. We are grateful to EconLab for providing data on political donations, public procurement and firm information.

#### 3.1 Public procurement

Data on public procurement is publicly available in the ISPC (Information System on Public Contracts), which is administrated by the Ministry of Regional Development. It has collected the information about public contracts since July 2006. Public contracts are divided by their estimated value (excluding VAT) into three categories: above-threshold, below-threshold and small-scale contracts. Under the Act No. 134/2016 Coll. on Public Procurement, which currently regulates public procurement in the Czech Republic, information about above-threshold and below-threshold contracts must be published online, with only a few exceptions. Nonetheless, the contracting authority is not obliged to publish information about small-scale contracts, i.e. contracts whose estimated value is equal to or lower than CZK 2 000 000 in the case of a public supply contract or a public service contract, or CZK 6 000 000 in the case of a public works contract. These contracts are published only on a voluntary basis and therefore the number of smaller contracts monitored by the Ministry decreases substantially.<sup>17</sup>

The data about procurement contracts administered by Ministries<sup>18</sup> is obtained from EconLab which collects entries from the ISPC database and further hand-cleans them to ensure higher reliability for research purposes. The database provided by

---

<sup>17</sup> Moreover, these thresholds were lowered to CZK 1 000 000 and CZK 3 000 000 on April 1, 2012 and were increased back to their initial level on January 1, 2014. The share of recorded procurement had been therefore influenced by these changes. Nonetheless, last thresholds are valid for most of the analysed period between 2007 and 2017.

<sup>18</sup> In fact, the database included contracts administered by Ministries and their subordinated organisations, which awarded contracts on behalf of the superordinate Ministry.

EconLab contained information about 16976 government contracts awarded between July 14, 2006 and March 30, 2018 (and about an additional 2925 cancelled contracts). For the reasons explained in the second chapter, we focus only on procurement supplied between 2007 and 2017 and corresponding 12935 contracts are selected. However, only 11840 observations contained the final price of the contract and could be added to the final database. Moreover, another hand-cleaning of the data had to be made since we found that many of these contracts were supplied by foreign firms, by Ministries themselves or the entry did not contain the identification number of a firm. We exclude the first two cases as Czech political parties are not allowed to accept any donations from these entities under the current legislation<sup>19</sup> and therefore these entries are not needed for further analysis. Observations which were not accompanied by the identification number of a firm would not be matched with donations and other data sources and could be excluded from the database as well. The final database, used mostly in the analysis, consists of 11348 contracts, which were supplied by 2061 different firms, and their total value is equal to CZK 198 billion.

Descriptive statistics of the database are presented in Appendix 2. The largest buyers are the Ministry of Defence (3070 contracts), the Ministry of the Interior (2713 contracts) and the Ministry of Agriculture (2332 contracts). These contracts comprise together more than half of all inspected procurement.

### **3.2 Political donations**

Information about the financing of Czech political parties can be obtained from the parties' annual reports. Before 2017, these were mostly available in paper form only and accessible to the public in the Parliamentary library. For this reason, EconLab has manually extracted this data every year and published this database online on the website of project PolitickeFinance.cz.<sup>20</sup> The database originally contained donations from natural and legal persons between 1995 and 2017. Starting from 2017, the reports are available online on the webpage of ÚDHPSH (see the second chapter).<sup>21</sup>

---

<sup>19</sup> See the second chapter or the Act No. 424/1991 on the Association in Political Parties and Political Movements for further details.

<sup>20</sup> Some parties publish their annual reports online at their website, however, they are not responsible for the accuracy of the information.

<sup>21</sup> The annual reports from 2017 are available online at: <https://udhpsch.cz/5290-2/>.

As mentioned before, we focus specifically on donations made to political parties which were elected to the Chamber of Deputies during the examined period. Based on the results from matching, which is described in detail in the second chapter, 1551 donations made by natural persons were assigned to 734 companies and together with 7953 donations made by 4942 legal entities<sup>22</sup> form our database of political donations. Both cash and non-cash donations are included. In case of non-cash donations, their declared estimated value is considered. The summary of this database is presented in Table 3.1.

**Table 3.1: Summary of the database of political donations.**

<i>Political party</i>	<i>Observed period</i>	<i>Number of donations</i>	<i>Sum of donations</i>	<i>Number of firms</i>	<i>Number of firms (N)</i>	<i>Average sum of donations per year</i>
ANO	2012 - 2017	1186	144 424	961	76	24 071
ČSSD	2006 - 2017	750	243 818	420	120	20 318
KDU-ČSL	2006 - 2017	931	45 633	637	77	3 803
KSČM	2006 - 2017	231	5 778	109	52	481
ODS	2006 - 2017	4953	388 575	2943	452	32 381
STAN	2010 - 2017	368	84 947	286	26	10 618
SZ	2006 - 2017	199	8 571	138	45	714
TOP 09	2009 - 2017	780	98 522	621	105	10 947
UNK	2014 - 2016	3	144	2	0	48
VV	2007 - 2013	103	35 361	71	11	5 052

*Note: The sixth column summarises only firms which were included based on the results of matching.*

*Values in the fourth and the seventh column are in CZK thousands.*

*Source: Author based on data from Business Registry, PolitickeFinance.cz*

The largest donating portfolio can be seen in the case of parties ANO, ČSSD, and ODS. Traditionally, ODS has remained as the party with the largest income from donations over its existence, which could lead to the largest number of donors which appeared to be related to some company (452). Higher monetary value in the case of ANO can be explained by the fact that during the first years of its existence its founder Andrej Babiš, current Czech Prime Minister, relied on income from donations predominantly. Interestingly, almost half of contributing entities comprise affiliated companies in the case of KSČM and thus indicate a suspicious pattern, since this party received most of

<sup>22</sup> We excluded 19 donations from the database because they were returned to their donors or they were not accompanied by the identification number and would not be match with other data sets.

their donations from natural persons (see Appendix 1). Political ideology of companies seems not to be pronounced as several firms donated to more than one party and to the left-wing and right-wing parties at the same time. The total value of donations is represented only by an approximate number, because we do not know exact values of 171 non-cash contributions. Despite this fact, we still consider these observations since we use a binary specification of connections in the analysis as well.

### 3.3 Merging the data sets

To get a first look at the allocation of government procurement, we sum the value of all contracts a firm supplied between 2007 and 2017 and the value of all donations a firm made to the inspected parties between 2006 and 2017. These values are then merged together by the identification number of the firm. Results of this merging are summarised in Table 3.2.

**Table 3.2: Merged database of political donations and public procurement.**

<i>Political party</i>	<i>Number of firms</i>	<i>Total amount donated</i>	<i>Total volume of contracts</i>	<i>Average volume of contracts per firm</i>	<i>Median</i>
ANO	39	3 048	10 147 798	260 200	66 338
ČSSD	28	2 302	6 867 075	245 253	46 646
KDU-ČSL	33	1 739	1 848 633	56 019	30 202
KSČM	7	485	412 272	58 896	50 579
ODS	153	20 563	16 539 063	108 098	15 978
STAN	6	155	2 845 209	474 201	282 702
SZ	9	80	480 874	53 430	14 685
TOP 09	31	4 621	2 094 134	67 553	15 408
VV	3	55	68 416	22 805	19 151
All parties	246	33 048	34 616 323	140 717	19 059
Neither	1815	-	163 371 618	90 012	9 522

*Note: All values are in CZK thousands, except for the second column. The row All parties presents aggregated statistics without distinction between individual parties.*

*Source: Author based on data from Business Registry, EconLab, PolitickeFinance.cz*

In total, 246 donating firms won at least one public procurement, however, one firm could donate to more than one party. Most of the winning firms contributed to ODS (154), which can be partly explained by the fact that ODS has had traditionally the largest donating portfolio. Firms which donated to UNK did not sign any government contract during the observed period and are therefore excluded from the analysis. Even though

only a few members of STAN were elected to the Chamber of Deputies on the TOP 09 list, companies which contributed to this party supplied, on average, much more valuable contracts in comparison to other contributing firms. This exceptionally high value is probably induced by the company Pražská plynárenská, a.s., which supplied, in total, 54 contracts during the examined period (the average number of supplied contracts by a firm equals approximately 6).<sup>23</sup> A higher value of supplied contracts can be seen also in case of ANO, ČSSD and ODS.

Overall, it seems that donating firms gained, on average, procurement of higher value. Nevertheless, these results represent a rather rough indicator of possible conflict of interest. The main problem is that several parties were founded later (ANO in 2011, TOP 09 in 2009) and thus they might not have been able to influence procured contracts between 2007 and 2009. We deal with similar issues and explain them in detail in the next chapter.

---

<sup>23</sup> Excluding this firm, the median value of contracts received by a firm decreases considerably to CZK 33 866 004, but still remain quite large. Pražská plynárenská, a.s. is affiliated with the donor who made a total contribution of CZK 50 000.

## 4. Effect of political donations in the Czech Republic

As mentioned in the literature review, donations to political parties can be used as a proxy for political connectedness. Existing research has also suggested that connected agents can benefit from these affiliations in various ways. One of the possible channels of rent extractions is public procurement spending. Palanský (2014) already demonstrated that there exists a positive correlation between donations to political parties and the value of regional procurement contracts. In this thesis, however, public procurement administered by Ministries is used with the aim to focus on the main executive body in the country. Donations to political parties whose members were at least for one term elected to the Chamber of Deputies are used. These donations are not distinguished between parties in the majority of models. Contributing firms could be more politically active and therefore influence the outcomes of public procurement using different sources of connections, for instance, formal or informal relations (Palanský, 2014). Where possible, we differentiate between donations given to the governing and opposing parties.

The purpose of this section is to evaluate whether political donations, used as a proxy for political connectedness, induce favouritism in terms of receiving government contracts of higher value. We attempt to assess the effect from three perspectives. In the first section, variables which change over time are summed, and the cross-sectional analysis is employed. Only political parties with the largest representation in the government are examined. In the second section, similar methodology is used and extended to all parties, and the effect is measured for each election term separately. The specification in the first two sections enables us to measure only the correlation of the relationship. An important concern of this methodology is the possible endogeneity of donations. That is the notion that more successful firms are more likely to donate money than worse-performing firms, which may lead to self-selection into treatment and thus to the self-selection bias. We try to solve this problem by focusing on donating companies in the third section, using a novel panel-based approach. More specifically, the structure of the data is artificially transformed to a three-period panel specification, allowing to assess the impact for all election periods together, with the aim to establish a causal relationship between political connections and public procurement auction performance. This approach can be considered as an extension to the existing studies.

The methodology used in this analysis partially proceeds from the research of Goldman et al. (2013) and Palanský (2014). Accordingly, following hypotheses are formulated and further analysed in this thesis:

*Hypothesis 1. Using donations as a proxy for political connectedness, connected firms supply, on average, public procurement of higher value than non-connected firms.*

*Hypothesis 2. Firms which contribute more to political parties, supply, on average, public procurement of higher value.*

*Hypothesis 3. Using donations as a proxy for political connectedness, connected firms supply, on average, public procurement of higher value during the period when they are connected.*

In each of this section, the methodological approaches and rationales behind them are explained, and a detailed data description connected to each specification is included. Finally, the results are presented and followed by a discussion.

#### **4.1 Reduced form analysis**

We commence the analysis by solely focusing on the most powerful parties in terms of controlled Ministries and representation in the government. As demonstrated in the second chapter, this is the case of ČSSD, KDU-ČSL, and ODS during the examined period. Moreover, members of these parties formed the government in the past and thus could have established connections among Ministries' officials. The restriction is also motivated by the fact that some of the parties were founded after the parliamentary election in 2006 (ANO, TOP 09) or were elected to the Chamber of Deputies for the first time later (members of STAN, ANO, TOP 09, VV). Their exclusion enables us to focus on parties which had been in power for a longer period and might have been in a position to influence the outcomes of procurement. Even though members of KDU-ČSL were not elected to the Chamber of Deputies in the 2010 parliamentary election, they controlled a significant number of Ministries before and after this period. Another advantage of this restriction is that we can analyse the whole period between 2007 and 2017 and thus assess

the effect from a longer perspective. Accordingly, first two hypotheses are analysed in this section.

#### 4.1.1 Data and methodology

Donations made between 2006 and 2017 are summed and the total amount donated is used. There are several reasons for this step. Firstly, donations may be repaid in different years. It takes some time to award a public contract and the firm could agree to contribute before the contract was going to be signed or after that. Secondly, the value of all procurement contracts a firm received between 2007 and 2017 is also aggregated and used as a single observation. This process can help to reduce the impact of outliers in specific years (Goldman et al., 2013) and among individual Ministries. The resulting database has the nature of cross-sectional data and the linear regression can be applied. This database is summarised in Table 4.1, which is partially extracted from the merged database depicted in the previous chapter.

**Table 4.1: Summary of the database for the reduced form analysis.**

<i>Political party</i>	<i>Number of firms</i>	<i>Total amount donated</i>	<i>Total volume of contracts</i>	<i>Average volume of contracts per firm</i>	<i>Median</i>
ČSSD	28	2 302	6 867 075	245 253	46 646
KDU-ČSL	33	1 739	1 848 633	56 019	30 202
ODS	153	20 563	16 539 063	108 098	15 978
Total	184	24 604	22 609 185	122 876	18 590
Neither	1877	-	175 378 755	93 436	9 800

*Note: Values are in CZK thousands, except for the second column. Values in the row*

*Total represents the outcomes without distinction between individual parties.*

*Source: Author based on data from Business Registry, EconLab, PolitickeFinance.cz*

A total of 2061 different firms received at least one government contract during this period. Out of these firms, 184 donated to one of examined parties at the minimum, or their top official contributed, and they are thus considered as connected. Interestingly, 2 firms are connected to all three parties and 26 firms are connected to exactly two of these parties. Please note an exceptionally high average volume of contracts per firm in the case of ČSSD, in comparison to ODS and KDU-ČSL. This is induced by the following companies – Metrostav, a.s. and ŠKODA AUTO, a.s., which supplied much more

contracts in comparison to other firms.<sup>24</sup> Again, it appears that connected firms signed, on average, government contracts of higher value. Unfortunately, the database had to be further reduced due to the unavailability of data on the number of employees and industry section by 212 firms. Out of these, 8 were connected firms. Using the remaining 1849 observations, the following empirical specifications are constructed:

$$\begin{aligned} \log(VPP) = \beta_0 + \beta_1 Con + \beta_2 Size2 + \beta_3 Size3 + \beta_4 Size4 + \\ + \beta_5 Size5 + \beta_6 NACE + \mu, \end{aligned} \quad (4.1)$$

$$\begin{aligned} \log(VPP) = \beta_0 + \beta_1 \log(Don) + \beta_2 Size2 + \beta_3 Size3 + \beta_4 Size4 + \\ + \beta_5 Size5 + \beta_6 NACE + \mu, \end{aligned} \quad (4.2)$$

where  $VPP$  represents the total volume of government contracts a firm supplied between 2007 and 2017 and  $\log(VPP)$  is its logarithm. The explanatory variable  $Con$  is a dummy variable which is equal to 1 in case that a firm is connected to at least one of the examined parties between 2006 and 2017, and 0 otherwise. Furthermore, the variable  $Don$  represents the total amount donated by a firm during this period and  $\log(Don)$  is its logarithm. As opposed to the binary specification, including the real value of contribution has the advantage of measuring the economic importance of connection. Moreover, a firm fixed effect is controlled for. Following Baltrunaite (2016) and Palanský (2014), we use information about the number of employees as a proxy variable for the size of the firm. 5 dummy variables are constructed, out of which 4 are included in the model, in order to avoid the dummy variable trap.<sup>25</sup> The variable  $Size1$  represents the smallest firms in the data, conversely, the variable  $Size5$  stands for the largest firms. We hypothesise that larger firms supplied contracts of higher volume since smaller firms are not likely to fulfil all of the requirements of complex and larger procurement. Therefore, it is necessary to distinguish these firms from each other.  $NACE$  is a matrix constructed from industry binary variables which sort firms into their industry section based on NACE 2-digit code. We follow Baltrunaite (2016) and Goldman et al. (2009) by including industry dummies.

---

<sup>24</sup> When excluding these two firms, the average volume of contracts supplied by a firm decreases to CZK 108 090 000. Metrostav, a.s. donated CZK 50 000 to ČSSD in 2009 and ŠKODA AUTO, a.s. is classified as connected through a board member with a contribution of CZK 30 000 made in 2010.

<sup>25</sup> Data on the number of employees was obtained in intervals. Therefore, a continuous variable, capturing the size of the firm, could not be constructed.

The summary of all constructed variables can be found in Appendix 3. The models were estimated using the OLS method with robust standard errors, as the White test suggested the presence of heteroskedasticity.

The possible drawback of the specified model is that we do not control for other variables which may have an impact on the value of contracts. These cover, for instance, the age, cost-efficiency or revenues of the firm. As mentioned before, our results might be influenced by the self-selection bias.<sup>26</sup>

#### 4.1.2 Results

The results of the regressions are presented in panels (1) and (2) of Appendix 4. The estimated coefficient on *Con* is positive (0.198), as expected by the hypothesis, however, it is not significant even at the 10% level. On the other hand, the results from Model 4.2 show that a 1% increase in the donated amount is associated with a 0.026% increase in the value of supplied contract, with the estimated coefficient significant at the 10% level. This result indicates that using binary specification may not be a suitable simplification and that the economic value of connection indeed matters, similarly as in the findings of Palanský (2018).

In both regressions, all coefficients on the size dummies are positive and significant at the 1% level. The estimated coefficients on sizes expand with the increasing size of firms, meaning that larger firms supplied, on average, contracts of higher value than smaller firms. These results are consistent with the findings of Palanský (2014) and confirmed our previous hypothesis, i.e. smaller firms probably could not meet all criteria of larger procurement.

We performed several robustness checks in order to verify that these findings are not biased by extreme values. We defined several thresholds of price and trimmed the fixed number of observations repeatedly. These thresholds were derived based on graphical representation. Secondly, we also trimmed the 1<sup>st</sup> and the 99<sup>th</sup> percentile values. The estimation of models was therefore replicated using reduced samples. The results of the second trimming can be found in panels (3) and (4) of Appendix 4, since it slightly modified our previous findings. The coefficient on  $\log(Don)$  decreases to 0.021 and is no longer significant, although being close to significant at the 10% level. This shift suggests

---

<sup>26</sup> We are aware of these limitations and we discuss them further in the final section, where we also suggest possible approaches for future research.

that our previous findings were probably driven by the presence of outliers. The situation is similar for the estimates on sizes. They mostly decrease in magnitude, however, the increasing trend endures, and all coefficients remain significant at the 1% level.

Based on these results, simply the fact that a firm contributed to one of the most powerful parties (ČSSD, KDU-ČSL, and ODS from longer perspective) does not connect them with preferential treatment in the allocation of procurement administered by Ministries. The composition of the examined parties is similar as in the analysis of Palanský (2014) who focused on contributions to ČSSD and ODS. His findings however showed that donations to these parties pay off very well on the market of regional procurement. First possible explanation can be that it might be easier for politicians to award a contract to a selected firm at the regional than at the governmental level because of less stringent regulatory and lower media interest (Špolc, 2017). Secondly, reducing our sample to only three parties might be overly simplifying. Other political parties stood in the Chamber of Deputies and may also have an influence on the distribution of public procurement. This lead us to the inclusion of donations made to other political parties and further extension of the analysis, which is presented in the next section.

#### ***4.2 Political parties in power***

Similar cross-sectional analysis is conducted in this section, however, all political parties which were elected at least once to the Chamber of Deputies are considered. The political composition had been changing across the election terms between 2007 and 2017, new parties gained control of the Ministries, and conversely, some of parties lost their power. This specification therefore allows to examine connections in respective terms and to control for parties which came to power recently. As mentioned before, one aggregated model may not be suitable in this case. Instead of that, we focus on each election term separately and we attempt to measure the impact from the short-run perspective. Nevertheless, this approach still has few limitations. It is hard to say when exactly the boundary between two election terms should be set. The process of awarding contract takes some time and if connections played some part in the allocation of procurement, then it might be relatively long before the final contract was signed. Moreover, the initial idea was to measure the impact of donations for the parties which

formed the government and opposition separately.<sup>27</sup> In such case, caretaker governments should be considered as well.

Therefore, we separate the election terms as follows. For the election term after the 2006 parliamentary election, the period between 2007 and 2009 is considered; for the term after the 2010 parliamentary election, the period between 2011 and 2013 is considered; and for the term after the 2013 parliamentary election, the period between 2014 and 2017 is considered. The year 2010 is excluded as the election took place in May and the caretaker government led by Jan Fischer had been in power until July, when Nečas' cabinet was formed. We refer to these terms as the first, second and third period hereinafter.

The methodology introduced in the previous section is partially followed. Specifically, the value of procurement contracts and donations is aggregated in each period and the total amount is used. For the first period, this means that the value of procurement contracts a firm supplied between 2007 and 2009 is summarised and used as a single observation. Donations made during this period are included as well as donations from the year which precedes and follows the period. These donations are incorporated to capture the situation that the firm may have agreed to contribute before (after) the contract was going to be awarded, similarly as in the reduced form specification. Therefore, donations made between 2006 and 2010 are considered in the case of the first period. This process is replicated for the second and third period. Companies which contributed to at least one of the inspected parties (including the person affiliated with any company) and supplied any contract during the examined period are classified as connected. This applies to all three periods. Hypothesis 1 and 2 are analysed in this section. A detailed data description together with the methodology are presented separately for each period, and the results are presented jointly in one subchapter.

#### **4.2.1 Data and methodology – the first period**

As described in the second chapter, ČSSD, KDU-ČSL, KSČM, ODS, and SZ are the parties which exceeded the 5% election threshold in the 2006 election. Therefore, donations made between 2006 and 2010 to these parties only are considered and form the final database for this period. In total, 3101 contracts were awarded to 954 different firms between 2007 and 2009. As can be seen in Table 4.2, the number of connected firms

---

<sup>27</sup> Later, it transpired that this specification is suitable for one period only.

decreases as a shorter period is used. In overall, 78 firms are identified as connected to the parties which formed the government (KDU-ČSL, ODS and SZ), conversely, only 11 firms are connected to the parties sitting in the opposition (ČSSD, KSČM). Interestingly, 5 firms are connected to the governing and opposing parties at the same time. Due to this disproportion, we focus on the overall effect of connections without distinction between the governing and opposing parties. Therefore, donations made by these firms are matched between those two groups, resulting in 84 connected firms.

**Table 4.2: Summary of the database for the first period.**

<i>Political party</i>	<i>Number of firms</i>	<i>Total amount donated</i>
Government		
KDU-ČSL	15	747
ODS	67	9248
SZ	2	30
Total	78	10025
Opposition		
ČSSD	11	1488
KSČM	1	20
Total	11	1508
G + O	84	11533
Neither	870	-

*Note: Values in the third column are in CZK thousands. Values in the row Total and G+O represents the outcomes without distinction between individual parties.*

*Source: Author based on data from Business Registry, EconLab, PolitickeFinance.cz*

However, further hand-cleaning of the database had to be made and several observations were removed due to the unavailability of data on size and industry. 825 observations are used in the analysis – 79 connected and 746 non-connected firms. Controlling for the size and industry of firms, the following equations are specified:

$$\begin{aligned} \log(VPP\_1) = & \beta_0 + \beta_1 Con\_1 + \beta_2 Size2 + \beta_3 Size3 + \beta_4 Size4 + \\ & + \beta_5 Size5 + \beta_6 NACE + \mu, \end{aligned} \quad (4.3)$$

$$\begin{aligned} \log(VPP\_1) = & \beta_0 + \beta_1 \log(Don\_1) + \beta_2 Size2 + \beta_3 Size3 + \beta_4 Size4 + \\ & + \beta_5 Size5 + \beta_6 NACE + \mu, \end{aligned} \quad (4.4)$$

where  $VPP\_1$  is the total value of procurement contracts a firm supplied between 2007 and 2009 and  $\log(VPP\_1)$  is its logarithm. The explanatory variable  $Con\_1$  is equal to 1 in case that a firm is connected to at least one of the examined parties, and 0 otherwise. Furthermore, the variable  $Don\_1$  represents the total amount donated between 2006 and 2010 to these parties and  $\log(Don\_1)$  its logarithm. The rest of the variables are the same as in the equations 4.1 and 4.2. We used standard OLS method for the estimation of Models 4.3 and 4.4 with robust standard errors (the null hypothesis of homoskedasticity was rejected in the Breusch-Pagan test).

#### 4.2.2 Data and methodology – the second period

In this setting, donations to ČSSD, KSČM, ODS, STAN<sup>28</sup>, and TOP09 made between 2010 and 2014 are used as members of these parties were elected to the Chamber of Deputies in 2010.<sup>29</sup> A detailed summary is presented in Table 4.3.

**Table 4.3: Summary of the database for the second period.**

<i>Political party</i>	<i>Number of firms</i>	<i>Total amount donated</i>
Government		
ODS	35	4483
STAN	2	27
TOP 09	12	1250
Total	45	5760
Opposition		
ČSSD	8	529
KSČM	3	178
Total	9	707
G + O	51	6467
Neither	785	-

*Note: Values in the third column are in CZK thousands. Values in the row Total and G+O represents the outcomes without distinction between individual parties.*

*Source: Author based on data from Business Registry, EconLab, PolitickeFinance.cz*

<sup>28</sup> Since members of STAN were elected on the TOP 09 list and some of its members stood in the government together with members of TOP 09, we treat this party as being part of the government (conversely for the next period).

<sup>29</sup> Donations to VV were included as well, however, none of its contributors had won any government contracts during this period and thus they could be omitted from the final database.

51 contributing companies are identified as connected because they supplied at least one government contract between 2011 and 2013. Again, several firms are connected to more than one party and interestingly, 3 of these firms are connected to both the governing and opposing parties at the same time. Most firms remain connected to ODS (35). Surprisingly, 12 firms appeared to be connected to TOP 09, which is relatively a huge number since this party came into power in 2010. However, we must take into account that these numbers rely on our definition of connection and the division of respective periods. As the huge disproportion of firms connected to the governing (45) and opposing parties (9) did not change, we analyse the effect of donations without distinction between these two groups, using 51 connected and 785 non-connected firms. 2632 different contracts were awarded to these companies.

From an overall of 836 observations, 1 connected and 57 non-connected firms had to be dropped from the analysis due to data unavailability for the rest of variables. Following the methodology introduced in the previous section, corresponding equations are constructed and then estimated:

$$\begin{aligned} \log(VPP\_2) = \beta_0 + \beta_1 Con\_2 + \beta_2 Size2 + \beta_3 Size3 + \beta_4 Size4 + \\ + \beta_5 Size5 + \beta_6 NACE + \mu \end{aligned} \quad (4.5)$$

$$\begin{aligned} \log(VPP\_2) = \beta_0 + \beta_1 \log(Don\_2) + \beta_2 Size2 + \beta_3 Size3 + \beta_4 Size4 + \\ + \beta_5 Size5 + \beta_6 NACE + \mu, \end{aligned} \quad (4.6)$$

where  $\log(VPP\_2)$  is the predicted variable, representing the logarithm of total value of contracts a firm supplied between 2011 and 2013. The variable  $Con\_2$  is equal to 1 in case that a firm is connected to at least one of the examined parties, and 0 otherwise. Furthermore,  $\log(Don\_2)$  is the logarithm of the total amount donated to these parties between 2010 and 2014. The rest of predictor variables remain unchanged. The OLS method accompanied by robust-standard errors (the White test suggested the presence of heteroskedasticity) was used for the estimation of Models 4.5 and 4.6.

### 4.2.3 Data and methodology – the third period

In the last period, donations to ANO, ČSSD, KDU-ČSL, KSČM, ODS, STAN, and TOP 09 made between 2013 and 2017 are used. 66 contributing firms are classified

as connected since they won at least one government contract between 2014 and 2017. A summary of the database constructed for the third period is presented in Table 4.4.

**Table 4.4: Summary of the database for the third period.**

<i>Political party</i>	<i>Number of firms</i>	<i>Total amount donated</i>
Government		
ANO	30	2503
ČSSD	6	60
KDU-ČSL	2	65
Total	37	2628
Opposition		
KSČM	2	214
ODS	19	1259
STAN	4	70
TOP 09	11	799
Total	34	2342
G + O	66	4970
Neither	954	-

*Note: Values in the third column are in CZK thousands. Values in the row Total and G+O represents the outcomes without distinction between individual parties.*

*Source: Author based on data from Business Registry, EconLab, PolitickeFinance.cz*

Two important patterns can be observed. Firstly, 30 firms are connected to the second leading party ANO, which was not founded until 2011 and came to power in 2014. Secondly, the number of firms connected to ODS dropped to 19. Furthermore, 37 firms are connected to the governing parties, and conversely, 34 firms are connected to the opposing parties. Out of these, 5 donated to the governing and opposing parties at the same time. The database had to be further reduced due to the unavailability of data for fixed effect controls. Specifically, we remain with 36 firms connected to the governing parties, 33 firms connected to the opposing parties, and 907 firms which are not connected in any way. As the number of connected firms to the governing and opposing parties is relatively similar, we compare the effect of donations made to these two groups of parties separately. Unfortunately, we do not know the exact values of non-cash donations in the case of 4 companies connected to the governing parties, as they were not declared in the parties' annual reports. Therefore, these observations are excluded from the second

equation, analysing the actual value of connections. Proceeding with the methodology from the previous sections, the following equations are specified:

$$\begin{aligned} \log(VPP\_3) = & \beta_0 + \beta_1 Con\_G + \beta_2 Con\_O + \beta_3 Size2 + \\ & + \beta_4 Size3 + \beta_5 Size4 + \beta_6 Size5 + \beta_7 NACE + \mu, \end{aligned} \quad (4.7)$$

$$\begin{aligned} \log(VPP\_3) = & \beta_0 + \beta_1 \log(Don\_G) + \beta_2 \log(Don\_O) + \beta_3 Size2 + \\ & + \beta_4 Size3 + \beta_5 Size4 + \beta_6 Size5 + \beta_7 NACE + \mu, \end{aligned} \quad (4.8)$$

where  $VPP\_3$  is the dependent variable representing the total value of procurement contracts a firm supplied between 2014 and 2017 and accordingly  $\log(VPP\_3)$  is its logarithm. The independent variable  $Con\_G$  is a dummy variable, taking value of 1 in case that a firm is connected to at least one of the parties which formed the government during this period, and 0 otherwise. Similarly, the variable  $Con\_O$  is a dummy variable, which is equal to 1 in the case that a firm is classified as connected to any political party which formed the opposition, and 0 otherwise. Accordingly, variables  $\log(Don\_G)$  and  $\log(Don\_O)$  represent the logarithm of the total amount donated by a firm to the governing and opposing parties during this period, respectively. The controls for the size and the industry of the firm are the same as in the preceding models. These models were again estimated using the OLS method and accompanied by robust standard errors (the Breusch-Pagan test suggested the presence of heteroskedasticity).

#### 4.2.4 Results – all examined periods

The results of the Models 4.3. and 4.4. are presented in first two panels of Appendix 5. Neither the coefficient on  $Con\_I$  nor the coefficient on  $\log(Don\_I)$  are statistically significant. Interestingly, estimated coefficient on  $Con\_I$  is negative, which was not expected by our hypothesis. Nonetheless, this coefficient is far from being significant even at the 10% level. The insignificance of these coefficients was expected in part, as the composition of examined parties remains almost the same as in the reduced form analysis. As in the previous section, we trimmed the fixed number of observations, and the 1<sup>st</sup> and the 99<sup>th</sup> percentile values in order to find out whether these results might be driven by the presence of extreme values. One of the robustness checks (trimming the 1<sup>st</sup> and the 99<sup>th</sup> percentile values) is also presented in Appendix 5, since it emerged that outliers distorted our results in a certain way. The effect of donations remains

insignificant in both models. However, the coefficient on  $\log(Don\_1)$  appeared to be also negative, when excluding outlying observations. Furthermore, almost all coefficients on size decrease in a magnitude substantially, which suggest that they were probably influenced by the presence of extreme values. Based on these results, it seems that donations to ČSSD, KSČM, KDU-ČSL, ODS, and SZ are not associated with any favouritism towards connected companies during the first election period.

On the other hand, it appears that donations to the parties which stood in the Chamber of Deputies during the second period (ČSSD, KSČM, ODS, TOP 09, and members of STAN) might have induced preferential treatment towards these contributing firms. The coefficient on  $Con\_2$  is positive (0.420) and significant at the 10% level. Following Wooldridge (2012) and computing the exact percentage difference, we estimate that connected firms supplied, on average, contracts of 52.2% higher value than non-connected firms. Similar results apply for the actual value of donations. A 1% increase in the donated amount is associated with a 0.041% increase in the value of signed contracts. However, this result is again significant only at the 10% level. These findings should not be influenced by unusually small (high) values in our sample (they withstood our robustness checks). The results from Models 4.5 and 4.6 are summarised in Appendix 6.

As explained before, we focus on the effect of donations made to the governing and opposing parties separately in the third period. The results from the estimation of the corresponding Models 4.7 and 4.8 are presented in Appendix 7. They suggest that donations made to the governing parties pay off very well. The exact percentage difference yields a coefficient of 0.837, i.e. firms which are connected to ANO, ČSSD or KDU-ČSL, supplied, on average, government procurement contracts worth 83.7% more than firms which donated only to the opposing parties or did not donate at all (during the third election period). This unusually high estimate can be explained by the fact that donations are not probably the only channel through which companies can become politically connected. There exist other possible ways, such as personal affiliations, lobbying, employing former government officials, and others. As showed by Akey (2015), firms can coordinate political actions together and these might be even substitutable for each other. Positive effect is also observed for the actual value of donations. In fact, a 1% increase in donations is connected with a 0.066% increase in the value of signed contracts. Both estimated coefficients are significant only at the 10% level. On the other hand, the insignificant coefficient on  $Con\_0$  indicates that donations

to the opposing parties (KSČM, ODS, TOP 09, and members of STAN) are not reflected in values of received contracts during this period. A similar conclusion applies to the actual value of donations, the estimate on  $\log(Don\_O)$  is also insignificant. Both estimates are however positive. These results did not appear to be driven by the presence of outliers and withstood both robustness checks. Comparing findings for the second and third period, it seems that connections with governing parties played an important part in the awarding process. Some of the politicians who were part in the government during the second period stood in the opposition during the third period (ODS, TOP 09, members of STAN). This means that these politicians might have greater opportunities and conditions to influence the outcomes of public procurement.

Except for the coefficients on *Size2*, the estimated coefficients on sizes remain significant at the 1% level. The magnitude of these coefficients changes across the specifications. Nonetheless, they mostly expand with the increasing size of firms, suggesting that larger firms supplied, on average, contracts of higher value, which confirms our previous findings.

We find that firms' donations to the political parties in power are linked to a higher total value of government contracts during the second and third election period. However, considering all models, we must keep in mind that our specification allows to measure only the correlation and the outcomes rest on our division of election terms. Secondly, our results are not robust to possible self-selection bias, since we focus more on the actual level of connectedness (donations from natural persons). Thirdly, it is also important to note that we do not reveal any cases of corruption. The findings only show, that public procurement administered by Ministries might serve as a channel of possible rent extraction, provided that donations can be used as a measure of connectedness.

### **4.3 Pooled Model**

We have examined the effect of connections using donations to selected parties or respective periods separately so far. Since it transpired that several firms supplied contracts in more than one period, we decide to investigate the effect using donating firms only and we attempt to evaluate whether these firms received contracts of higher value during the period of their provided support. Therefore, the data is artificially transformed into the panel specification. Furthermore, this setting may help us to solve the self-

selection bias problem partly (see the discussion before) as only contributing firms are used. Accordingly, the third hypothesis is analysed in this section.

### 4.3.1 Data and methodology

The division of the examined periods remains unchanged. Specifically, we have three periods representing three election terms. These periods serve as individual time periods for each panel. Again, the total value of contracts a firm supplied during the period is used. Three entries are needed for each firm. Therefore, 0 is completed in the case that a firm did not supply any contract in the specific period. Moreover, we divide the total value by the sum of all awarded contracts by Ministries (of which the price is known) in each period to account for a different volume of procurement awarded in the individual periods. Resulting numbers range between 0 and 0.0423, allowing to measure the effect only in real terms. Furthermore, we sum all donations a company made to the parties which were present in the Chamber of Deputies in the corresponding period. As opposed to the previous sections, we do not include donations made in the year which precedes and follows the period. This restriction enables to focus more on the causality of the relationship, i.e. changes between individual periods with transition to different political party representation. Since three entries are needed for each firm, 0 is filled in the case that a company did not contribute during the period. This scheme is summarised in Table 4.5.

**Table 4.5: Illustrative table for pooled model.**

<i>Period (T)</i>	<i>Years (t)</i>	<i>VPP<sub>-P<sub>iT</sub></sub></i>	<i>Examined parties</i>
1	2007-2009	$VPP_{-P_{i1}} = \frac{\sum_t VPP_{it}}{\sum_t VPP_t}$	ČSSD, KDU-ČSL, KSČM, ODS, SZ
2	2011-2013	$VPP_{-P_{i2}} = \frac{\sum_t VPP_{it}}{\sum_t VPP_t}$	ČSSD, KSČM, ODS, STAN, TOP 09, VV
3	2014-2017	$VPP_{-P_{i3}} = \frac{\sum_t VPP_{it}}{\sum_t VPP_t}$	ANO, ČSSD, KDU-ČSL, KSČM, ODS, STAN, TOP 09

*Source: Author's elaboration*

We merge these constructed panels together and we extend the definition of connections as follows. Firms which supplied at least one procurement contract in any of the periods and donated to at least one of the examined parties in any of the periods are classified as connected in the corresponding period. For example, a company which

donated in the third period and supplied a contract during the first period is considered as connected in the third period, but not in the preceding two periods. The total amount donated is then transformed into the binary specification, meaning contributing and non-contributing firms. Using this approach, 136 companies are identified as connected in one period, 33 companies in two periods and 7 companies in all three periods. Moreover, companies are connected to the governing and opposing parties in 177 and 58 cases, respectively. This disproportion is in accordance with previous findings and again probably induced by donations made to ODS, since 106 firms are connected to this party. Out of these, 90 firms donated to ODS in the period in which this party stood in the government. Donations are not distinguished neither between individual parties nor between governing and opposing parties, as we attempt to analyse changes across election periods.

In total, 176 companies are determined as connected, and therefore, 528 observations form the final database. Out of these, 100 firms supplied contracts only in one period, 53 firms in two periods and 23 firms in all periods. Moreover, most firms (121) are connected in the period during which they signed the contract. The specified model looks as follows:

$$\begin{aligned}
 VPP\_P_{iT} = & \beta_0 + \beta_1 Con\_P_{iT} + \beta_2 Size3_i + \beta_3 Size4_i + \\
 & + \beta_4 Size5_i + \beta_5 NACE_i + \varepsilon_{iT} ,
 \end{aligned}
 \tag{4.9}$$

where  $VPP\_P_{iT}$  is the total value of procurement a firm  $i$  supplied during the period  $T$  divided by the total value of procurement awarded by Ministries in the period  $T$ .  $Con\_P_{iT}$  is a binary variable which takes the value of 1 in the case that a firm  $i$  is connected in the period  $T$ , and 0 otherwise. Moreover, due to the considerable reduction in the sample size, we merge the variables  $Size1$  and  $Size2$  from the previous models and new variable  $Size12_i$  is constructed but is not included in the model (to avoid the dummy variable trap). The rest of the explanatory variables remains unchanged, and  $\varepsilon_{iT}$  is the error term.

We use the OLS method to estimate the pooled Model 4.9. The null hypothesis of homoskedasticity was rejected by the White test, which is the reason why we employed robust standard errors. We depart from the fixed effects models since we have a possibility to control for the fixed effect of the firm partially by size and industry and the variables are aggregated for several years and do not represent outcomes in individual

years. Moreover, the variable of interest  $Con\_P_{it}$  is a dummy variable and therefore the fixed effect model may not be suitable as the variation changes at most by 1. Furthermore, we do not have any different time-varying variables at disposal and thus we would be forced to run the regression only with the interest variable. The possible drawback of the model is that other variables which may potentially influence the value of procurement contracts are not controlled for, similarly as in the previous sections. Secondly, the efficiency of the OLS estimation relies on several assumptions which are not realistic in this setting. In addition, we were forced to reduce our sample by an additional 7 firms (21 entries) because we did not have information about their size and industry.

Since donations from 2006 and 2010 are completely excluded and lead to the loss of many observations, we re-estimate the equation with donations made in the year which precedes and follows the period (similarly as in the previous sections). Nevertheless, the results of this estimation did not change significantly and therefore we further present only the findings from the first specification.

### 4.3.2 Results

The results of the estimation can be found in Appendix 8. The insignificant coefficient on  $Con\_P$  suggests that the fact that a firm is connected to any of the elected parties did not lead to an increase in the share of supplied procurement, when controlling for the size and industry of firms. However, as expected by the hypothesis, the coefficient is positive.

In comparison with the previous models, not all the estimated coefficients on sizes remain significant, which may be partly explained by the considerable reduction of our sample. Only the coefficient on  $Size5$  is significant at the 1% level. Therefore, even among donating firms, larger firms received a considerable portion of contracts of higher value, in comparison to smaller firms.

In the second panel of Appendix 8, we present results for the estimation without the inclusion of two extreme values (6 removed entries), since they lie outside the interval of 3 standard deviations around the mean and slightly influence the previous estimates. The effect of connections did not change significantly, however, the coefficient on  $Size3$  appeared to be significant at the 5% level, suggesting that our previous estimates were

biased by these extreme values. The excessive weight given to the excluded observations can be seen in the subsequent increase in the explanatory power of model.

Even though, a considerable impact of donations was found for the second and third period, suggesting suspicious behaviour of the government at that time, this effect diminishes when we consider changes across all elections periods. Using the third setting, we can reject the hypothesis that contributions caused the volume of supplied government procurement contracts to rise, which is in accordance with the conclusions of Palanský (2018) and Špolc (2017). Nonetheless, our results rely on the division of respective periods.

It is also possible that wider and changeable political representation had a plausible effect on the value of procurement contracts, as emphasised by Palguta (2016a), and politicians had therefore less opportunities to influence these outcomes. Secondly, as mentioned in the first section, it can be less possible to award favourable contracts to selected firms at the governmental level due to augmented public control. This points to its benefits but also to the fact that political donations can be widely utilised at other different levels of public administration (Palanský, 2014, 2018; Titl & Geys, 2017) or through different channels such as subsidy allocation (Špolc, 2017).

## Conclusion

Using political donations as a measure of connectedness, this thesis attempts to evaluate whether connected firms supply public procurement of higher value. The motivation behind this idea resides in previous empirical evidence demonstrating that political connections may bring added value to firms, which can be gained through procurement auctions. Contributions provided between 2006 and 2017 are used along with public procurement administered by Ministries between 2007 and 2017. Firms are identified as connected through donations made to the political parties which were elected to the Chamber of Deputies during this period. Besides donations from legal entities, donations made by natural persons are considered, matched with officials of Czech companies and further treated as if donated by the affiliated company. This novel approach allows to include donors whose identity might be hidden deliberately. The effect of donations is examined from three perspectives.

Our first two hypotheses assume that connected companies supply, on average, government contracts of higher value and that more generous contributions secure contracts of higher volume. Firstly, we concentrate on donations made to the most powerful parties (ČSSD, KDU-ČSL, ODS), which controlled a significant number of Ministries. The results however suggest that donations to these parties are not reflected in the value of obtained contracts, when controlling for the size and industry of firms. Findings also show that larger firms received more valuable contracts, as expected, since smaller firms are less likely to fulfil criteria of larger and more complex procurement.

Nonetheless, the political representation has changed several times across the election periods which further lead to the extension of the analysis to other elected parties. The whole examined period is accordingly divided into three election terms and the impact is measured for each period separately, using donations to political parties which were in power during the corresponding period. While an insignificant effect is estimated for the first election term (period between 2007 and 2009), the findings for the following election terms indicate that donations, especially to the governing parties, pay off very well. Moreover, a 1% increase in donations is associated with a 0.041% increase in the value of supplied contracts during the second election term (period between 2011 and 2013). In the third term (period between 2014 and 2017), we focus on donations to the governing and opposing parties individually. We find that a 1% increase in the amount of donation to the governing parties is connected to a 0.066% increase in the value of signed

contracts. On the other hand, contributions made to the parties which stood in the opposition during this period are not reflected in values of public procurement in any way. Again, the value of supplied contracts rises with the increasing size of firms during all election periods. The limitation of applied methodology resides in non-causal interpretation and results are not robust to potential self-selection bias. In future research, this problem could be overcome by collecting data on entities other than political parties (NGOs, charities) which would enable to draw a comparison between these two groups.

Since several companies supplied contracts in more than one period, we also analyse the effect of donations made to political parties in power across all election periods, which allows to interpret the results in a more causal way. Only donating companies are included and therefore the problem of self-selection into treatment is partly solved. According to these results, donations did not cause an increase in the volume of obtained government contracts, when assessing the changes with transition to different political composition. Possible explanation for this finding can be that it is more difficult for politicians to influence the outcomes of procurement at the governmental level due to more thorough control and augmented media attention.

We consider the contribution of this thesis as threefold. Firstly, we explore the effect of donations on the allocation of procurement administered by Ministries, which has not been analysed yet. Secondly, we extend the existing research by including donations made by natural persons. Thirdly, we develop a novel panel-based approach in an attempt to get as close to causal inference as possible given the available data. Considering the results reached in this thesis, it seems that donations are linked to higher prices of government procurement in some election periods, which points to the importance of making public spending more transparent. However, based on our other findings, we cannot claim that donations cause an increase in the volume of supplied procurement.

Donations might not represent the only channel through which companies seek advantage on the market of government procurement. Potential areas for future studies include examining other types of linkages, such as personal connections between electoral candidates and companies' officials, and different channels which may serve as a proxy for political connectedness. Moreover, it is also possible that companies make use of their connections on procurement auctions at a different level of public administration, which was indeed confirmed by previous studies. Another possible direction of future research could extend the analysis of connections to procurement awarded by local municipalities.

## Bibliography

- Act No. 424/1991 Coll. on the Association in Political Parties and Political Movements, as amended. Retrieved from <https://www.zakonyprolidi.cz/cs/1991-424>.
- Act No. 1/1993 Coll., The Constitution of the Czech Republic, as amended. Retrieved from <http://www.psp.cz/en/docs/laws/constitution.html>
- Act No. 134/2016 Coll. on Public Procurement, as amended. Retrieved from <https://www.zakonyprolidi.cz/cs/2016-134>
- Act No. 302/2016 Coll. amending Act No. 424/1991 Coll. on the Association in Political Parties and Political Movements, as amended, and other related acts. Retrieved from <https://www.zakonyprolidi.cz/cs/2016-302>
- Acemoglu, D., Johnson, S., Kermani, A., Kwak, J., & Mitton, T. (2016). The value of connections in turbulent times: Evidence from the United States. *Journal of Financial Economics*, *121*(2), 368–391. <https://doi.org/10.1016/j.jfineco.2015.10.001>
- Adhikari, A., Derashid, C., & Zhang, H. (2006). Public policy, political connections, and effective tax rates: Longitudinal evidence from Malaysia. *Journal of Accounting and Public Policy*, *25*(5), 574–595. <https://doi.org/10.1016/j.jaccpubpol.2006.07.001>
- Aggarwal, R. K., Meschke, F., & Wang, T. Y. (2012). Corporate Political Donations: Investment or Agency? *Business and Politics*, *14*(01), 1–38. <https://doi.org/10.1515/1469-3569.1391>
- Akey, P. (2015). Valuing Changes in Political Networks: Evidence from Campaign Contributions to Close Congressional Elections. *The Review of Financial Studies*, *28*(11), 3188–3223. <https://doi.org/10.1093/rfs/hhv035>
- Albalade, D., Bel, G., González-Gómez, F., & Picazo-Tadeo, A. J. (2017). Weakening political connections by means of regulatory reform: Evidence from contracting out water services in Spain. *Journal of Regulatory Economics*, *52*(2), 211–235. <https://doi.org/10.1007/s11149-017-9338-6>
- Amore, M. D., & Bennedsen, M. (2013). The value of local political connections in a low-corruption environment. *Journal of Financial Economics*, *110*(2), 387–402. <https://doi.org/10.1016/J.JFINECO.2013.06.002>
- Baltrunaite, A. (2016). *Political Contributions and Public Procurement: Evidence from Lithuania*. Retrieved from <http://www.eief.it/files/2016/09/audinga-baltrunaite.pdf>
- Baranek, B., & Titl, V. (2018). *Political Connections and Competition on Public Procurement Markets*. Manuscript presented at The Royal Economic Society Symposium of Junior Researchers 2018.

- Blau, B. M., Brough, T. J., & Thomas, D. W. (2013). Corporate lobbying, political connections, and the bailout of banks. *Journal of Banking & Finance*, 37(8), 3007–3017. <https://doi.org/10.1016/j.jbankfin.2013.04.005>
- Boubakri, N., Cosset, J.-C., & Saffar, W. (2012). The Impact of Political Connections on Firms' Operating Performance and Financing Decisions. *Journal of Financial Research*, 35(3), 397–423. <https://doi.org/10.1111/j.1475-6803.2012.01322.x>
- Claessens, S., Feijen, E., & Laeven, L. (2008). Political connections and preferential access to finance: The role of campaign contributions. *Journal of Financial Economics*, 88(3), 554–580. <https://doi.org/10.1016/J.JFINECO.2006.11.003>
- Cooper, M. J., Gulen, H., & Ovtchinnikov, A. V. (2010). Corporate Political Contributions and Stock Returns. *The Journal of Finance*, 65(2), 687–724. <https://doi.org/10.1111/j.1540-6261.2009.01548.x>
- De Figueiredo, R. J. P., & Edwards, G. (2007). Does Private Money Buy Public Policy? Campaign Contributions and Regulatory Outcomes in Telecommunications. *Journal of Economics & Management Strategy*, 16(3), 547–576. <https://doi.org/10.1111/j.1530-9134.2007.00150.x>
- Duchin, R., & Sosyura, D. (2012). The politics of government investment. *Journal of Financial Economics*, 106(1), 24–48. <https://doi.org/10.1016/j.jfineco.2012.04.009>
- Faccio, M. (2006). Politically Connected Firms. *American Economic Review*, 96(1), 369–386. <https://doi.org/10.1257/000282806776157704>
- Faccio, M., Masulis, R. W., & McConnell, J. J. (2006). Political Connections and Corporate Bailouts. *The Journal of Finance*, 61(6), 2597–2635. <https://doi.org/10.1111/j.1540-6261.2006.01000.x>
- Faccio, M., & Parsley, D. C. (2009). Sudden Deaths: Taking Stock of Geographic Ties. *Journal of Financial and Quantitative Analysis*, 44(03), 683–718. <https://doi.org/10.1017/S0022109009990068>
- Fan, J. P. H., Wong, T. J., & Zhang, T. (2007). Politically connected CEOs, corporate governance, and Post-IPO performance of China's newly partially privatized firms. *Journal of Financial Economics*, 84(2), 330–357. <https://doi.org/10.1016/j.jfineco.2006.03.008>
- Fisman, R. (2001). Estimating the Value of Political Connections. *American Economic Review*, 91(4), 1095–1102. <https://doi.org/10.1257/aer.91.4.1095>
- Frank Bold. (2016). *Briefing on Reform of Political Party Financing, Czech Republic*. Retrieved from [www.rekonstrukcestatu.cz/en](http://www.rekonstrukcestatu.cz/en).
- Goldman, E., Rocholl, J., & So, J. (2009). Do Politically Connected Boards Affect Firm Value? *The Review of Financial Studies*, 22(6), 2331–2360. <https://doi.org/10.1093/rfs/hhn088>

- Goldman, E., Rocholl, J., & So, J. (2013). Politically Connected Boards of Directors and The Allocation of Procurement Contracts. *Review of Finance*, 17(5), 1617–1648. <https://doi.org/10.1093/rof/rfs039>
- Huber, J., & Kirchler, M. (2013). Corporate campaign contributions and abnormal stock returns after presidential elections. *Public Choice*, 156(1–2), 285–307. <https://doi.org/10.1007/s11127-011-9898-4>
- IDEA. (2018). Political Finance Database. Retrieved June 26, 2018, from <https://www.idea.int/data-tools/question-view/529>
- Jayachandran, S. (2006). The Jeffords Effect. *The Journal of Law and Economics*, 49(2), 397–425. <https://doi.org/10.1086/501091>
- Johnson, S., & Mitton, T. (2003). Cronyism and capital controls: evidence from Malaysia. *Journal of Financial Economics*, 67(2), 351–382. [https://doi.org/10.1016/S0304-405X\(02\)00255-6](https://doi.org/10.1016/S0304-405X(02)00255-6)
- Khwaja, A. I., & Mian, A. (2005). Do Lenders Favor Politically Connected Firms? Rent Provision in an Emerging Financial Market. *The Quarterly Journal of Economics*, 120(4), 1371–1411. <https://doi.org/10.1162/003355305775097524>
- Knight, B. (2006). Are policy platforms capitalized into equity prices? Evidence from the Bush/Gore 2000 Presidential Election. *Journal of Public Economics*, 90(4–5), 751–773. <https://doi.org/10.1016/J.JPUBECO.2005.06.003>
- Lehne, J., Shapiro, J. N., & Vanden Eynde, O. (2018). Building connections: Political corruption and road construction in India. *Journal of Development Economics*, 131, 62–78. <https://doi.org/10.1016/J.JDEVECO.2017.10.009>
- Li, H., Meng, L., Wang, Q., & Zhou, L.-A. (2008). Political connections, financing and firm performance: Evidence from Chinese private firms. *Journal of Development Economics*, 87(2), 283–299. <https://doi.org/10.1016/j.jdeveco.2007.03.001>
- Ministry of Regional Development. (2018). *Výroční zpráva o stavu veřejných zakázek v České republice za rok 2017*. Retrieved from <http://www.portal-vz.cz/cs/Spoluprace-a-vymena-informaci/Vyrocnizpravy-a-souhrnne-udaje-o-verejnych-zakazk/Vyrocnizpravy-o-stavu-verejnych-zakazek>
- Mironov, M., & Zhuravskaya, E. (2016). Corruption in Procurement and the Political Cycle in Tunneling: Evidence from Financial Transactions Data. *American Economic Journal: Economic Policy*, 8(2), 287–321. <https://doi.org/10.1257/pol.20140188>
- Palanský, M. (2014). *Political Connections and Public Procurement: Evidence from the Czech Republic* (Bachelor Thesis). Institute of Economic Studies, Charles University in Prague.

- Palanský, M. (2016). *The Value of Political Connections: Evidence from the Czech Republic* (Master's Thesis). Institute of Economic Studies, Charles University in Prague.
- Palanský, M. (2018). *The Value of Political Connections in the Post-Transition Period: Evidence from the Czech Republic* (IES Working Paper 13/2018). Institute of Economic Studies, Charles University in Prague.
- Palguta, J. (2016a). *Dárci politických stran a hnutí na trhu veřejných zakázek* (Study IDEA 11/2016). Praha: Národohospodářský ústav AV ČR, v.v.i.
- Palguta, J. (2016b). *Konkurence politických uskupení v obecních zastupitelstvech a veřejné zakázky* (Study IDEA 14/2016). Praha: Národohospodářský ústav AV ČR, v. v. i.
- Plecitá-Vlachová, K., & Stegmaier, M. (2008). The parliamentary election in the Czech Republic, June 2006. *Electoral Studies*, 27(1), 179–184.  
<https://doi.org/10.1016/J.ELECTSTUD.2007.07.003>
- Roberts, B. E. (1990). A Dead Senator Tells No Lies: Seniority and the Distribution of Federal Benefits. *American Journal of Political Science*, 34(1), 31-58.  
<https://doi.org/10.2307/2111510>
- Schoenherr, D. (2018). Political Connections and Allocative Distortions. *Journal of Finance, Forthcoming*. <https://doi.org/10.2139/ssrn.2480261>
- Shon, J. J. (2009). Do stock returns vary with campaign contributions? Bush vs. Gore: The Florida recount. *Economics & Politics*, 22(3), 257–281.  
<https://doi.org/10.1111/j.1468-0343.2009.00359.x>
- Skuhrovec, J., Titl, V., & Palanský, M. (2015). *Analysis of Czech Political Party Donations*. Centre for applied economics. Retrieved from <http://cae.zindex.cz/wp-content/uploads/2015/03/2015-01-12-Analysis-of-Czech-Political-Party-Donations.pdf>
- Song, Z., Nahm, A. Y., & Zhang, Z. (2017). Partial State Ownership, Political Connection, and Financing: Evidence from Chinese Publicly Listed Private Sector Enterprises. *Emerging Markets Finance and Trade*, 53(3), 611–628.  
<https://doi.org/10.1080/1540496X.2015.1097920>
- Špolc, M. (2017). *State capture as market distortion: Effect of political connections in the Czech Republic* (Master's Thesis). Institute of Economic Studies, Charles University in Prague.
- Stegmaier, M., & Linek, L. (2014). The parliamentary election in the Czech Republic, October 2013. *Electoral Studies*, 35, 385–388.  
<https://doi.org/10.1016/J.ELECTSTUD.2014.03.001>

- Stegmaier, M., & Vlachová, K. (2011). The parliamentary election in the Czech Republic, May 2010. *Electoral Studies*, 30(1), 238–241. <https://doi.org/10.1016/j.electstud.2011.01.004>
- Titl, V., & Geys, B. (2017). *Political Donations and the Allocation of Public Procurement Contracts* (ES-Working Paper No. 11). Vrije Universiteit Brussel.
- Transparency International. (2018). *Corruption Perceptions Index 2017*. Retrieved from [https://www.transparency.org/news/feature/corruption\\_perceptions\\_index\\_2017](https://www.transparency.org/news/feature/corruption_perceptions_index_2017)
- Vymětal, P. (2017). *Political Parties and Political Campaign Rules in the Czech Republic*. Transparency International - Czech Republic. Retrieved from [www.transparency.cz/melko](http://www.transparency.cz/melko)
- Wooldridge, J. M. (2012). *Introductory econometrics: A modern approach*. Mason, Ohio: South-Western Cengage Learning.
- Wu, W., Wu, C., Zhou, C., & Wu, J. (2012). Political connections, tax benefits and firm performance: Evidence from China. *Journal of Accounting and Public Policy*, 31(3), 277–300. <https://doi.org/10.1016/j.jaccpubpol.2011.10.005>

## **List of appendices**

**Appendix 1: Share of donations between natural and legal persons – selected parties.**

**Appendix 2: Descriptive statistics on public procurement administered by Ministries between 2007 and 2017.**

**Appendix 3: Summary of the constructed variables.**

**Appendix 4: Results of the reduced form analysis, Models 4.1 and 4.2.**

**Appendix 5: Results of the first period, Models 4.3 and 4.4.**

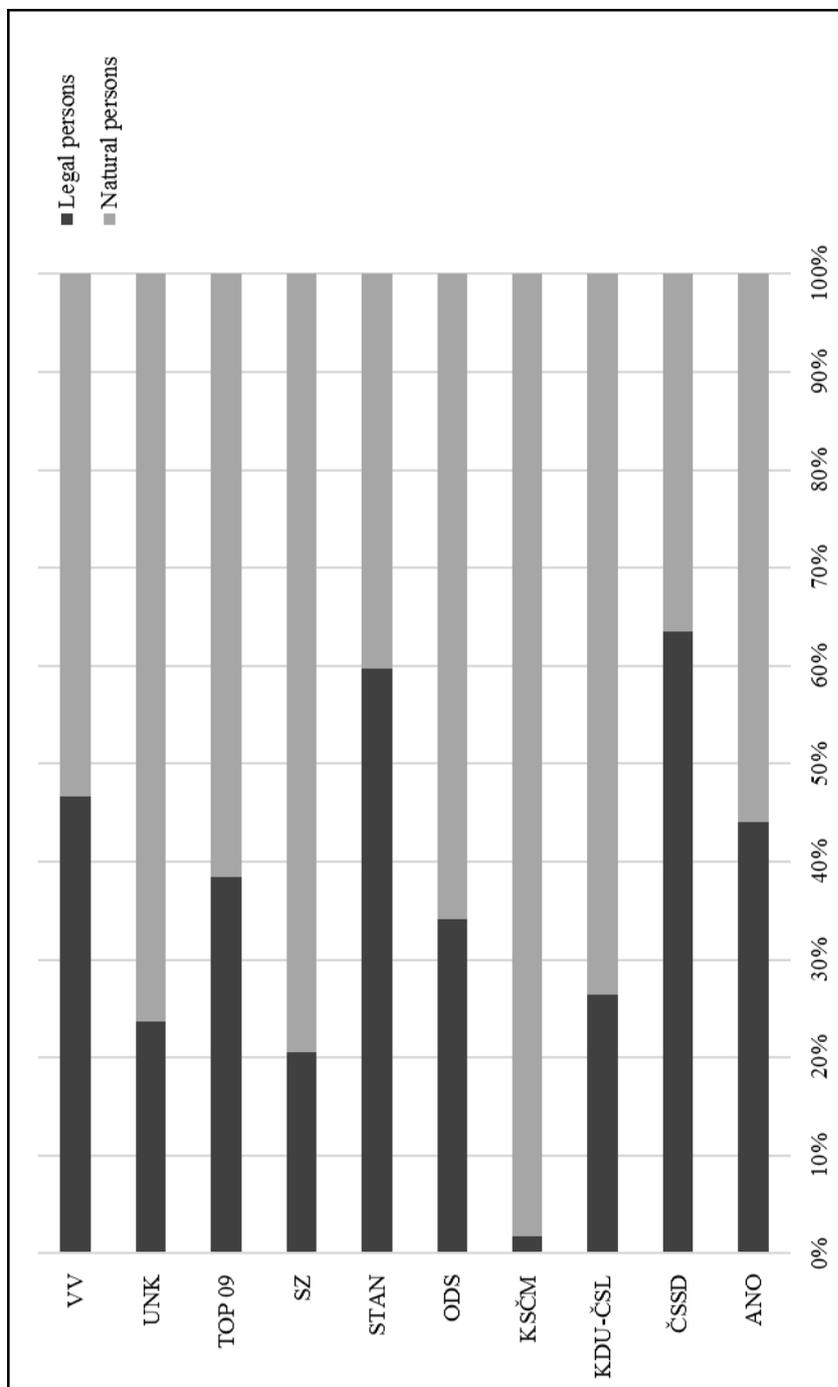
**Appendix 6: Results of the second period, Models 4.5 and 4.6.**

**Appendix 7: Results of the third period, Models 4.7 and 4.8.**

**Appendix 8: Results of the pooled specification, Model 4.9.**

## Appendices

**Appendix 1: Share of donations between natural and legal persons – selected parties.**



*Note: Donations made between 2006 and 2017 are depicted.*

*Source: Author based on data from PolitickeFinance.cz*

**Appendix 2: Descriptive statistics on public procurement administered by Ministries between 2007 and 2017.**

<i>Ministry</i>	<i>Total volume of PP</i>	<i>Number of PP</i>	<i>Mean</i>	<i>St. Deviation</i>	<i>Min</i>	<i>Max</i>
M. of Regional Development	<i>3 243 583</i>	<i>229</i>	<i>14 164</i>	<i>46 026</i>	<i>29 220</i>	<i>529 700</i>
M. of the Environment	<i>2 805 067</i>	<i>299</i>	<i>9 381</i>	<i>19 082</i>	<i>83 012</i>	<i>249 990</i>
M. of Labour and Social Affairs	<i>9 085 900</i>	<i>529</i>	<i>17 176</i>	<i>58 271</i>	<i>11 500</i>	<i>1 070 000</i>
M. of the Interior	<i>61 232 472</i>	<i>2713</i>	<i>22 570</i>	<i>147 915</i>	<i>3 000</i>	<i>4 600 000</i>
M. of Foreign Affairs	<i>2 925 529</i>	<i>138</i>	<i>21 199</i>	<i>47 545</i>	<i>497</i>	<i>341 171</i>
M. of Defence	<i>47 852 203</i>	<i>3070</i>	<i>15 587</i>	<i>66 951</i>	<i>2 600</i>	<i>2 144 270</i>
M. of Industry and Trade	<i>1 877 822</i>	<i>214</i>	<i>8 775</i>	<i>22 864</i>	<i>150 000</i>	<i>245 336</i>
M. of Health	<i>9 988 472</i>	<i>634</i>	<i>15 755</i>	<i>136 382</i>	<i>7 671</i>	<i>3 128 000</i>
M. of Justice	<i>3 608 762</i>	<i>183</i>	<i>19 720</i>	<i>33 027</i>	<i>37 664</i>	<i>200 000</i>
M. of Finance	<i>40 251 924</i>	<i>1120</i>	<i>35 939</i>	<i>131 955</i>	<i>30 476</i>	<i>2 649 975</i>
M. of Education, Youth and Sports	<i>1 308 999</i>	<i>140</i>	<i>9 350</i>	<i>14 288</i>	<i>3 224</i>	<i>116 296</i>
M. of Transport	<i>9 975 990</i>	<i>157</i>	<i>63 541</i>	<i>423 526</i>	<i>3 358</i>	<i>5 268 565</i>
M. of Agriculture	<i>15 684 735</i>	<i>2332</i>	<i>6 726</i>	<i>24 267</i>	<i>2 725</i>	<i>500 000</i>
M. of Culture	<i>1 748 668</i>	<i>82</i>	<i>21 325</i>	<i>41 370</i>	<i>14 730</i>	<i>278 953</i>
All Ministries	<i>211 590 127</i>	<i>11840</i>	<i>17 871</i>	<i>107 962</i>	<i>497</i>	<i>5 268 565</i>
Cleaned database	<i>197 987 941</i>	<i>11348</i>	<i>17 447</i>	<i>100 774</i>	<i>2600</i>	<i>5 268 565</i>

*Note: Values in italics are listed in CZK thousands. Values in the sixth column (Min) are listed in CZK. Only contracts of which the final price is known are included. The row Cleaned database presents statistics of the final constructed database, which is mostly used in this analysis.*

*Source: Author based on data from EconLab.cz*

**Appendix 3: Summary of the constructed variables. P = PolitickeFinance.cz, E=EconLab.**

<i>Variable</i>	<i>Description</i>	<i>Source</i>
Con	Dummy variable, equal to 1 if a firm donated to ČSSD, KDU-ČSL or ODS between 2006 and 2017, and 0 otherwise.	P
Don	The total amount donated to ČSSD, KDU-ČSL or ODS by a firm between 2006 and 2017.	P
Con_1	Dummy variable, equal to 1 if a firm donated to ČSSD, KDU-ČSL, KSČM, ODS or SZ between 2006 and 2010, and 0 otherwise.	P
Don_1	The total amount donated to ČSSD, KDU-ČSL, KSČM, ODS or SZ by a firm between 2006 and 2010.	P
Con_2	Dummy variable, equal to 1 if a firm donated to ČSSD, KSČM, ODS, STAN or TOP 09 between 2010 and 2014, and 0 otherwise.	P
Don_2	The total amount donated to ČSSD, KSČM, ODS, STAN or TOP 09 by a firm between 2010 and 2014.	P
Con_G	Dummy variable, equal to 1 if a firm donated to ANO, ČSSD or KDU-ČSL between 2013 and 2017, and 0 otherwise.	P
Don_G	The total amount donated to ANO, ČSSD or KDU-ČSL by a firm between 2013 and 2017.	P
Con_O	Dummy variable, equal to 1 if a firm donated to KSČM, ODS, STAN or TOP 09 between 2013 and 2017, and 0 otherwise.	P
Don_O	The total amount donated to KSČM, ODS, STAN or TOP 09 by a firm between 2013 and 2017.	P
Con_P <sub>iT</sub>	Dummy variable, equal to 1 if a firm <i>i</i> donated to at least one of the parties which were elected to the Chamber of Deputies during the period <i>T</i> , and 0 otherwise.	P
NACE	A matrix constructed from 19 industry dummies, sorting firms into their industry section based on NACE 2-digit code.	E
Size1	Dummy variable, equal to 1 if a firm has less than 10 employees, and 0 otherwise.	E
Size2	Dummy variable, equal to 1 if a firm has between 10 and 49 employees, and 0 otherwise.	E
Size3	Dummy variable, equal to 1 if a firm has between 50 and 249 employees, and 0 otherwise.	E
Size4	Dummy variable, equal to 1 if a firm has between 250 and 999 employees, and 0 otherwise.	E
Size5	Dummy variable, equal to 1 if a firm has more than 999 employees, and 0 otherwise.	E
Size12	Dummy variable, equal to 1 if a firm has less than 50 employees, and 0 otherwise.	E
VPP	The total value of contracts a firm supplied between 2007 and 2017.	E
VPP_1	The total value of contracts a firm supplied between 2007 and 2009.	E
VPP_2	The total value of contracts a firm supplied between 2011 and 2013.	E
VPP_3	The total value of contracts a firm supplied between 2014 and 2017.	E
VPP_P <sub>iT</sub>	The total value of contracts a firm <i>i</i> supplied in the period <i>T</i> .	E

*Source: Author's elaboration*

**Appendix 4: Results of the reduced form analysis, Models 4.1 and 4.2.**

	log(VPP)			
	(1)	(2)	(3)	(4)
Con	0.198 (0.150)		0.148 (0.142)	
log(Don)		0.026* (0.014)		0.021 (0.013)
Size2	0.386*** (0.109)	0.384*** (0.109)	0.383*** (0.101)	0.380*** (0.101)
Size3	1.208*** (0.125)	1.201*** (0.125)	1.126*** (0.118)	1.117*** (0.118)
Size4	1.965*** (0.189)	1.956*** (0.189)	1.723*** (0.178)	1.713*** (0.178)
Size5	2.226*** (0.305)	2.214*** (0.304)	2.104*** (0.261)	2.092*** (0.260)
Nace	Yes	Yes	Yes	Yes
Constant	15.854*** (0.115)	15.853*** (0.115)	15.920*** (0.106)	15.919*** (0.106)
Observations	1,849	1,849	1,813	1,813
R <sup>2</sup>	0.133	0.133	0.125	0.126
Adjusted R <sup>2</sup>	0.122	0.122	0.114	0.115

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Robust standard errors in parentheses.

**Appendix 5: Results of the first period, Models 4.3 and 4.4.**

	log(VPP_1)			
	(1)	(2)	(3)	(4)
Con_1	-0.015 (0.218)		-0.191 (0.198)	
log(Don_1)		0.002 (0.020)		-0.013 (0.019)
Size2	0.294** (0.140)	0.293** (0.140)	0.286** (0.133)	0.284** (0.133)
Size3	0.768*** (0.162)	0.765*** (0.162)	0.800*** (0.150)	0.796*** (0.151)
Size4	1.661*** (0.220)	1.658*** (0.221)	1.426*** (0.199)	1.422*** (0.199)
Size5	1.843*** (0.403)	1.839*** (0.403)	1.533*** (0.360)	1.532*** (0.360)
Nace	Yes	Yes	Yes	Yes
Constant	16.048*** (0.160)	16.047*** (0.160)	16.073*** (0.146)	16.072*** (0.146)
Observations	825	825	809	809
R <sup>2</sup>	0.133	0.133	0.125	0.125
Adjusted R <sup>2</sup>	0.110	0.110	0.101	0.100

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Robust standard errors in parentheses.

**Appendix 6: Results of the second period, Models 4.5 and 4.6.**

	log(VPP_2)	
	(1)	(2)
Con_2	0.420*	
	(0.254)	
log(Don_2)	0.041*	
	(0.024)	
Size2	0.387**	0.386**
	(0.161)	(0.161)
Size3	1.014***	1.012***
	(0.181)	(0.181)
Size4	1.744***	1.741***
	(0.259)	(0.259)
Size5	1.675***	1.672***
	(0.412)	(0.412)
Nace	Yes	Yes
Constant	15.288***	15.290***
	(0.174)	(0.173)
Observations	778	778
R <sup>2</sup>	0.142	0.143
Adjusted R <sup>2</sup>	0.117	0.118

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Robust standard errors in parentheses.

**Appendix 7: Results of the third period, Models 4.7 and 4.8.**

	log(VPP_3)	
	(1)	(2)
Con_G	0.608*	
	(0.328)	
Con_O	0.394	
	(0.338)	
log(Don_G)		0.066*
		(0.035)
log(Don_O)		0.037
		(0.031)
Size2	0.335**	0.333**
	(0.155)	(0.155)
Size3	1.258***	1.257***
	(0.162)	(0.162)
Size4	1.606***	1.624***
	(0.228)	(0.229)
Size5	2.390***	2.383***
	(0.301)	(0.300)
Nace	Yes	Yes
Constant	15.623***	15.618***
	(0.152)	(0.153)
Observations	971	967
R <sup>2</sup>	0.171	0.172
Adjusted R <sup>2</sup>	0.149	0.151

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Robust standard errors in parentheses.

**Appendix 8: Results of the pooled specification, Model 4.9.**

	VPP_P	
	(1)	(2)
Con_P	0.00029822 (0.00030226)	0.00016993 (0.00018610)
Size3	0.00024926 (0.00027553)	0.00045965** (0.00019418)
Size4	0.00028564 (0.00049448)	0.00015117 (0.00016556)
Size5	0.00236950*** (0.00087094)	0.00247390*** (0.00084096)
Nace	Yes	Yes
Constant	0.00015623 (0.00020806)	0.00012105 (0.00020390)
Observations	507	501
R <sup>2</sup>	0.061	0.111
Adjusted R <sup>2</sup>	0.023	0.074

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Robust standard errors in parentheses.