

POLITICAL CONNECTIONS AND PUBLIC PROCUREMENT: EVIDENCE FROM THE CZECH REPUBLIC

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Abstract:

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

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

JEL Classifications: D72, H57, K4

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1 Introduction

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

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

The remainder of this paper is structured as follows. In Chapter 2, the existing literature on political connections and the ways they pay off is reviewed. Chapter 3 summarizes the data collection process and the background of this study. In Chapter 4, the basic patterns of behavior of regional administrations as contracting authorities are examined. Chapter 5 focuses on the effects of corporate contributions to political parties on the outcomes of public procurement auctions and finally, Chapter 6 concludes.

2 Literature review

A growing number of economists explore in their research that firms that are politically connected enjoy significant benefits compared to non-connected firms. Most of this literature concentrates on connections such as membership on the boards of companies, family relationships or friendships of the politicians with these board members, connections through political donations and so on. The benefits obtained from the connectedness can add value to the firms. Empirical studies such as (Roberts 1990, Fisman 2001) detect a relationship between political connectedness of firms and their stock market returns. They argue that rationally behaving firms should therefore tend to create personal, financial or other connections to political parties that are currently, or will be in the future, able to help them in some way. Faccio (2006) and Jayachandran (2004) demonstrate the added value by examining exogenous changes in political landscape and their corresponding effects. Voth & Ferguson (2008) reached the same results using data on German firms' political connectedness during the era of the Nazi movement. The findings of an exception from these papers, (Fisman et al. 2012), which did not observe any impact of the connections to the former U.S. senator Dick Cheney, are, however, consistent with Faccio (2002), who argues that the effect of political ties is dependent on the quality of institutions. Even though these studies do find that political connections can add value to the firms, little do they focus on the ways through which this added value is generated.

This paper contributes to four related strands of literature. First, several studies have successfully tried to unveil channels through which the added value is generated, especially in less-developed countries. Khwaja & Mian (2005) showed that Pakistani firms associated with politicians enjoy better access to credit, Claessens et al. (2008) obtained similar results in Brazil. De Figueiredo & Edwards (2007) found a significant effect of private money on regulatory outcomes. Researchers who look specifically on the effects of connections on the allocation of public funds through procurement spending include,

among others, Goldman et al. (2013), who focused on American S&P 500 firms, or Coviello & Gagliarducci (2008), who showed that a change in the identity of the mayor of a municipality rationalizes its public spending using Italian data. The majority of similar studies only examine publicly listed firms and central government agencies. One of the exceptions, Dombrovsky (2008), who draws on the universe of all registered firms in Latvia, obtains results supporting the hypothesis that connections help to add value to firms. Similar results were reached by Straub (2014), who examined the case of Paraguay using high-quality data on both public procurement and 700 largest public procurement winners.

Second, most of the related literature defines political connections as the membership of politicians or their relatives on the boards of directors or politicians' ownership of company shares. Given the rather strict definition of political connections, the literature is likely to underestimate the extent to which firms are connected - many firms that are classified as unconnected are, in fact, connected through friendships and other informal relationships that are undetectable or detectable only by examining every politician and firm individually, which is extraordinarily time consuming and therefore costly. This paper contributes to the existing literature on one specific channel of political connectedness - political donations. Work employing campaign contributions as a proxy for political connections include for example de Figueiredo & Edwards (2007), who argue that donations to parties can cause regulated prices to increase, creating new potential of profit for the involved companies. However, evidence on the positive effects of campaign contributions on firm value is mixed. In fact, several studies, such as (Aggarwal et al. 2012), strongly reject the hypothesis that donations represent an investment in political capital. On the other hand, Cooper et al. (2010) found a positive and significant correlation between firms' contributions to U.S. political campaigns and their future stock returns. Claessens et al. (2008) successfully revealed a relationship between Brazilian firms' contributions to political parties that won the elections and their bank financing. Snyder (1990), confirming this pattern, argued that firms view political donations as an investment, yielding returns on a quid-pro-quo basis. The results of Ansolabehere et al. (2003) show that in developed countries, the importance of political connections is lower than in less-developed countries (which is, again, consistent with Faccio 2002). A more detailed summary of the literature on this topic is well provided by (Stratmann 2005).

Third, this study adds to the relatively scarce empirical studies on Czech public procurement. Pavel (2010) focused on the number of bidders and its effects, Chvalková & Skuhrovec (2010) analyzed the potential of e-Government tools and Chvalková et al. (2012) examined the relationship between transparency of ownership structure and public procurement winning. They all suggest there might be potential for corruption as well as efficiency improvements in Czech public procurement. Nikolová et al. (2012) concentrated on competition in the awarding process and revealed some practices worth attention. However, the results presented in this study might be interpreted in a too radical manner. Center for Applied Economics & Our Politicians (2012) did not reach very strong results examining Prague's public procurement and politicians' ties with board members of the winning firms, possibly due to the underestimation of political connectedness, as explained above.

Fourth, this study is among the first works that make use of the relatively newly created dataset of donations to Czech political parties. As explained below, data on political donations are collected by hand and made available online. Skuhrovec et al. (2015) were the first to extensively study this data and revealed many potential research areas by connecting the dataset with data on public procurement, European donations, insolvencies and other firm-level data. Počarovský (2014) found a positive and significant effect of political donations on the outcomes of construction public procurement for firms with turnover between 100 million and 1 billion CZK.

There are several reasons why the Czech Republic is a good case to study the effects of political connections. First, based on the findings of Faccio (2006), the value of political connections in the Czech Republic is likely to be higher than in other European countries. According to European Commission (2014), 95 % of Czech people think that corruption is widespread in the Czech Republic. To the question 'In the last three years, do you think that corruption has prevented you or your

company from winning a public tender or a public procurement contract?', 51 % of the people answered 'Yes', placing the Czech Republic among the top 5 most corrupt countries in the EU.

Second, according to OECD (2011), public procurement in the Czech Republic plays a bigger role in the economy than in other countries, accounting for around 17 % of its GDP, or about CZK 650 billion in 2012. A third important reason to focus on the Czech Republic is the availability of data of exceptional quality on both public procurement and political donations. Finally, the development of the political situation in the regional governments during the examined period gives us a unique opportunity to study the effects of an exogenous shift in political powers.

3 Data and background of the study

3.1 Political situation

The Czech Republic is administratively divided into 14 regions. In 2000, in the first elections to regional boards, the total of 675 positions were at stake, out of which the conservative right-wing Civic Democratic Party (Občanská demokratická strana - ODS) obtained the most mandates (185), followed by a coalition of four parties (led by the Christian and Democratic Union-Czechoslovak People's Party (Křesťanská a demokratická unie-Československá strana lidová – KDU-ČSL)) called Čtyřkoalice with 171 positions, the Communist Party of Bohemia and Moravia (Komunistická Čech a Moravy - KSČM) with 161 seats and the strongest left-wing party in the Czech Republic, Czech Social Democratic Party (Česká strana sociálně demokratická - ČSSD), which ended up with only 111 regional board members. As for the councils, ODS took part in every region's council and seized 59 out of 129 council positions and 8 out of 13 regional governor positions.

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

The 2008 turning point

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

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

Table 1: Regional boards election results and council outcomes

2000-2004		2004-2008		2008-2012		2012-2016	
Board	Council	Board	Council	Board	Council	Board	Council

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

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

3.2 Public procurement data

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

Moreover, under the laws effective during these years, it was mandatory for the contracting authorities to publish only information about contracts worth more than CZK 2,000,000 (excluding VAT) in case of public supply contracts or public service contracts, and CZK 6,000,000 (excluding VAT) in case of public works contracts, which means all contracts except for the small-scale ones. Nonetheless, small-scale contracts may be published as well. EconLab (previously Center for Applied Economics), a Czech NGO focusing on applied policy research, collects and then further hand-cleans this data to make them as accurate as possible. The use of EconLab's database in this paper ensures exceptional quality of the public procurement data. On March 11, 2014, the ISVZUS database contained the total of 79,402 entries. In order to make use of the exogenous shift in power explained in Section 3.1, this study focuses specifically on public procurement awarded at the regional level. In total, the obtained database on regional public procurement of regional administrations contains 6,949 signed contracts (and additional 433 canceled contracts) with the release date ranging from July 14, 2006 to March 11, 2014. Out of these, only 6,823 entries contain the final price of the contract and thus form the final database for the analysis in Chapter 4. The total of 1,737 different firms won at least one public contract during the examined time period. The database of contracts (divided by categories) is summarized in Table 2.

Table 2: Summary of the database on public procurement

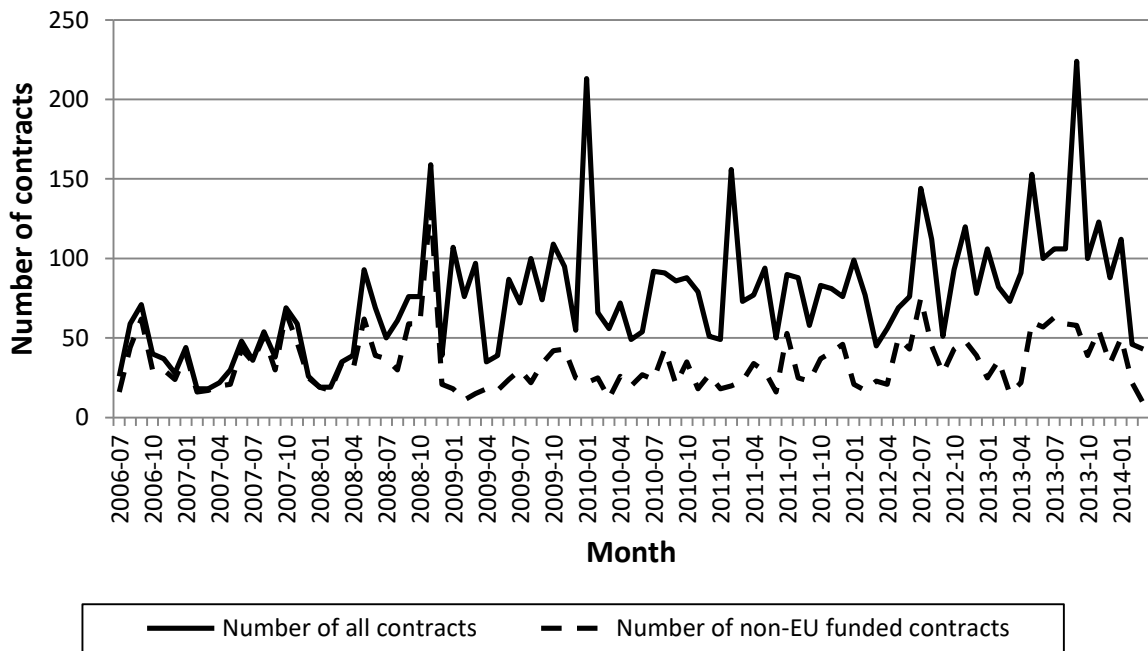
	Large-scale	Small-scale	Canceled	Total
Construction	1785	1301	8	3094
Health, Social & Education	1045	594	319	1958
Legal & Consulting	177	194	10	381
IT & Telecommunications	245	118	8	371
Technical Services	72	216	45	333
Other Services	204	87	1	292
Transportation	123	99	1	223
Office Supplies	79	111	10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

Natural Resources	1	5	0	6
Total	675	129	675	129

Source: Author based on data from EconLab.

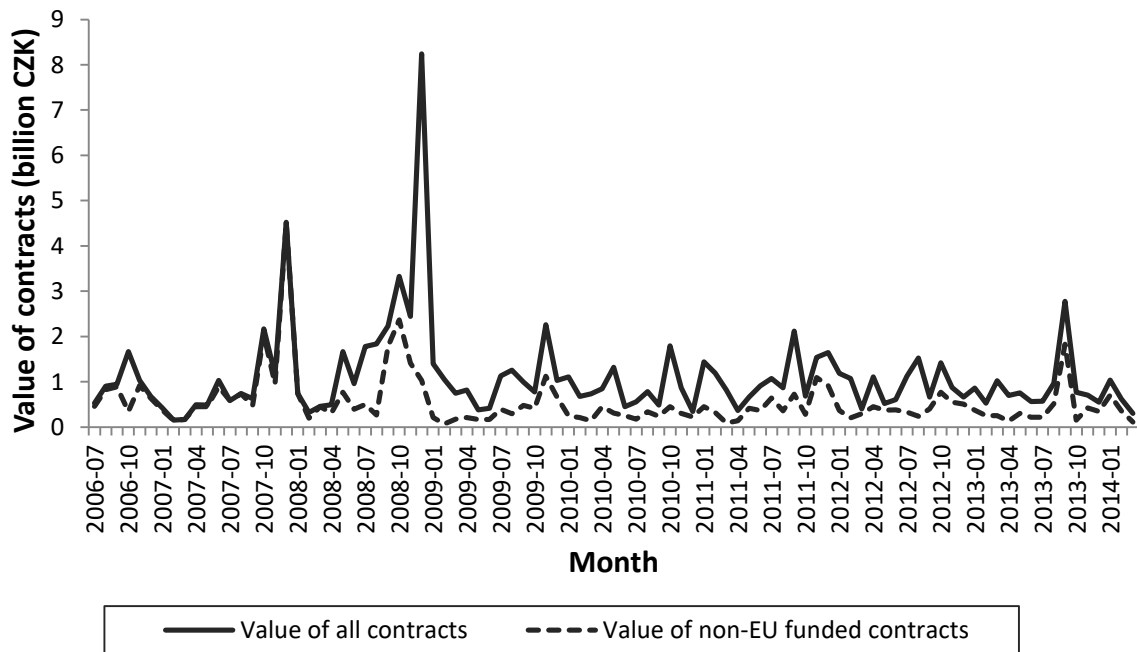
Figure 1 shows the historical development of the number of contracts administered by the regional governments. The increasing trend in the number of contracts is caused mainly by public contracts funded or co-funded by the EU, but a slight increase over time is observable also for non-EU funded public procurement. However, the average total value of regional public contracts remains fairly constant, as documented in Figure 2.

Figure 1: Total number of contracts and the number of non-EU funded contracts administered by the regional governments between July 2006 and March 2014



Source: Author based on data from EconLab.

Figure 2: Value of contracts and the value of non-EU funded contracts administered by the regional governments between July 2006 and March 2014.



Source: Author based on data from EconLab.

3.3 Political donations data

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

Data on Czech firms' donations to political parties are collected by the EconLab's project called 'Political financing' (PolitickeFinance.cz)² and are of high reliability. The Czech law requires every political party to submit their annual financial report each year to the Parliament, and these reports are then made available to the public in the Parliamentary library. Unfortunately, parties are not legally obligated to publish information about their donations online (not to mention publishing them in a unified online system administered by the government), and even though most of them do, they are not legally responsible for the accuracy of this information. For this reason, EconLab hand-collects these data every year from the official annual reports in the Parliamentary library to ensure the data are as precise as possible and then publishes them online. In this study, data on political donations between the years 2006 and 2013 are used. One of the main tasks of this work was to collect data on political donations made in 2013 and add it to the existing database of PolitickeFinance.cz. As described in Section 3.1, between the years 2006 and 2013, two parties were by far the most powerful (and therefore also most able to influence the public procurement outcomes) in the regional councils - ODS and ČSSD. Firms that donated to the next two most powerful parties in the regional boards

² <http://www.politickefinance.cz/>

during this time period, KDU-ČSL and KSČM, were included in the analysis as well, but none of them have won at least one regional public contract since July 1, 2006. Other smaller parties were not included, since their influence in the regional councils during the examined time period was minimal.

The final database on political donations of firms that have won at least one regional public contract since July 1, 2006 contains 3453 donations made by 181 different companies. 166 of these firms donated to ODS, 25 to ČSSD and, interestingly, 10 of these firms donated to both ODS and ČSSD. Data on donations are summarized in Table 3.

Table 3: Summary of the database on political donations made between 2006 and 2013

Party	Number of donating firms	Total amount donated
ODS	166	19 122 948 CZK
ČSSD	25	2 201 602 CZK
Neither	1556	---

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

4 Quantitative analysis of public procurement data

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

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

4.1 Canceled contracts

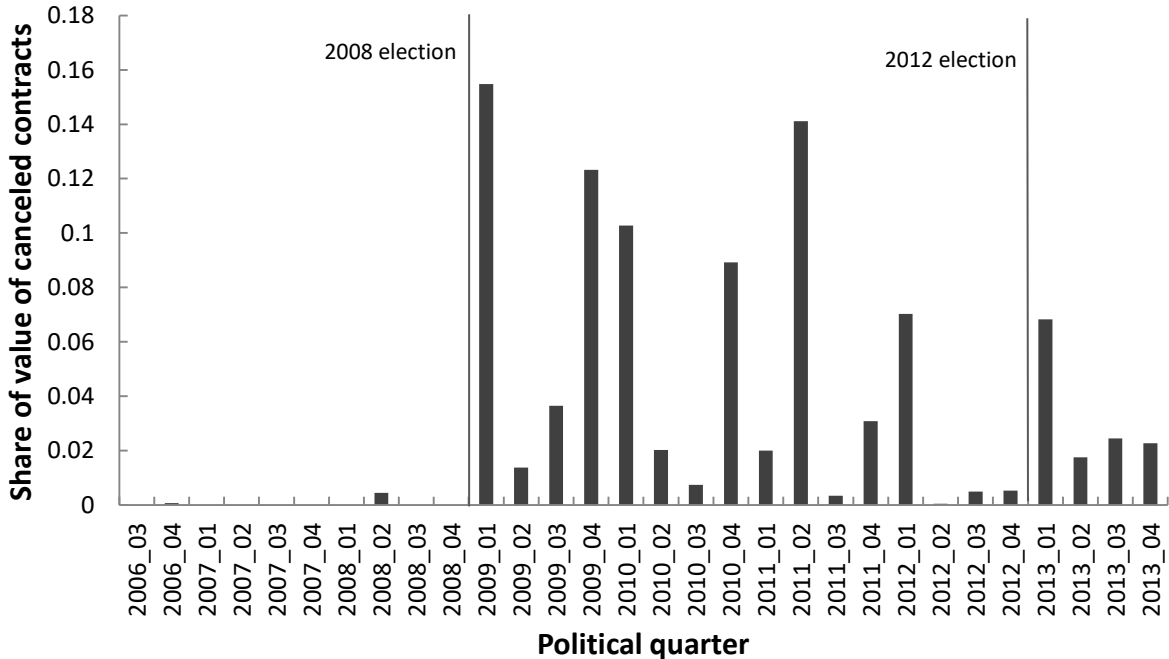
First, we focus on the number of canceled contracts over time. A public procurement process can be canceled due to a number of reasons. The initial proposal documentation might contain mistakes, the contracting authority might change its strategy plans, the requirements concerning the number of applicants might not be fulfilled and so on. All cases when the contracting authority can or must cancel a public tender are stated in Section 84 of Act No. 137/2006 Coll. on Public Contracts. One of the reasons for canceling a contract can also be that the tender was initiated by the previous administration and the new one wants to be able to manipulate the conditions and other properties of

the auctions for their own gain. Either way, canceling contracts is costly or governments should focus on keeping the number of canceled contracts low.

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

Figure 3 shows the ratio of value of canceled contracts in a particular political quarter to the value of all canceled public contracts at the regional level between July 1, 2006 and March 11, 2014. While the ODS administrations (i.e. political quarters 2006_03 to 2008_04) canceled contracts very rarely (only 5 contracts in total), the following ČSSD governments (which were in power from 2008 to 2012) canceled 348 contracts (on average 87 contracts yearly). In total, public contracts worth over CZK 127 million were canceled in the first three months of the new governments' election term (i.e. in the political quarter 2009_01). This supports the hypothesis that the newly established governments cancel contracts of significant value to be able to control them from the very beginning.

Figure 3: The share of value of canceled contracts on the total value of canceled contracts between 2006 and 2013



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

4.2 Portfolio of public procurement auction winners

Next, the portfolio of firms that win public procurement contracts is examined. In the ideal state, the portfolio would change continuously, without significant differences over time. The hypothesis is that this portfolio changes significantly more in the first few political quarters after elections in which the

leading political powers change than in other times, which might be caused by the new party establishing relationships with connected firms and awarding public contracts to these same firms during the party's whole time in power.

Let us define the variable New_t as the number of firms that won at least one public tender administered by the regional boards for the first time in political quarter t , $t \in \langle 2009_01, 2014_01 \rangle$. Let $NewAvg$ be the average number of new firms in the portfolio in one political quarter between 2009_01 and 2014_01. The reason why previous years (2006-2008) are not considered in the analysis is that they serve as a base of firms that win public contracts regularly. New_t therefore comprises companies that had not won a regional public contract between July 1, 2006 and October 31, 2008 and later won their first regional public contract in political quarter t . Theoretically, for each t , New_t should not be significantly different from $NewAvg$. However, if politicians that enter into power are politically connected to firms, they might try to manipulate the outcomes of public procurement auctions for the gain of 'their' firms, increasing New_t for t being equal to the first few political quarters after the elections and decreasing New_t for other t 's. The null hypothesis therefore states that the number of new firms in the first year after the 2008 elections is, on average, the same as for the rest of the examined period:

$$H_0: New_t |_{t \in \langle 2009_01, 2009_04 \rangle} = New_t |_{t \in \langle 2010_01, 2014_04 \rangle} = NewAvg$$

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

$$H_1: New_t > NewAvg \text{ for } t \in \langle 2009_01, 2009_04 \rangle$$

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

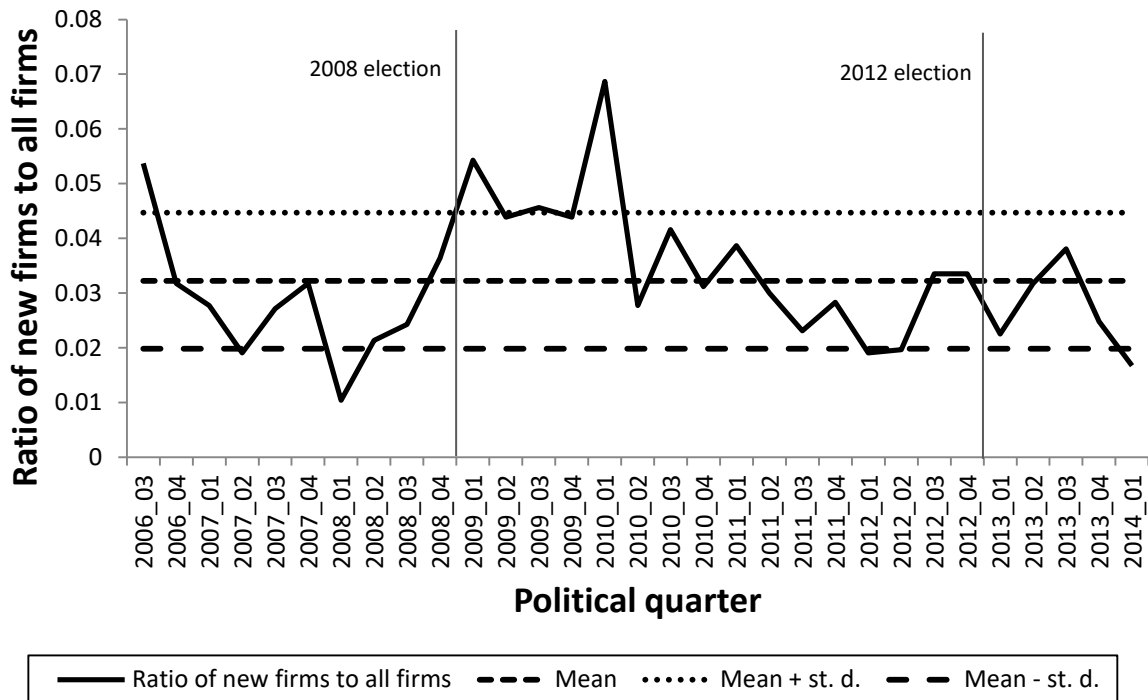
Table 4: Results of the Wilcoxon–Mann–Whitney U test.

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

Source: Author's calculations based on data from EconLab.

The results of the Wilcoxon-Mann-Whitney U test are reported in Table 4. They suggest that the null hypothesis can be rejected at the 1 % level of significance. This applies to both two-sided and one-sided hypotheses, confirming that the ČSSD governments changed the portfolio of firms receiving public contracts much more during their first year in power than in any other consequent time period.

Figure 4: Ratio of new firms (i.e. firms that won their first regional public contract in a particular political quarter) to all firms that won at least one regional public contract between August 2006 and January 2014.



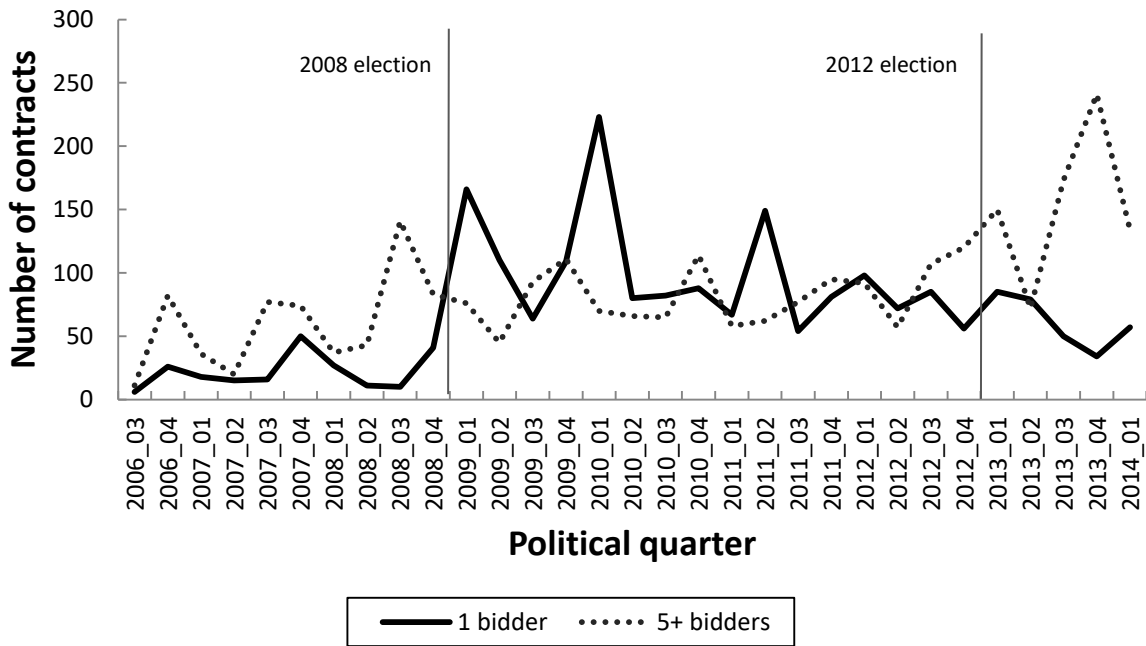
Source: Author based on data from EconLab.

Figure 4 shows the ratio of firms that won a regional public contract for the first time in the particular political quarter to the number of all firms that have won at least one public contract between August 2006 and January 2014. Due to the unavailability of data on public procurement from previous years, the numbers for the first few political quarters in the sample are very likely to be overstated, as almost all firms that have signed a public contract in these political quarters signed a public contract for the first time since July 2006. However, the low numbers of new firms entering the portfolio close before the elections suggest that the same small set of firms was receiving public contracts during the ODS administrations as well. However, due to the lack of relevant data, further conclusions cannot be made.

4.3 Number of bidders

In this part, we study the patterns in the number of bidders in public tenders over time. The number of bidders is influenced by many factors. As described above, the type of the chosen awarding procedure plays the key role. Other factors include the type of contracting authority, the category of the needed service or good, estimated price of the contract and so on. According to the basic laws of economics, the more companies submit their offer, the more competition is created and the lower price is reached. Therefore, the basic idea is that when applicable, contracting authorities should encourage as many bidders as possible to participate in the public procurement auctions to ensure the most effective use of public funds. Figure 5 shows the number of public procurement auctions in which only 1 bidder and in which 5 or more bidders participated over time. While the number of contracts awarded in auctions with 5 or more competitors increases fairly steadily, one-bidder tenders seem to have experienced a boom after the 2008 elections. Since then, the numbers are decreasing back to their previous level. The general observation therefore suggests that during the time when the portfolio of public procurement receiving firms changed the most, the regional governments were awarding many contracts in auctions with only 1 bidder.

Figure 5: Number of bidders in the regional public procurement auctions between July 2006 and March 2014.



Source: Author based on data from EconLab.

Firms that concentrate on public contracts might discourage other firms from entering a public procurement auction by threats or by positive motivation (they pay them not to enter the tender). Lower number of bidders thus can mean that the competition in these tenders was lower than it could be and as a result, the price of the contract is higher. At the same time, governments can use awarding procedures which do not require more than 1 company to enter the auction to be able to control the outcome of the auction. To sum up, lower number of bidders is associated with lower administration costs, but also brings higher potential of corruption or other illegal behavior. The aim of the policy makers should be to ensure that the contracting authorities are able to use open procedures as often as possible by lowering the administration costs, for example by further implementation of e-Procurement.

5 Effects of political donations on public procurement

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

5.1 The contracts hypothesis

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

Motivation

As described above, political donations can be used as a proxy for political connectedness of firms (see de Figueiredo & Edwards (2007), Claessens et al. (2008)). These firms then may enjoy preferential treatment which can increase their stock market returns or profits. One channel through which this added value might be generated is the allocation of public funds through procurement spending. As expected, the literature on this topic suggests that this situation is more likely when the

examined firms donated money to political parties that are in power, and thus are more able to manipulate the conditions of public contracts to ensure their desirable outcomes.

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

Data and methodology

Even though further hand-cleaning of the data was performed, the database used in this chapter had to be reduced by 45 firms to the total of 1692 due to the unavailability of data on the number of employees. However, none of these 45 firms donated money to neither ODS nor ČSSD, which leaves us with the same number of 181 donating firms. Let $VPPC$ be the total value of regional public contracts awarded between July 1, 2006 and March 11, 2014, and $\log VPPC$ be the log of the total value of these contracts. Furthermore, let $Ddon$ be a dummy variable with a value of 1 in the case the firm has donated money to ODS or ČSSD between January 1, 2006 and December 31, 2013, and 0 otherwise. Finally, Don represents the value of all donations a firm made during this period and $\log Don$ its logarithm.

Following Goldman et al. (2013) or Faccio (2006), first, only a dummy variable for donating to a political party was included. The second specification then has one key advantage compared to the first one. The actual value of the donation was used as the indicator of political connectedness instead of simply classifying a firm as connected or non-connected, allowing for the intensity of the connection to be measured. Also, a firm-fixed effect (the number of employees, used as a proxy for the size of the firm) is controlled for in both models. To examine the effects of the number of employees, 6 dummy variables, which are summarized in Table 5, were constructed. The following empirical specifications were then estimated:

$$\log VPPC = \delta_0 + \delta_1 Ddon + \delta_2 Size2 + \delta_3 Size3 + \delta_4 Size4 + \delta_5 Size5 + \delta_6 Size6 + \mu \quad (1)$$

$$\log VPPC = \delta_0 + \delta_1 \log Don + \delta_2 Size2 + \delta_3 Size3 + \delta_4 Size4 + \delta_5 Size5 + \delta_6 Size6 + \mu \quad (2)$$

Table 5: Summary of the constructed dummy size variables.

Variable	Number of employees
Size1	0-9
Size2	10-49
Size3	50-249
Size4	250-999
Size5	1000-4999
Size6	5000+

Results

For Model 1, the coefficients were first estimated using the standard OLS method, but the White's test suggested the presence of heteroskedasticity, which is why the robust standard errors were employed.

The results of the regression are reported in Table 6. They suggest that donating pays off very well. Following Wooldridge (2012), the exact percentage difference can be computed as follows:

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

Exponentiating and subtracting 1 from both sides of the equation gives:

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

i.e. the fact that a firm donated money to ODS or ČSSD increased, on average, the value of its obtained regional public procurement contracts by approximately 57 %. This result is significant at the 1 % level. Furthermore, all coefficients for the size dummies are significant and positive, with larger firms experiencing a larger effect. This is understandable—smaller firms are often not able to fulfill the requirements of complex public procurement contracts of high value.

Model 2 is also estimated using OLS and robust standard errors, because the Breusch-Pagan test suggested the presence of heteroskedasticity. The results, presented in Table 6, are similar to the ones of the estimation of Model 1 and thus confirm the findings of Claessens et al. (2008) and others by suggesting that there is a small but positive effect of political donations on the outcomes of public procurement, which might add value to the connected firms. A one-percent increase in the amount of political donations of a firm increased the value of its obtained regional public contracts by 0.095 %.

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

5.2 The party in power hypothesis

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

Motivation

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

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

Data and methodology

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

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

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

$$\log VPPC0608 = \beta_0 + \beta_1 \log Don_{ods} + \beta_2 Size2 + \beta_3 Size3 + \beta_4 Size4 + \beta_5 Size5 + \beta_6 Size6 + \mu \quad (3)$$

$$\log VPPC0814 = \beta_0 + \beta_1 \log Don_{cssd} + \beta_2 Size2 + \beta_3 Size3 + \beta_4 Size4 + \beta_5 Size5 + \beta_6 Size6 + \mu \quad (4)$$

Results

Models 3 and 4, similarly to Model 2, have the advantage of using the sum of all donations made by a firm to the given party as an explanatory variable instead of dummy variables for donating to a party. The results of the estimation of Model 3 (using robust standard errors, because the White's test suggested heteroskedasticity) are reported in Table 6 and suggest that a one-percent increase in donations to ODS between 2006 and 2013 reflected in a 0.38% increase in the total value of regional public procurement contracts signed between July 2006 and October 2008. The result is significant at the 1% level. The estimates of the coefficients for the size dummies confirm the previous findings that smaller firms win contracts of lower value by showing a positive significant effect for larger firms.

Using standard OLS, Model 4 was proven to contain heteroskedasticity by the White's and Breusch-Pagan tests. For this reason, the robust standard errors were used as well. The results of the regression, presented in Table 6, again confirm that smaller firms signed contracts of lower value—the results for all the size dummies are positive, with larger firms obtaining higher estimated coefficients. All the estimates of the size dummy coefficients are significant at the 1% level. The results further show that the estimated effect of a 1% increase in donations to ČSSD equals to a 0.15% increase in the total value of signed contracts. This result is, however, significant only at the 10% level.

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

Table 6: The results of OLS regressions, Models 1-4. Standard errors for the coefficients are given in parentheses. Marks *, and *** represent significance at the 10 %, 5% and 1% level, respectively.**

	Model 1	Model 2	Model 3	Model 4
Dependent variable	logVPPC	logVPPC	logVPPC0608	logVPPC0814
Const	6.4951*** (0.0443)	6.4959*** (0.0443)	1.1903*** (0.1267)	5.3731*** (0.1166)
Ddon	0.4507*** (0.0766)			
IDon		0.0951*** (0.0157)		

IDon_ods			0.3840*** (0.0634)	
IDon_cssd				0.1599* (0.0941)
Size2	0.2521*** (0.0532)	0.2519*** (0.0532)	-0.0129 (0.1647)	0.6103*** (0.1441)
Size3	0.4711*** (0.0575)	0.4697*** (0.0577)	0.8963*** (0.2033)	0.8484*** (0.1610)
Size4	0.4279*** (0.1015)	0.4232*** (0.1016)	1.8801*** (0.3659)	0.8254*** (0.2788)
Size5	0.6556*** (0.1290)	0.6504*** (0.1285)	1.5760*** (0.5763)	1.1122*** (0.3971)
Size6	0.7352*** (0.1750)	0.7344*** (0.1750)	3.6755*** (1.3643)	2.4890*** (0.2834)
R ²	0.0911	0.0916	0.0872	0.0261
Mean (dep. variable)	6.8218	6.8218	1.8077	5.9525

Source: Author's calculations based on data from EconLab.

6 Conclusion

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

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

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

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

References

- Aggarwal, R. K., Meschke, F., & Wang, T. Y. 2012. "Corporate political donations: investment or agency?" *Business and Politics*, 14 (1).
- Ansolabehere, S., de Figueiredo, J. M., & Snyder Jr, J. M. 2003. "Why is There so Little Money in US Politics?" *Journal of Economic Perspectives*, 17 (1): 105-130.
- Center for Applied Economics & Our Politicians, o.s. 2012. "Konexe – studie o střetu zájmů ve veřejných zakázkách." [CZ] Available online at: <http://zindex.cz/data/konexe-studie-o-stretu-zajmu.pdf> [Accessed 10 August 2015].
- Chvalkovská, J. & Skuhrovec, J., 2010. "Measuring transparency in public spending: Case of Czech Public e-Procurement Information System." *IES Working Papers*, 11/2010.
- Chvalkovská, J., Skuhrovec J., Janský, P. 2012. "Listinné akcie na majitele a veřejné zakázky." [CZ] *Politická ekonomie*, 3: 349–361.
- 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.
- Cooper, M. J., Gulen, H., & Ovtchinnikov, A. V. 2010. "Corporate political contributions and stock returns." *The Journal of Finance*, 65 (2), 687-724.
- Coviello, C. & Gagliarducci, S., 2008. "Political Turnover and Competition in Public Procurement Auctions." Available online at: http://www.cide.info/conf/2009/iceee2009_submission_251.pdf [Accessed 10 August 2015].
- 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.
- Dombrovsky, V. 2008. "Do Political Connections Matter? Firm-Level Evidence from Latvia." *SSE Riga/BICEPS Research Papers* 3, Baltic International Centre for Economic Policy Studies (BICEPS) and Stockholm School of Economics in Riga (SSE Riga).
- European Commission. 2014. "EU Anti-corruption Report." Available online at: http://ec.europa.eu/dgs/home-affairs/e-library/documents/policies/organized-crime-and-human-trafficking/corruption/docs/acr_2014_en.pdf [Accessed 10 August 2015].
- Faccio, M. 2002. "Politically-Connected Firms: Can They Squeeze the State?" *SSRN Working Paper Series*.
- Faccio, M. 2006. "Politically connected firms." *The American Economic Review*: 369-386.
- Fisman R., 2001. "Estimating the Value of Political Connections." *The American Economic Review*: 1095–1102.
- Fisman, R., Galef, J., Khurana, R., & Wang, Y. 2012. "Estimating the Value of Connections to Vice-President Cheney." *The BE Journal of Economic Analysis & Policy*, 13 (3): 1-20.
- 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.
- Horák, P., 2012. "Volby do krajských zastupitelstev." [CZ] Master's thesis, Masaryk University in Brno, Faculty of Law.

- International Institute for Democracy and Electoral Assistance. 2014. "Is there a ban on corporate donations to political parties?" Available online at: <http://www.idea.int/political-finance/question.cfm?field=248®ion=1> [Accessed 10 August 2015].
- Jayachandran, S. (2006). "The Jeffords Effect." *Journal of Law and Economics*, 49 (2): 397-425.
- 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.
- Mann, H. B. and Whitney, D. R. 1947. "On a Test of Whether one of Two Random Variables is Stochastically Larger than the Other." *The Annals of Mathematical Statistics*, 18 (1): 50–60.
- Pavel, J. 2010. "The Analysis of the Relationship Between the Rate of Competition and the Prices of Large Transport Infrastructure Buildings." *Politická ekonomie*, 2010 (3): 343–356.
- Nikolovová, P., Palguta, J., Pertold, F., & Vozár, M. 2012. "Public Contracts in the Czech Republic. What the Data Say on Behavior of Contracting Authorities?" *IDEA Working Papers*, CERGE-EI, Prague, Czech Republic.
- Počarovský, J. 2014. "Political connections in public procurement: a supply side analysis." Master's Thesis, Institute of Economic Studies, Charles University in Prague.
- Roberts, B. E. 1990. "A Dead Senator Tells No Lies: Seniority and the Distribution of Federal Benefits." *The American Journal of Political Science*, 34 (1): 31–58.
- Skuhrovec, J., Titl, V. & Palanský, M. 2015. "Analysis of Czech Political Party Donations." Center for Applied Economics, Prague, Czech Republic.
- Snyder, J. M., Jr. 1990. "Campaign Contributions as Investments: The U.S. House of Representatives, 1980-1986." *Journal of Political Economy*, 98 (6): 1195–1227.
- Stratmann, T. 2005. "Some Talk: Money in Politics. A (Partial) Review of the Literature." *Public Choice*, 124 (1): 135–156.
- Straub, S. 2014. "Political Firms, Public Procurement, and the Democratization Process." *Institut d'Économie Industrielle (IDEI) Working Papers*, 817.
- Transparency International – Česká republika. 2005. "Veřejné zakázky v České republice: korupce nebo transparentnost?" [CZ] Available online at: http://www.transparency.cz/doc/vz_studie_text.pdf [Accessed 10 August 2015].
- Ferguson, T., & Voth, H. J. 2008. "Betting on Hitler: the value of political connections in Nazi Germany." *The Quarterly Journal of Economics*: 101-137.
- Wilcoxon, F. 1945. "Individual Comparisons by Ranking Methods." *Biometrics Bulletin*, 1 (6): 80–83.
- Wooldridge, J. 2012. "Introductory Econometrics: A Modern Approach." Cengage Learning.