Charles University in Prague

Faculty of Social Sciences
Institute of Economic Studies

Master Thesis

The Value of Political Connections: Evidence from the Czech Republic

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Declaration of Authorship

The author hereby declares that he compiled this thesis independently, using only the listed resources and literature, and the thesis has not been used to obtain a different or the same degree.

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Prague, May 5, 2016

Signature

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Abstract

This thesis estimates the value of political connections in the Czech Republic and it is divided into two parts. The first one explores the recently extended, most advanced publicly available data set on political party financing in the Czech Republic, covering the time period 1995–2015. We analyze basic patterns in party funding and their development over time. We focus primarily on private funding from both legal and natural persons. The data show that there exists substantial heterogeneity in the volume of private funding across parties and over time, but contributions from the government budget remain the most important source of income for all larger parties. We analyze the available data on donations and discuss several issues regarding the notion that donors may view contributions as investment, yielding possible profits in the future.

In the second part, we use the data set of corporate donations to construct a proxy variable for political connections and to estimate the effect of being connected to a political party on the financial performance of such firms. We find that the connected firms perform significantly better than the non–connected ones in the years following the establishment of the connection. Furthermore, the difference is higher for firms that work closely with the public sector. We then develop a novel, dynamic approach to matching connected firms with their non–connected but otherwise similar peers, and find that on average, the connected firms report returns on equity and returns on assets approximately 20 – 30 % higher than the non-connected ones. The results also suggest that public procurement–winning firms perform similarly as the donating firms, pointing to the importance of the fact that donations are not the only source of connections between firms and politicians.

JEL Classification	D72, H7, D22
Keywords	party funding, political connections, campaign contributions, firm performance, rent-seeking, politics

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Abstrakt

Tato práce se zabývá odhadem hodnoty politických konexí v České republice a je rozdělena na dvě části. První část zkoumá v současnosti nejobsáhlejší databázi veřejně dostupných informací o financování politických stran v České republice mezi lety 1995–2015 a analyzuje obecné trendy ve financování české politické scény. Zaměřujeme se primárně na soukromé zdroje financování ve formě darů od právnických a fyzických osob. Data ukazují, že mezi stranami a v průběhu času existují významné rozdíly ve financování ze soukromých zdrojů, avšak státní příspěvky stále zůstávají nejdůležitější složkou příjmů všech větších stran. Detailně se zabýváme několika problematickými aspekty darů právnických osob. Ty mohou vnímat dary jako investici, která může následně přinést zisk.

Ve druhé části využíváme databázi darů právnických osob k identifikaci politických vazeb a snažíme se vyčíslit efekt těchto konexí na výkonnost napojených firem. Ukazujeme, že darující firmy dosahují výrazně lepších finančních výsledků než nenapojené firmy. Tyto rozdíly jsou větší pro firmy, které získávají veřejné zakázky a evropské dotace. Následně práce využívá inovativního dynamického přístupu k párování darujících firem s těmi nedarujícími, které však mají podobné charakteristiky. Darující firmy vykazují v průměru o 20 – 30 % vyšší zisky než ty nedarující. Výsledky také naznačují, že firmy, které vyhrávají veřejné zakázky, mají podobnou výkonnost jako darující firmy, což poukazuje na fakt, že kromě poskytování darů stranám existují i jiné druhy vazeb mezi firmami a politiky.

Klasifikace JEL	D72, H7, D22
Klíčová slova	financování politických stran, dary politickým stranám, sponzoring, politika, politické konexe, výkonnost firem

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Acronyms

CZK	Czech Koruna
ČPS	Pirate Party
Dawn	Dawn – National Coalition
ČSSD	Czech Social Democratic Party
KDU-ČSL	Christian Democratic Union – Czechoslovak People's Party
KSČM	Communist Party of Bohemia and Moravia
LEV 21	National Socialists — Left of the 21st Century
ODS	Civic Democratic Party
ŘN	Order of the Nation
S.cz	Severočeši.cz (North Bohemians)
SPO	Party of Civic Rights
SSO	Party of Free Citizens
STAN	Mayors and Independents
SZ	Green Party
VV	Public Matters

Master's Thesis Proposal

Author	Bc. Miroslav Palanský
Supervisor	Petr Janský, Ph.D.
Proposed topic	The Value of Political Connections: Evidence from the Czech Republic

Motivation

Corporate political connections have recently become a wildly discussed topic in both academia and media. From personal ties (friendships, relationships etc.) to more 'economic' connections, such as campaign contributions or discounted services, the connectedness of politicians with firms constitutes many risks of conflicts of interest, corruption or rent-seeking. In this paper, we focus on one specific channel through which firms may connect with political parties—campaign contributions. What motivates firms to support a political party financially? Does donating to political parties enhance the profits of the donating firms? If so, to what extent?

Previous literature has shown that firms that are somehow connected to the parties in power may enjoy significant benefits as compared to non-donating firms. These benefits take on diverse shapes – from rather indirect channels such as legislation skewed in favor of specific firms or better access to credit to more direct ones, such as influencing outcomes of public procurement auctions or state and European grants. Khwaja and Mian (2005) showed that Pakistani firms associated with politicians enjoy better access to credit, De Figueiredo and Edwards (2007) found a significant effect of private money on regulatory outcomes. Some researchers, for example Goldman et al. (2013), who focused on American S&P 500 firms, have found a significant positive effect of connections on the allocation of public funds through procurement spending. Cingano and Pinotti (2013) 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.

Another strand of literature to which this thesis adds is the one focusing on political donations themselves. We present a novel, hand-collected data set that is unique both in the Czech Republic and internationally. It comprises all donations made to political parties between 1995 and 2014. To our knowledge, these data have never been analyzed to the extent that we reach in this thesis. In addition, we publish the extended data set online at PolitickeFinance.cz, which is a project run by EconLab, a Czech NGO. We provide the option to download the data in a way that allows for its further analysis.

Researchers analyzing data on political donations include for example De Figueiredo and Edwards (2007), who provide a political explanation for the variation in regulatory outcomes across the US. Their results suggest that there is a positive and significant relationship between political donations made by telecommunication companies and the level of local loop prices. While most of the literature analyzing political contributions is based on US data, partly due to bad availability of data in other countries, there are some exceptions. For example, Amore and Bennedsen (2013) successfully unveiled that even in a low-corruption environment, such as Denmark, political connections boost firms' operating returns, and more so at local governmental levels.

Last but not least, this paper contributes to the Czech literature on political economy. In the last few years, the politicians and media often speak of the critical need of a revision of the act on political party financing. Partly motivated by these discussions, a number of analyses have been carried out recently. Palanský (2014) estimated the effects of political connections on public procurement outcomes; Skuhrovec et al. (2015) analyzed the parties' financing more thoroughly, focusing mainly on the shortcomings of the current legislation. This paper provides additional arguments to this discussion.

Hypotheses

We develop several empirical hypotheses to test the effects of political donations on firm performance. The first one is that firms that donate to political parties have significantly better performance than average firms in the industry. Second, the more a firm donates, the better its performance within the group of donating firms. This way, we uncover the extent to which corporate political donations pay off. Furthermore, we distinguish whether the donation was made to the party in power (meaning being a part of the governing coalition) or to another party. We use a number of changes in political power as a form of a natural experiment. This

allows for the third hypothesis of whether donations to the parties in power have a higher effect on economic performance of firms than donations to other parties.

Furthermore, we develop a novel approach to estimate the effect of donations to political parties. We compare the politically-involved firms with otherwise similar, but non-connected firms. The hypothesis is that firms that donate to political parties make, on average, higher profits than other firms, which would suggest that firms are able to exploit their connections to enhance own profits. Nevertheless, unveiling the individual channels through which the added value of firms may be generated is beyond the scope of this thesis.

Expected Contribution

There are several reasons why the Czech Republic is an ideal case to study the effects of political donations. Firstly, taking into account various studies and surveys and individual cases presented in the media, the value of political connections is likely to be higher than in other countries. Secondly, the availability of high quality data on both political donations and firm performance during a remarkably long time period allows for exceptional analyses. Third, the current discussions about the new act on political financing lack fundamental arguments based on hard data. In the present thesis, we provide additional input to this discussion.

Furthermore, we provides additional evidence in the field of political connectedness of firms and its effects. We use a unique database of political donations that covers a relatively long time period. Unlike previous literature, we attempt to overcome the problem of endogeneity of political donations by dynamically matching connected firms with their non-connected peers.

Outline

1. Party Funding in the Czech Republic 1995-2015
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    (b) Party Budgets
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    (d) Conclusion
2. The Value of Connections During a Post-Transition Period: Evidence from the Czech Republic
    (a) Introduction
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(c) Methodology

(d) Data

(e) Results

(f) Conclusion

Author

Supervisor

Chapter 1

Introduction

Financing of political parties has recently become a widely discussed topic in the Czech Republic. Opinions on the most suitable way and level of regulating private and public money in politics vary significantly not only among politicians, but also among journalists, academics and the general public. However, most of the debates on this topic lack reliable sources of information and data. This thesis is composed of two parts, which can be considered as separate works, however, the main objective of both is to provide evidence–based arguments to the discussion about political financing in the Czech Republic, which is becoming increasingly important in the recent years as the planned novelization of the law keeps being pushed forward.

Chapter 2 presents a short descriptive summary of the database on political party financing in the Czech Republic between 1995 and 2015 which was extended for the purposes of this thesis by including data for years 1995-2005. To our knowledge, the present study represents the first work that sheds light on the details of private funding of Czech political parties to the greatest possible extent and time span given the availability of public data. This work intends to stimulate the use of the database by other researchers and journalists to study the complex issue of political party funding more extensively and investigating the issues presented in this thesis in greater depth.

The objective of the main part of this thesis, Chapter 3, is to empirically analyze the motivation of Czech firms to donate money to political parties. Building on the theoretical concepts outlined in the previous literature, we argue that firms may view these donations as investment, which may eventually yield profits through various channels. Compared to the existing empirical literature, we use more accurate and extensive data and a more general

methodology to assess the differences in financial performance of donating and non–donating firms. The results suggest that in the Czech case, it is in fact likely that firms are able to exploit their connections to politicians and thereby improve their financial profitability. We present a number of additional findings regarding public procurement participation and the differences in the importance of connections across industries.

Chapter 2

Political Party Funding in the Czech Republic 1995—2015

2.1 Introduction

The role of money in politics in today's modern form of democracy is crucial. Electoral candidates throughout the world, realizing the importance of private money in their campaigns, vie with their peers for funds from both businessmen and voters. However, private agents, as numerous anecdotal evidence in the media suggests, may often demand something in return for their financial support. An answer of the current front-running Republican US presidential candidate and a successful businessman, Donald Trump, to a reporter's question regarding his past donations to politicians sums up the issue quite accurately: *"I will tell you that our system is broken. I gave to many people, before this, before two months ago, I was a businessman. I give to everybody. When they call, I give. And do you know what? When I need something from them two years later, three years later, I call them, they are there for me."*

The risks of conflict of interest of the elected politicians which are directly supported by businessmen are palpable and previous empirical literature suggests that they may be relatively widely exploited. Effective public control of the financing of politics is thus key to maintaining a stable democracy. In this chapter, we present the basic characteristics of a novel data set on political party financing in the Czech Republic between 1995 and 2015. We examine the role of private donations to political parties and their effects on party funding before, during and after major elections. Donations by natural and legal persons play a crucial role in the financing of Czech political parties. For in-

dividual parties currently present in the Chamber of Deputies, they accounted for up to more than 37 % of all income in 2015. At the same time, they represent a source of controversy and numerous political scandals. The objective of this chapter is to present the newly created data set on the financing of Czech political parties as well as some tools that can potentially be used to control it, with the aim to stimulate the discussion about party funding in the Czech Republic.

The remainder of this chapter is structured as follows. In Section 2.2 we briefly introduce the current legislation regulating the financing of political parties and analyze the structure of financing of parties over time. Section 2.3 focuses on private donations to political parties. We analyze the differences between corporate donors and individual natural persons—donors, present some descriptive statistics of the database of political donations and illustrate some of the problematic aspects of private money in politics graphically. Finally, we present some demographic statistics regarding donating natural persons. Section 2.4 concludes.

2.2 Party Budgets

The primary law regulating the financing of political parties in the Czech Republic is the Act No. 424/1991 Coll. on the Association in Political Parties and Political Movements. The law has been amended and revised multiple times since it was first adopted in 1991, but the main points regarding the financing of parties have remained fairly stable.[1] In this thesis, we do not purport to analyze all individual aspects of this act nor describe its development over time, but rather focus on the current rules relevant to party funding and the types and amounts of private donations that parties receive. This section briefly introduces these rules and examines the structure of income and expenditures of individual parties.

Annual reports including lists of donors and other information on the financing and functioning of the party have to be submitted by each party every year until the end of March. These reports represent the only official publicly available information on the financing of Czech political parties. To this day, they are available only in the physical form in the Parliamentary library. For

[1]For a comprehensive review of the development of Czech legislation on political party financing, see for example the work of Šimíček (1995); Outlý (2003); Císař and Tomáš (2007) or, more recently, Šimral (2015).

some parties in the recent years, scanned PDF files are provided by the library staff. Some parties have provided information about their financing in the recent years on their websites, however, this information is not legally binding.

Since the data are not officially available online in a machine-readable way, it used to be very difficult to analyze them. For this reason, EconLab, an non-governmental, non-profit organization based in Prague, had created a project called PolitickeFinance.cz[2], a website that provides information on the financing of the main political parties online in a user-friendly way. As of February 2016, the database contained data on donors of the main political parties[3] for years 2006-2014. For the purposes of this thesis, the database of information on party funding has been extended to cover the period 1995-2015[4], i.e. to include all data for these selected parties that are available in the Parliamentary library. The complete database has been made published online as of mid-April 2016 and is now available for export in the common spreadsheet formats. The aim of the PolitickeFinance.cz project is to provide reliable and easily–obtainable information about the financing of political parties in the Czech Republic for the purposes of research, journalism and public control in general.

The law clearly states which types of income and expenditures parties may have. They are summarized in Table 2.1. A special template for the reports containing this information has been issued by the Ministry of Finance and has remained the same since 2001. An example of the income report is presented in Figure A.1 in the Appendix. For previous years, comparable information can be obtained from the parties' balance sheets.

Figure 2.1 shows the importance of each type of income and expenditure (as outlined in Table 2.1) for all parties in the database. The most important source of income for Czech political parties is the contribution from the government budget. Over the examined time period, the State has paid out more than CZK 7,5 billion in contributions to cover operational expenses to the budgets of political parties. In addition, nearly CZK 3 billion were paid out to cover election expenses, which also represent a very important income source for Czech parties, however, they are only paid in years in which the most important

[2]"Political Financing"; English version available at: `http://www.politickefinance.cz/en`

[3]In total, 16 parties are included (those that received at least 1 % of all votes in the 2013 elections to the Chamber of Deputies). However, for some parties, only some years are covered, as they were created only recently or were very small in the beginning of their existence.

[4]In this chapter, we only use data for the period 1995-2014, as information for 2015 was only made available in the beginning of April, i.e. after the time of writing of this chapter.

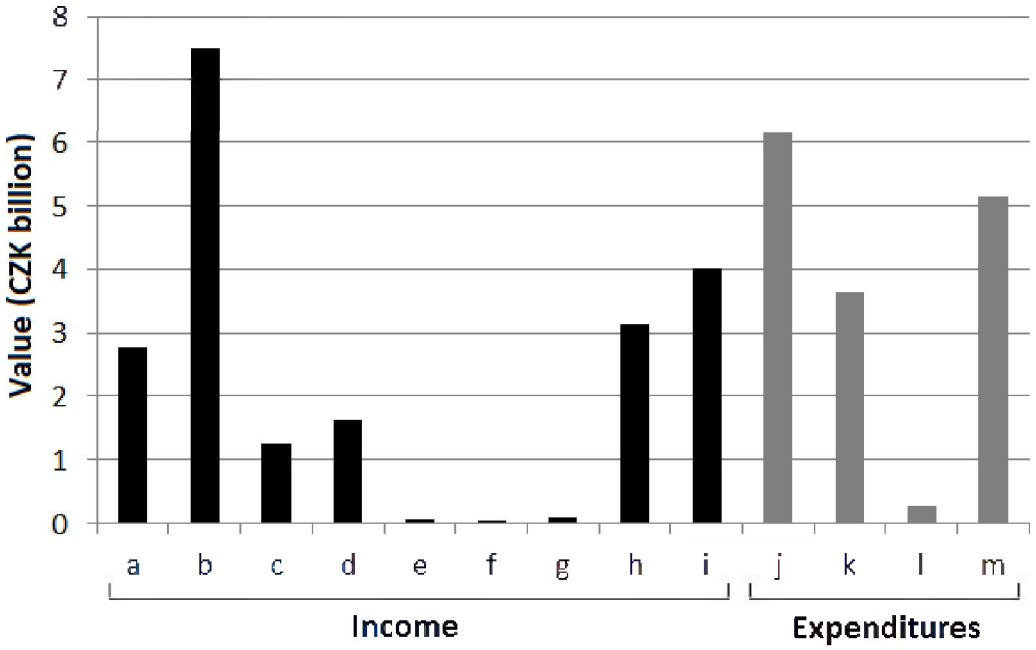
Table 2.1: Categories of income and expenditures of Czech political parties allowed by the law.

Income
a) Contribution from the State budget to cover election expenses
b) Contribution from the State budget to cover operational expenses
c) Member contributions
d) Revenues from rental and sale of movable and immovable assets
e) Interest on deposits and foreign exchange gains
f) Revenues from participation in the business of other legal persons
g) Revenues from cultural, social, sporting, recreational, educational and political events
h) Donations and heritage
i) Loans and credit
Expenditures
j) Operating expenses
k) Salaries
l) Taxes and fees
m) Election expenses

Source: Act No. 424/1991 Coll., author's translation.

elections—to the Chamber of Deputies—take place. If we do not consider loans, which are not an actual source of income as they have to be repaid, donations represent the second most important source of income for Czech parties. In total, the observed parties received more than CZK 3 billion in private donations from natural and legal persons between 1995 and 2015.

Figure 2.1: Income and expenditures of Czech political parties, 1995-2015 (by category).



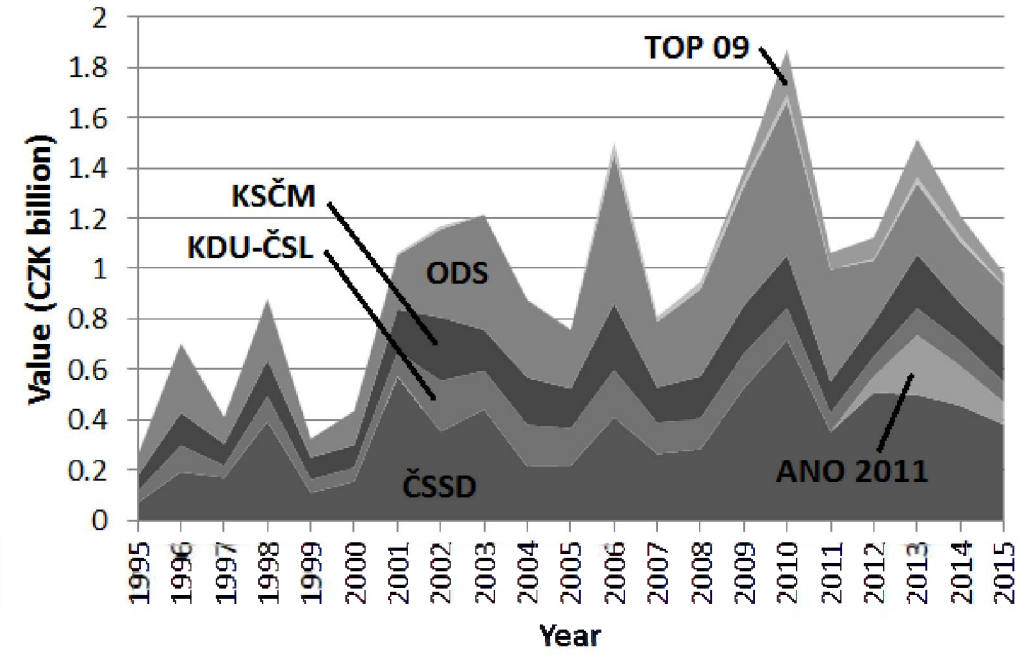
Source: Author based on data from PolitickeFinance.cz.

As seen from the comparison of bars m) and a) in Figure 2.1, the State's contributions designed specifically to cover election expenses are lower than what parties actually report to have spent on elections. The budget deficits that arise in election years are covered not only from the State's contributions to cover operational costs, but largely also by donations, as further documented by Figure 3.1 in Chapter 3.

Figure 2.2 shows the development of the total income of the examined political parties over time. We observe that every year, the two largest Czech parties, Civic Democratic Party (ODS) and Czech Social Democratic Party (ČSSD), have received more money than the rest of the observed parties combined. The total amount of money received by these parties shows an increasing trend over time, with observable peaks in the years in which the main elections take place (those to the Chamber of Deputies). The income of some parties, such as Christian Democratic Union – Czechoslovak People's Party (KDU-ČSL) or Communist Party of Bohemia and Moravia (KSČM), is more stable over time than others', which is caused not only by more conservative and loyal members and donors, but also by a relatively steady presence in the Chamber of

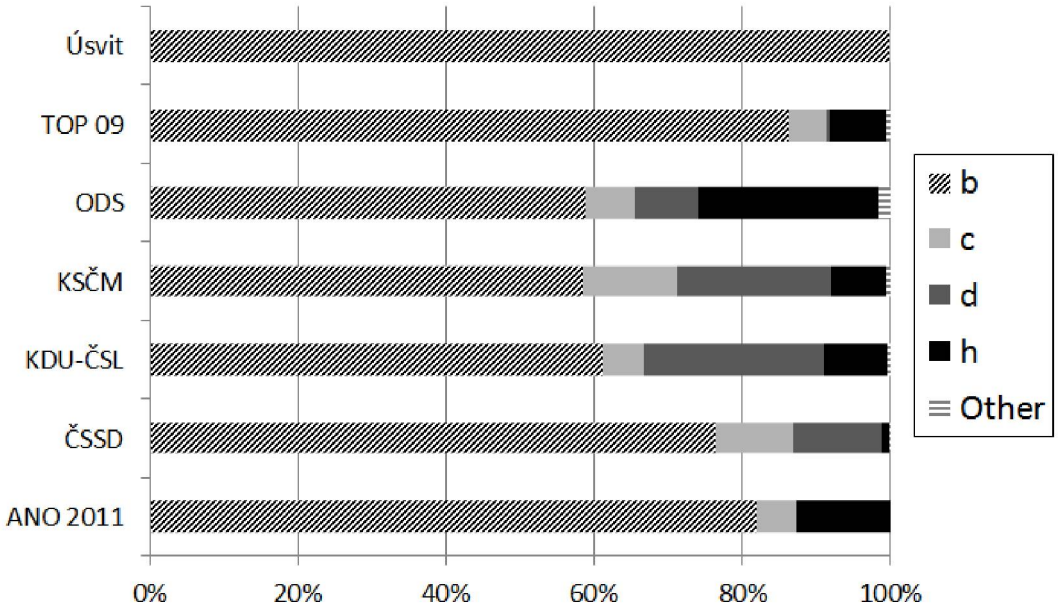
Deputies in terms of the number of mandates, on the basis of which the State's contributions are calculated.

Figure 2.2: Total income of selected Czech political parties, 1995-2015.



Source: Author based on data from PolitickeFinance.cz.

Figure 2.3: The relative importance of the main income categories for selected Czech political parties, 2015.



Source: Author based on data from PolitickeFinance.cz.

Figure 2.3 focuses on the relative importance of the main sources of income in 2015 for the 7 parties which are currently present in the Chamber of Deputies. The definitions of each category of income and expenditures are presented in Table 2.1. One aspect is common for all parties—they are existentially dependent on the State's contributions, which represent between 53 and 99 % of the total income of these parties (excluding loans and credit). The structure of the remaining part of income varies significantly across parties. Traditionally, ODS remains the party with the most significant income from donations, receiving over CZK 25 million in 2015. Other parties (such as KSČM and ČSSD) rely heavily on member contributions. All four "traditional" parties which have been operating since the early 1990's (ODS, KDU-ČSL, KSČM and ČSSD) receive a relatively high percentage of their income in the form of revenues from the rental and sale of movable and immovable assets. Meanwhile, the importance of the State's contributions and private donations is much higher for the newly created parties (TOP 09, ANO 2011, Dawn – National Coalition (Dawn)).

2.3 Political Donations

Private money in politics, especially those coming from legal persons, are a salient issue and a source of controversy throughout the world. In fact, according to the Political Finance database[5] run by the International Institute for Democracy and Electoral Assistance (IDEA), 44 out of 170 covered countries ban corporate donations to political parties. In the European Union, 13 out of the 28 member countries forbid parties from receiving donations from legal persons.

One of the newest additions to this group is Lithuania, which enacted a ban on all corporate donations to political parties in 2012. This exogenous change was examined by Baltrunaite (2016) who found that firms that contributed to political parties before the reform were significantly more likely to win public procurement auctions, while shortly after the reform, this difference has vanished. Anecdotal evidence confirming this pattern is quite common in the media in countries that allow corporate donations, including the Czech Republic.

As of April 2016, all legal and natural persons in the Czech Republic are allowed to donate any amount of money to any political party. However, if donations from a single donor to a single party exceed CZK 50,000 (approximately 1,850 EUR) in total within one particular year, a verified copy of the donation contract needs to be included in the annual report of the party.

The purpose of this section is to present a novel database of all donations made to selected largest political parties in the Czech Republic between 1995 and 2015. The full database is available for download from the website of the PolitickeFinance.cz[6] project. Additionaly, we present some aggregate statistics which use personal data of donors which cannot be made available online due to the consequences of the Act No. 101/2000 Coll. on Personal Data Protection.

A descriptive summary of the donations database is presented in Table 2.2. All 16 parties that received at least 1 % of all votes in the 2013 elections to the Chamber of Deputies or have been present in the Chamber of Deputies in the last election period before the 2013 elections are included in the database. ODS collected the most revenue from donations in 17 out of the 21 observed years, in the remaining 4, it was ČSSD. We observe again that the relatively

[5] Available at `http://www.idea.int/political-finance/`, information retrieved on April 16, 2016.

[6] `http://www.politickefinance.cz/en/`

Table 2.2: Summary of the database of Czech political donations, 1995-2015. All values are in CZK thousands.

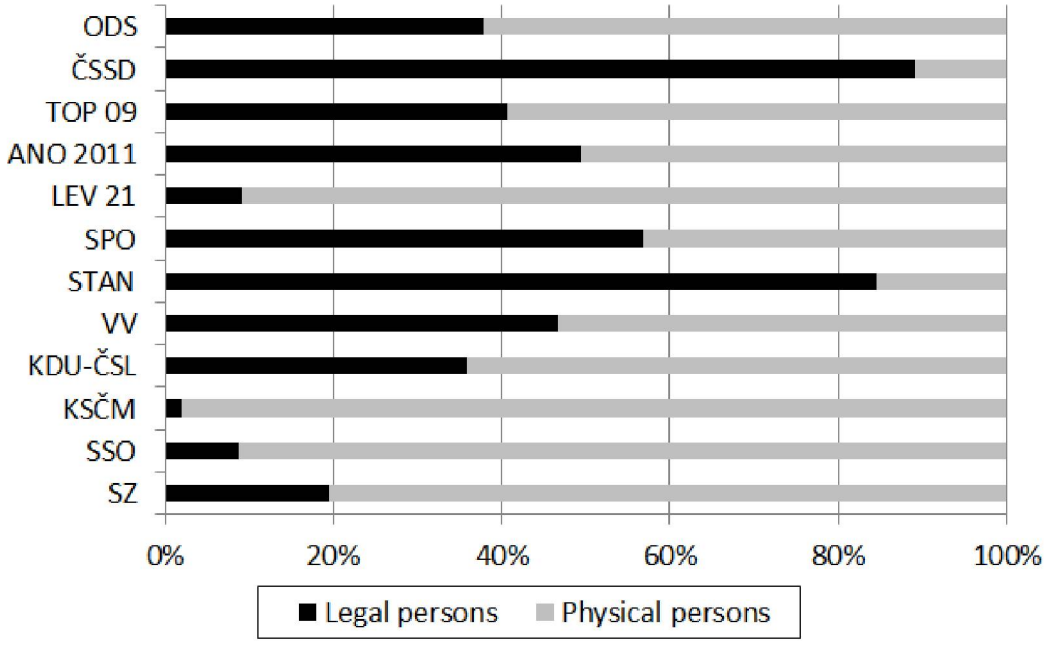
Party	Observed time period	Avg sum of donations per year	Min	Max	St.Dev.
ODS	1995-2015	56,686	6,580	232,912	51,479
ČSSD	1995-2015	55,181	236	385,843	99,890
TOP 09	2009-2015	29,310	3,566	57,548	19,074
ANO 2011	2012-2015	25,817	6,443	63,983	26,431
LEV 21	2012-2015	17,147	1,239	33,686	14,313
SPO	2012-2015	14,718	3,323	29,077	10,843
STAN	2012-2015	10,166	2,787	15,954	5,979
VV	2006-2015	8,291	0	38,343	13,110
KDU-ČSL	1995-2015	6,127	126	20,983	5,420
KSČM	1995-2015	3,897	0	11,256	3,514
SSO	2013-2015	2,357	1,425	3,526	1,070
ŘN	2012-2015	1,549.5	0	3,025	1267
SZ	1995-2015	1,265	0	6,378	1,724
ČPS	2013-2015	341	81	682	309
Dawn	2013-2015	165	0	269	144
S.cz	2013-2015	2	0	6	3

Source: Author based on data from PolitickeFinance.cz.

younger parties are strongly dependent on private donations (TOP 09, ANO 2011, Party of Civic Rights (SPO)).

Figure 2.4 shows the share of donations from legal and natural persons on the total donations revenue of the largest Czech parties. We observe a high level of heterogeneity across parties, with some of them strongly dependent on the income from natural persons (KSČM, Party of Free Citizens (SSO), National Socialists — Left of the 21st Century (LEV 21)) while others, on the contrary, rely heavily on legal persons' donations (ČSSD, Mayors and Independents (STAN), SPO).[7]

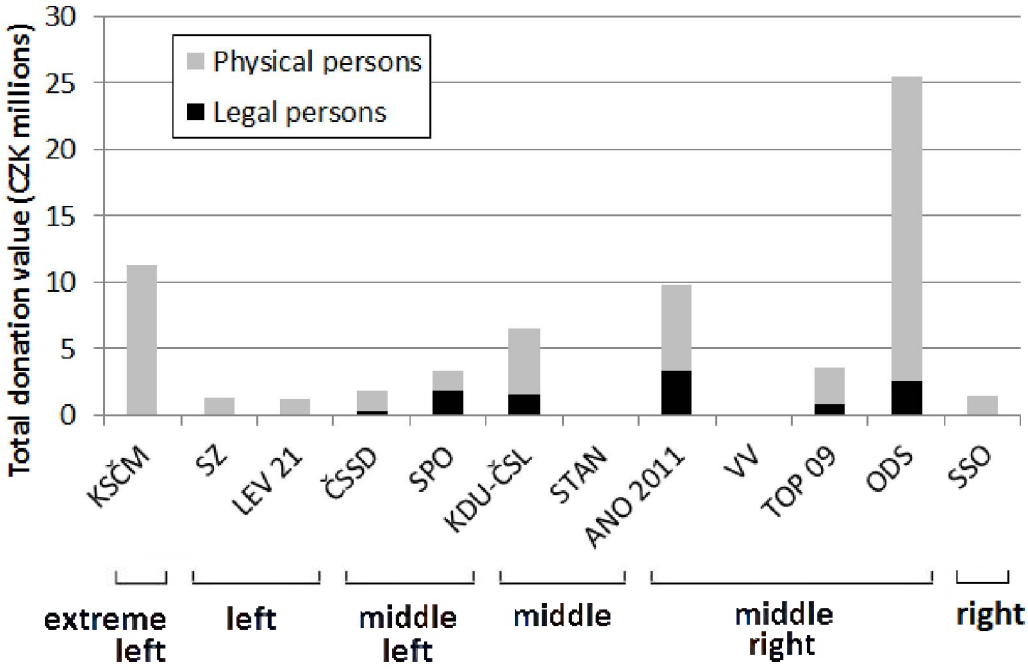
Figure 2.4: Share of donations from legal and natural persons, selected parties, 1995-2015.



Source: Author based on data from PolitickeFinance.cz.

[7]Note that ČSSD has reported donations from *Cíl, akciová společnost v Praze* worth a total of Czech Koruna (CZK) 976 million, without which its share of legal persons' donations on total donations drops from 89.11 % to 30.96 %, a rather below-average number across other parties. This issue is further discussed in Section 3.4.1.

Figure 2.5: Share of donations from legal and natural persons, selected parties, 2015.



Source: Author based on data from PolitickeFinance.cz.

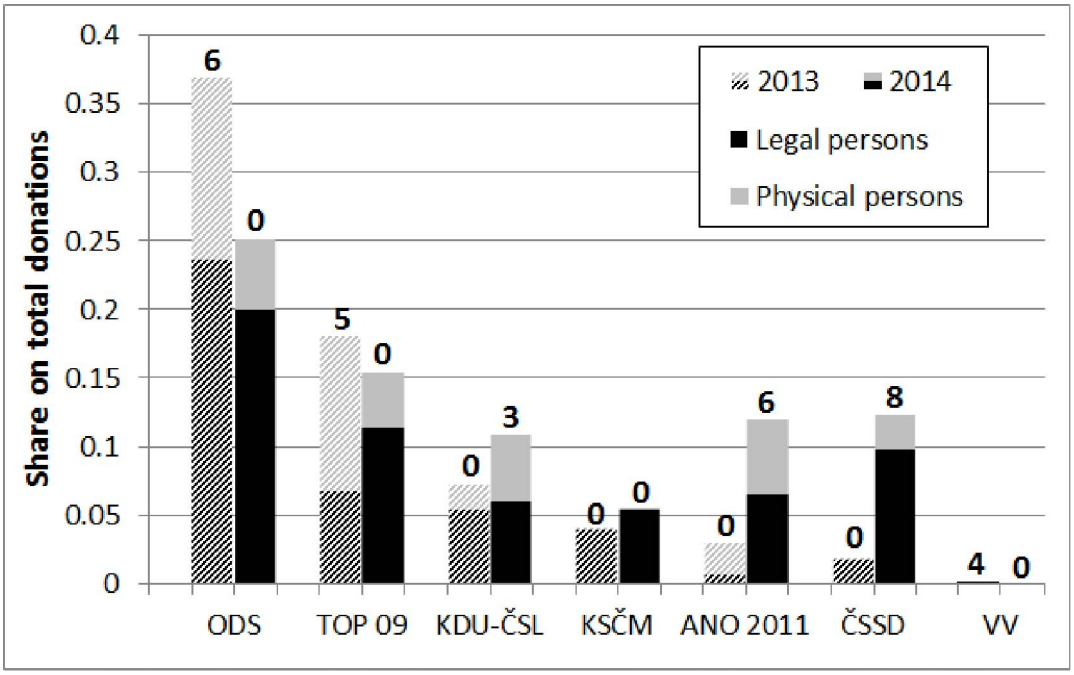
As the value of received donations varies significantly over time and across parties, perhaps a more accurate picture of the current situation is painted by Figure 2.5 which shows the same parties but only for the year 2015. For each party, their official position on the political spectrum[8] is indicated and they are sorted accordingly. We observe that in general, left-wing parties receive less donations from legal persons than parties on the right and in the middle, which are more business-oriented in their overall political ideology. These observations are again in accordance with the idea that firms donate money to political parties because they see potential advantages for themselves in it. Corporate donations of the highest value were collected by ANO 2011, a mid-right party which currently holds 6 out of 17 government positions.

We show one more graph connected to the motivation of donors. Figure 2.6 shows, for selected parties, the change in the share of received donations on the sum of donations to all parties in 2013 and 2014. In October 2013, after the fall of the government led by Petr Nečas (ODS), snap elections to the Chamber of Deputies took place in which ODS and TOP 09 (the two major government

[8] As stated on each party's website or in their annual reports.

coalition partners in the 2010-2013 period) lost 52 out of their previous 94 seats. ČSSD celebrated an important win in these elections with 50 obtained seats, ANO 2011 finished closely second with 47 mandates. The new government was composed by the current Prime Minister, Bohuslav Sobotka (ČSSD), with ANO 2011 and KDU-ČSL as coalition partners. This major shift of political power was accompanied by a significant decrease of the share on total donations for the parties which lost their strong positions and an increase for the winning parties. The numbers above individual bars represent the number of positions of each party in the government before (2013) and after (2014) the 2013 elections. Donations from legal persons are the principal drivers of the increase in the share of donations to ČSSD and ANO 2011.

Figure 2.6: Change in the share on total donations between 2013 and 2014. The numbers above bars represent the number of members of the government from each party before and after the 2013 elections.

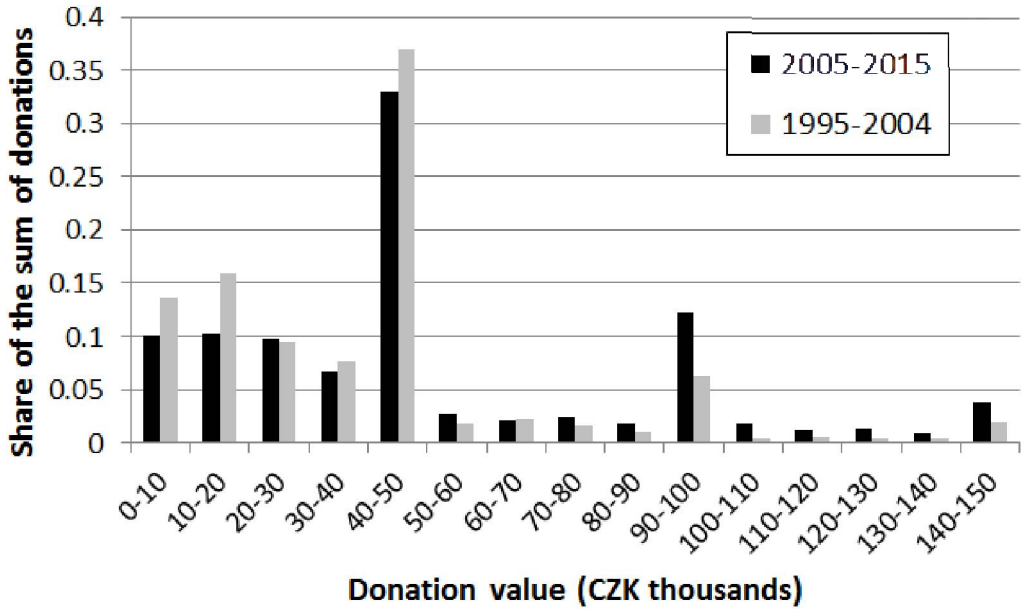


Source: Author based on data from PolitickeFinance.cz.

These simple observations based on descriptive analysis of the data set of political donations in general support the idea behind the hypotheses formulated later in Chapter 3 in that firms may view donations as an investment, which may potentially yield profit. Let us now move our attention to the analysis of donations made by natural persons. Figure 2.7 presents the distribution of donations from natural persons according to their value. The bars represent

the share of the sum of donations of the respective value on the total sum of donations under CZK 150 thousand. There exists a clear pattern of clustering of donations under the CZK 50,000 limit under which parties do not have to include a copy of the donation contract in their annual reports; similar but smaller peaks can be observed under the subsequent rounded numbers—100,000 and 150,000.

Figure 2.7: Share of the sum of donations in each bin on the total sum of donations under CZK 150 thousand.



Source: Author based on data from PolitickeFinance.cz, updated from Skuhrovec et al. (2015).

Skuhrovec et al. (2015) hypothesized that this effect might arise due to possible attempts by either parties or donors to hide the real source of money; similar considerations were undertaken by Šimíček (2000) and Císař and Tomáš (2007). However, new evidence brought about by the extension of the database of donations shows that this is most likely not the case, at least not to a large extent. In Figure 2.7 we divide the data into two groups, before and after 2005, which is the year in which the new amendment to the Act No. 424/1911 Coll. came into effect, obliging parties to include donation contracts for all donations above CZK 50 thousand. We do not find any significant effect of this exogenous change. This result suggests that the reason behind the clustering of the donations under this limit are rather natural on the side of the donors

(rounded amounts are more likely to be donated) or administrative on the side of the parties (filling out donation contracts is costly).

Nevertheless, evidence from the media as well as police investigations of some of the scandals document that parties (or donors) have in the past tried to hide the real source of the money by, for example, reporting donors younger than 1 year of age at the time of the donation (Skuhrovec et al. 2015); a 22-year old hairdresser on maternal leave who donated CZK 1 million to ODS in 2014[9] or the infamous Lajos Bács, a Hungarian man that had been declared deceased by the Hungarian government several years before he allegedly donated money to ODS in 1995.[10]

The fact that parties are obliged to publish some personal data of their donors allows for a limited demographic analysis of the donor community.[11] In 2015, 4,034 donations from natural persons were reported by the 16 parties in the database. However, some parties report more individual donations from the same donor. We merge such entries to obtain the total sums donated by each donor and obtain 3,613 unique donors who donated more than CZK 56.33 million. The average natural person—donor thus donated CZK 15,591.

Out of the 3,613 donating natural persons, 2,849 were men (78.87 %) and 763 women (21.13 %). As shown in Figure 2.8, ANO 2011 and Green Party (SZ) have the highest share of women among their donors—around 34 %. Not taking into account LEV 21, which only had 1 natural person (a man) among its donors, Pirate Party (ČPS) have the lowest share of female donors at 3.78 %. On average, donations from men were worth CZK 16,121 while those from women only CZK 13,623.

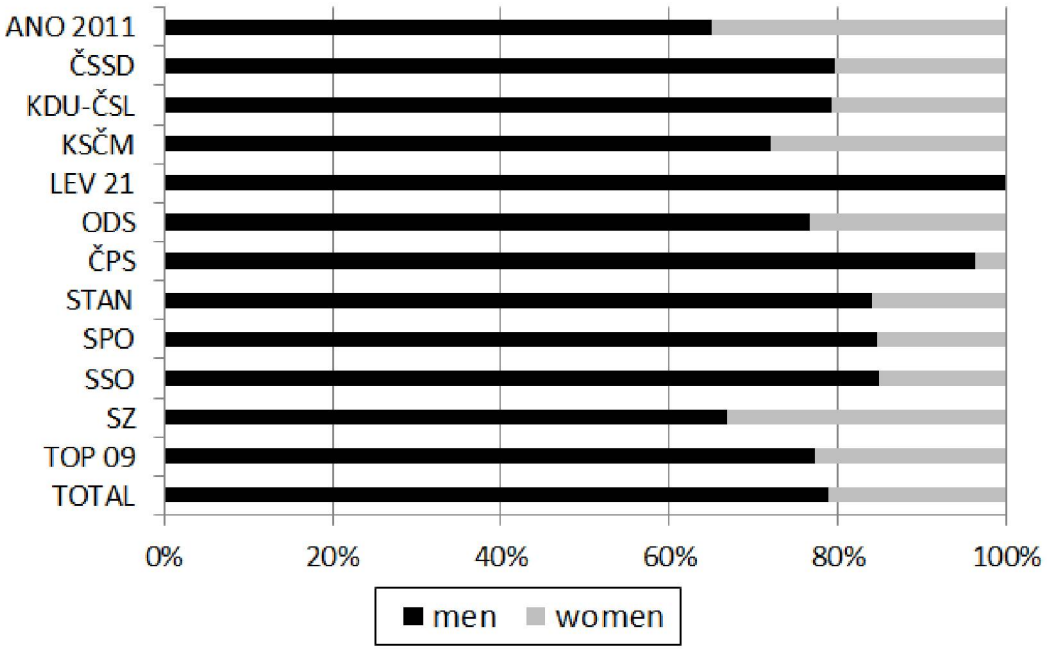
Figure 2.9 is our last graph and shows the average age of donors of Czech political parties in 2015. Consistent with the demographic statistics of election results, KSČM's donors are the oldest ones on average. On the other side of the spectrum, ČPS and SZ attract the youngest contributors. The average donor of a Czech political party is a little over 49 years old.

[9] Aktuálně.cz, April 5, 2014. *Štědrý sponzor ODS? Mladá kadeřnice na mateřské dovolené.* Available at: `http://zpravy.aktualne.cz/domaci/milionovy-sponzor-ods-mlada-kadernice-na-materske-dovolene/r~203020bcbc9f11e38e490025900fea04/`. ODS has returned the donation after a scandal burst out in the media.

[10] Respekt, December 1, 1997. *Černý účet ODS.* Available at: `http://www.respekt.cz/tydenik/1997/49/cerny-ucet-ods`. It was later discovered that the real donor of this money was Milan Šrejbr, a businessman.

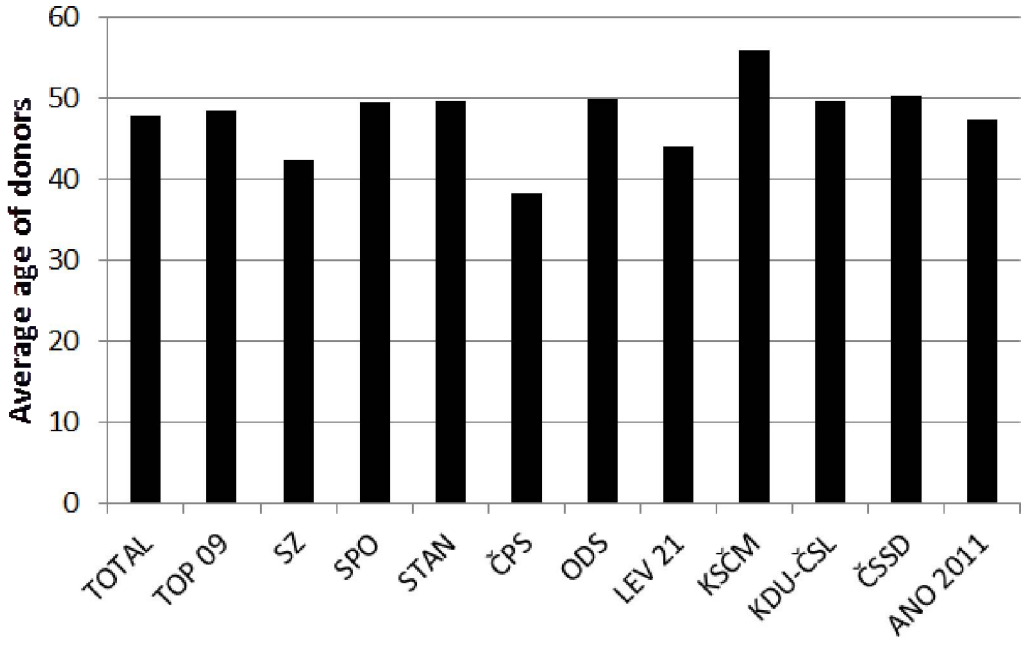
[11] As explained above, this data cannot be published online due to personal data protection laws.

Figure 2.8: The share of male and female natural donors, 2015.



Source: Author based on EconLab's internal data.

Figure 2.9: The average age of natural donors of political parties, 2015.



Source: Author based on EconLab's internal data.

2.4 Conclusion

In this short descriptive chapter, we explored the recently extended, most advanced publicly available database on political party financing in the Czech Republic, covering the time period 1995-2015. The extension, concluded as part of the work on the present thesis, represents a substantial leap toward the ultimate goal of EconLab's project PolitickeFinance.cz to provide an exhaustive source of data on political party financing in the Czech Republic. Two main data sets are included in the database—one deals with the budgets of individual parties, the second one contains all reported donations from legal and natural persons.

First, we summarized the main characteristics and rules regarding political party funding as set by the current legislation. We analyzed the development of the structure of income and expenditures of Czech parties, focusing primarily but not exclusively on private funding. Next, we described the current state of regulation of private donations and provided a descriptive summary of the entire data set of donations, which currently contains 60,935 entries. We continued by analyzing the shares of corporate and individual donations across parties and across the political ideology spectrum. Then we presented some support for the motivation behind the hypotheses formulated and tested in Chapter 3, used the new data to improve findings reached in the previous literature regarding the clustering of donations just under the legal limits under which donation contracts need to be included in the annual reports, and finally explored some demographic characteristics of donating natural persons.

Encouraging further use of the data to explore patterns in party funding or unveil potential unethical practices is one of the main aims of this chapter. We hope that the examples of graphical representations of data as well as summary tables explaining different issues will ignite the imagination of readers to probe the complex topic of political finance in a more extensive manner.

Chapter 3

The Value of Political Connections During a Post-Transition Period: Evidence from the Czech Republic

3.1 Introduction

Corporate political connections and their effects have recently become a wildly discussed topic in both academia and media. From personal ties (friendships, relationships etc.) to more 'economic' links, such as campaign contributions or the provision of discounted services, connections between firms and politicians imply increased risk of conflicts of interest, corruption, rent–seeking or providing discriminating political favors to the connected firms. Does becoming politically connected represent a profitable investment for firms?

Previous literature has shown that firms that are somehow connected to political parties may enjoy significant benefits as compared to non–connected firms. These benefits may take on diverse shapes: from rather indirect channels such as legislation skewed in favor of the connected firms to more direct ones, such as influencing the outcomes of public procurement auctions. In this case study, we focus on one important type of political connections—direct corporate donations to political parties—and examine whether connected firms have performed better than non–connected firms during the post-transition period in the Czech Republic. We address fundamental policy questions such as: Do political connections ultimately lead to higher profits of connected firms as compared to non–connected ones? Is the effect different for firms that work closely with the public sector? Are political connections relatively more important in

smaller cities?

In this chapter, we develop several groups of empirical hypotheses to test the effects of political connections on firm performance. The first one is built around the notion that firms that donate to political parties have significantly better performance than other, non-connected firms following the establishment of the donation. We find this effect to be significant in a fairly robust way. In the second part of the empirical analysis, we hypothesize that the more a firm donates to political parties, the better its performance within the group of donating firms. The results suggest that corporate donations may be thought of as merely an indicator of closeness to the politicians rather than an actual measure of political connectedness. Next, we distinguish whether the donation was made to the party in power (meaning being a part of the governing coalition) or to another party. This allows for the third group of hypotheses of whether donations to the parties present in the government at the time of the donation have a higher effect on economic performance of firms than donations to other parties. Somewhat surprisingly, we find that donating to the party present in the government is on average associated with lower financial performance, a result which points to the importance of lower-than-national levels of government, especially in public procurement.

Furthermore, building on and extending the approach common in the previous literature, we develop a novel dynamic matching procedure to pair connected firms with their non-connected but otherwise similar peers based on a number of firm-, industry- and time-specific characteristics. We find that connected firms perform significantly better, but this effect diminishes in case we compare them with non-connected firms that receive public procurement or European grants. For firms that do not, however, the effect of connections is relatively strong. Our results from examining the relationship between connections and firm performance thus confirm the previous findings in that the connected firms are likely to be able to exploit their connections successfully for own profit. Nevertheless, unveiling the individual channels through which the added value of firms may be generated is beyond the scope of this thesis.

The remainder of this chapter is structured as follows. Section 3.2 summarizes the previous literature on the role of corporate political connections and the channels through which they may be exploited. In Section 3.3, we describe the empirical methodology used to examine the effects of these donations on the performance of Czech firms as compared to other, non-donating firms and formulate the specific hypotheses tested with the aim to find evidence for these

effects. In Section 3.4 we present the used data sources—a novel, extended data set on political donations in the Czech Republic made between 1995 and 2014 and data on firm performance covering the same time period. Section 3.5 summarizes the results of the analysis and describes the performed robustness checks. Finally, in Section 3.6 we sum up the main results and their implications.

3.2 Literature Review

The purpose of this section is to provide a comprehensive review of literature analyzing political connections and the way they may help the connected firms. The empirical literature relevant to the topic of this chapter can be classified based on two different identifiers. The first one is the proxy variable used to estimate political connections. For it is impossible to identify corporate political connections with perfect accuracy, different types of proxy variables have been used by researchers to estimate the extent of political connectedness of individual firms. These include primarily personal connections (family relationships, professional, educational or friendship ties, etc.), campaign contributions, ownership linkages, or simply the fact that some former or current politicians engage in business activities. As data on political connections are in general very scarce or difficult to obtain, different proxies for political connections are relevant in different settings.

The second approach to classify research examining the effects of political connections starts on the other end of the problem—on the side of the variables that are hypothesized to be affected by the fact that firms are connected. Due to similar issues with data (un)availability, studies have focused on different areas. Largely thanks to usually easily obtainable data, a relatively large body of literature has focused on the differences in stock returns of connected and non-connected firms; other researchers focus on more direct measures of firm performance, such as financial profitability (ROE, ROI, OROA, etc.) or firm growth (sales, equity). Another category is made up by studies that focus on the actual channels through which connections may be exploited and thereby increase the value of the connected firms. These include access to credit, effective tax rates, public procurement outcomes, the allocation of public funds through grants, regulatory outcomes etc.

In this section, we aim to provide a comprehensive survey of the literature using both approaches to its classification as outlined above. We do not review

the theoretical work that has began developing in the 1980's but rather focus on the more recent, empirical research[1] We start by the different proxies used to estimate political connectedness and then complement this classification by reviewing the literature from the point of view of the affected variables.

3.2.1 Defining Political Connections

Mainly due to unavailability of reliable data in different settings, empirical literature defines political connections in different ways. The pioneering work by Faccio (2006) was the first rigorous international study to focus on a large scale on personal ties between politicians and firms. Specifically, she identified a firm as connected if one of the company's large shareholders or top officers was a member of parliament, a minister, the head of state or a close relative of a top official. The results of her study showed that a firm's stock prices tend to increase significantly after a businessperson from that firm enters politics. Since then, many researchers tried to support these results using data on personal ties between politicians and firms for individual countries. For example, Niessen and Ruenzi (2010) used the introduction of new business–ownership transparency laws in Germany in 2007 to construct a database of personal ties between politicians and firms and found that politically connected firms outperform the non-connected ones in a number of areas. Goldman et al. (2013) matched US politicians with members of the boards of directors of publicly traded companies and used the major change in control of House and Senate following the 1994 election as a form of a natural experiment. Khwaja and Mian (2005) focused on firms with directors participating in elections in Pakistan; Li et al. (2008) identified firms that are personally connected to the Communist Party in China; Gomez and Sundaram (1999) used to continually maintain a database of informal ties between firms and politicians in Malaysia which was subsequently used by Johnson and Mitton (2003) and Adhikari et al. (2006).

Nevertheless, since it is impossible to correctly identify all relationships that politicians and firms establish over time, it is likely that variables constructed using only politicians themselves or even including close relatives underestimate the extent to which firms are connected to politics. Friendships or professional relationships are often impossible to identify on a large scale. Moreover, it is often difficult to obtain reliable personal information about politicians and

[1]For a review of the theoretical framework, see, for example, the line of work conducted by Krueger (1974); Grossman and Stiglitz (1980); Shleifer and Vishny (1994); Grossman and Helpman (1996) and Kelleher and Yackee (2009).

firm officials (such as unique personal identification numbers) to match the two sources effectively and accurately. Amore and Bennedsen (2013) overcome this issue by using official government data on identification numbers of whole families, however, obtaining such data in other countries is often impossible due to personal data protection laws. We are thus left with using available sources to construct proxies for connections.

Other proxies are often less difficult to construct. For example, Dinç (2005) conducted a cross-country study of the differences between government-owned and other banks in emerging markets. Adhikari et al. (2006), while constructing one of their proxies for political connectedness, identified as connected firms those with direct government equity ownership.

One of the most commonly used proxies are campaign contributions and political donations to electoral candidates or political parties. There are two main advantages of using donations to parties or candidates as indicators of being politically connected. First, they carry a time stamp, which enables us to focus only on effects that are pronounced around or after the establishment of such connections. Moreover, some firms may become connected to different parties over time or more parties at the same time. Second, as opposed to personal ties which can only serve as binary variables, using the actual value of donations allows to capture the economic importance of the connection. We can thus estimate the average effect of a small additional amount donated on firm performance. On the other hand, a potential drawback of using declared political donations as a proxy for political connections is that at least in the Czech Republic, there exists relatively voluminous anecdotal evidence of financial support to political parties which was not officially declared in the parties' annual reports and the actual connectedness thus may potentially be underestimated using this approach. Furthermore, we do not consider other types of connections (described above), which further strengthens the possibility of underestimation of the actual level of connectedness of Czech firms in this analysis.

Researchers who used proxies based on financial support to politicians include De Figueiredo and Edwards (2007), who used panel data on campaign contributions to politicians across US states; similarly, a number of studies, including (Snyder 1990; Ansolabehere et al. 2004; Jayachandran 2006; Cooper et al. 2010) or (Witko 2011) focused on firm–level contributions to the US political campaigns. Claessens et al. (2008) constructed a novel data set of firm– and candidate—level campaign contributions in Brazil; the results reached by Her-

sch et al. (2008) suggest that firms view donations as a short-term investment, which supports the relevance of campaign contributions as a proxy for political connections. In this paper, we use a novel data set of all officially declared corporate donations to Czech political parties made between 1995 and 2014 to identify firms as connected to politicians and thereby add to the literature on this type of connections.

3.2.2 Firm Performance Indicators

The other side of the coin to the analysis of the importance of political connections are the variables which such connections are hypothesized to affect. Can we observe specific channels through which firms exploit their connections? The results of many studies in the recent past have suggested that firms connected to politicians seem to perform better than non-connected firms in various areas. Khwaja and Mian (2005) showed that Pakistani firms associated with politicians enjoy better access to credit; De Figueiredo and Edwards (2007) found significant influence of private money on regulatory outcomes in the US telecommunications industry; Goldman et al. (2013) found a significant positive effect of political connections of American S&P 500 firms on the allocation of public funds through procurement spending; similar results were obtained by Auriol et al. (2016), who focused on public procurement contracts in Paraguay; Claessens et al. (2008) successfully unveiled that connected firms substantially increased their bank leverage as compared to a non-connected control group after the 1998 and 2002 elections in Brazil; Cingano and Pinotti (2013) showed that in Italy, connected firms enjoy an increase in domestic sales following the establishment of the connection, pointing to potentially influenced outcomes of public procurement auctions. In the Czech Republic, Palanský (2014) has shown that firms that donate money to political parties win, on average, significantly more public procurement contracts than other, non-connected firms; in Malaysia, Adhikari et al. (2006) showed that firms with political connections pay tax at signicantly lower effective rates than other firms; Duchin and Sosyura (2012) showed that politically connected firms in the US are more likely to receive Troubled Asset Relief Program funds.

But do connections actually help firms make more profit than non-connected firms? Building on the theoretical framework outlined by Krueger (1974); Shleifer and Vishny (1994); Banerjee (1997); Acemoglu and Verdier (2000) and others, some researchers have successfully shown that connected firms in fact

do perform better following the establishment of the connection as compared to non–connected firms. Moreover, negative effects of terminated connections or their weakening on the performance of connected firms are observed as well. A seminal study by Fisman (2001), for example, showed that firms connected to then-president Suharto experienced a significant drop in stock value following news about his worsening health. Thanks to the existence of a long time series of data on US firms' stock markets returns, many researchers have focused on the effects of connections on these returns. Cooper et al. (2010); Goldman et al. (2009) and Johnson and Mitton (2003) have all provided supporting evidence for the notion that political connections help add value to firms in terms of increased stock market value.

Data on stock market returns are easily available in other settings as well, even in some, at first sight, surprising ones. Ferguson and Voth (2008) examined the value of personal connections between firm officials and politicians established prior to the rise of the Nazi movement in the 1930's in Germany. Using official data published by the Berlin stock exchange, they estimated the effect of being connected to Hitler's NSDAP at between 5 to 8 % of the stock price. Francis et al. (2009) showed that in China, among firms that are in the process of going public, the connected ones reach higher offering prices, achieve less underpricing and lower fixed costs. Wu et al. (2012) presented their results for Chinese connected and non-connected firms as twofold: the connected firms enjoy significant tax benefits; and this may be one of the channels through which they reach better performance on the stock markets as compared to their non-connected peers.

Amore and Bennedsen (2013) found that even in a low-corruption environment such as Denmark, political connections boost firms' operating returns, and more so at local governmental levels. Moreover, connected firms that operate in sectors closely tied to the public sector perform even better, pointing to the findings of previous research focused on public procurement as one of the channels through which politicians may pay firms back for financial support. Li et al. (2008) found that the affiliation of Chinese firms with the Communist Party enhances the firms' financial performance. In some settings, however, the results are mixed or it is not clear whether political connections help firms perform better. Fan et al. (2007), for example, found that connected firms in China underperform the non-connected ones by almost 18 % as measured by the three-year post-IPO stock returns; the results of Aggarwal et al. (2012) suggested a negative relationship between corporate donations and stock returns

in the United States. In general, the theory and some empirical results suggest that political connections are more likely to play a role in countries with weaker institutions (Faccio 2006). Unlike most previous studies that focus on stock market returns as a measure of overall firm performance, in this paper we consider firm performance indicators based on financial profitability ratios as reported by individual firms rather than the largely perception-driven stock market returns.

The lack of reliable and voluminous data is a typical setback to the study of political connections. In this paper, we use a novel panel data set covering all political donations made in the Czech Republic between 1995 and 2014 as well as the best available data on the economic performance of all registered firms in that time period. Therefore, the post-transition period after the establishment of market capitalism is covered. According to the theoretical framework set by Rajan and Zingales (1995), economies in the early stages of capitalism are prone to be more relationship-based rather than market-based. As the economy develops, the role of personal connections is likely to decrease. This finding was supported by multiple studies focusing on empirical data (Adhikari et al. 2006; Faccio et al. 2006; Li et al. 2008). The character of our data set and the situation in the Czech Republic thus allows for a thorough analysis of the value of connections during the early stages of a capitalist economy, which, to our knowledge, has not been done before.

The Czech Republic is an appealing case study for several reasons. First, as described above and in more detail in Section 3.4, the availability of data is exceptional in both its volume and the covered time period. We draw on the universe of all registered firms in the Czech Republic and our data set on political donations[2] covers most of the transition and post-transition period. Second, taking into account various studies, surveys and individual cases presented in the media which suggest that corruption and rent-seeking is a relatively widespread phenomenon in the Czech Republic, the value of political connections is likely to be higher than in other countries (Lízal and Kočenda 2001; Faccio 2006; OECD 2013). Third, the current discussions about the revision of the Act on Political Party Financing lack fundamental arguments based on empirical data (GRECO 2014). With this paper, we aim to provide additional input to the discussion.

[2]For a more thorough analysis of the data set, see Chapter 2. Alternatively, a study focusing on the shortcomings of the current legislation regarding private funding of parties is provided by Skuhrovec et al. (2015).

3.3 Methodology

In this section, we discuss our hypotheses about the effects of political connections on firm performance and the methodology which we use to test them. Our identification strategy relies mainly on within-firm variation in performance, controlling for the size of the firms, location, industry sector and other firm-specific characteristics. We first develop a cross-sectional data set of firm–year observations including the information on connections through political donations and construct a model which aims to compare the performance of connected firms following the establishment of a connection with firms that are not connected. Second, we formulate models that distinguish between donating to the party present in the government at the time of the donation and donating to other parties. Third, we present a novel approach to matching connected firms with their similar, non-connected peers to account for sector-specific characteristics as well as time-varying economic conditions within the individual industrial sectors. At the end of this section, we describe our approach to deal with the possible endogeneity of corporate donations. Given the limitations of our data, to the greatest possible extent we base our tests on the previous literature.

3.3.1 Pooled Model

In our first model, we consider the universe of all firms in the Czech Republic and their reported financial results between 1993 and 2014. We hypothesize that on average, firms that are connected to political parties through donations perform significantly better than other, non-connected firms following the establishment of the connection. To test this hypothesis, we use cross-sectional data on firm performance and consider a firm connected in the year in which the donation was made and in the two consequent years. This approach follows from the notion that firms may view political campaign contributions as a form of short-term investment, as outlined by Hersch et al. (2008).

The reason we build this approach around multiple financial years is that firms may be able to exploit their connections in different ways which vary in time that they take to project in the firms' financial reports (Acemoglu and Verdier 2000). With the aim to capture these effects, we construct average measures of firm performance (ROE, ROA) over three consecutive years following the donation (including the year during which the donation was made). As an

example, let us suppose that a political donation made during 2010 is paid off by an influenced public procurement contract signed in 2011 and finished in 2012. Then, the full effect of the donation pronounced through the added profit from the public procurement contract is not recorded in the financial result of the firm until the end of the financial year 2012.

To construct the averages, we apply Stata's `tssmooth ma` procedure for both firm performance variables while assigning equal weights to observations at time t, $t+1$ and $t+2$. This technique automatically disregards missing observations (not only in the inner part of the data set, but also on its edges defined by the boundaries of the examined time period, existence of firms and availability of data for each firm). Therefore, some data points, e.g. for years 2013 and 2014, are constructed as average values over two years and absolute values for one year, respectively.

Before we formulate our model, another issue to discuss here is whether to account for donations made to parties that were not in power during the year in which the donation was made. In our initial model, we do not differentiate between connections to parties in power and those not in power.[3] The purpose is to first treat donations only as an indicator of closeness of the firm to politics. If a firm donates money to a political party, it is hypothesized to thereby express interest in playing a role in politics, possibly for own profit. In Section 3.3.2, we will formulate models that differentiate between donations to individual parties.

Our first model thus looks as follows:

$$Y_{Avg(t->t+2)} = \beta_1 * Y_{t-1} + \beta_2 * DDon_t + \beta_3 * X + \epsilon, \tag{3.1}$$

where $Y_{Avg(t->t+2)}$ is the average of a firm performance indicator (ROE and ROA) over the years t to $t+2$; Y_{t-1} is the first lag of the firm performance indicator; Don_t is a dummy variable equal to 1 for firms that donated money to a political party in year t, and 0 otherwise. X is a set of firm-specific control variables. Specifically, we include $PubInd$, a binary variable equal to 1 in case the firm operates in an industry which supplies public procurement of value above the median of all industries, and 0 otherwise (Amore and Bennedsen 2013); $PubSec$, a binary variable equal to 1 if the firm has supplied at least 1 public procurement contract or has received at least 1 European grant since 2006

[3]However, as explained in Section 3.3.4, these considerations are limited by the fact that different parties may be in power on different levels of government at the same time.

(due to unavailability of data from previous years), and 0 otherwise; $LocSize$, a variable constructed by classifying cities in which firms are headquartered into 6 categories by population[4]; and $FirmSize_t$, a variable controlling for the size of the firm at time t, constructed as the natural logarithm of the firm's total assets reported in year t.

As an extension to this model, we replace $DDon_t$ by Don_t, which represents the actual value of the political donation made in year t:

$$Y_{Avg(t->t+2)} = \beta_1 * Y_{t-1} + \beta_2 * Don_t + \beta_3 * X + \epsilon \tag{3.2}$$

This allows for the economic importance of the donation to be pronounced in the model, but reduces our sample to only connected firms. We estimate this model to reveal whether donations can be thought of as actual measures of connectedness or only as a proxy variable. A significant positive estimate of β_2 in this model would suggest that higher donations may allow the donating firms to obtain more benefits from the politicians.

A possible drawback of the models formulated in this section is that we may not be able to control for all firm characteristics which influence their profitability, such as managerial skills or particular market distortions that may significantly help firms succeed or cause them to fail. This issue could be partially solved by using a fixed-effect model with a varying intercept for each firm, unfortunately, our data set is not balanced and long enough to allow for this technique to be used. Furthermore, this model is not robust to variation in favourability of the overall economic situation over time. In times of economic crises, the value of connection may be lower (as measured by the financial performance of the connected firms).

3.3.2 Party in Power Pooled Model

In this section, we exploit the importance of connections to political parties which are in power. We base our model on differentiating between donating to parties which are present in the government at the time of the donation and donating to other parties. Only connected firms are thus considered in this model. This approach partially solves the problem of endogeneity of political donations—since we are using firms that are connected through donations to

[4]Boundaries for the size categories are set at 5, 20, 80 and 200 thousand and 1 million inhabitants. Data on population are obtained from the Ministry of the Interior and are as of January 1, 2014.

parties which are not in the government as a control group, we overcome the issue of more successful firms being more likely to donate money to political parties. Therefore, we build our model on the basis of the previous one but include a dummy variable $Power_t$ being equal to 1 when the donation was made to a party which was present in the government in year t; and 0 otherwise.[5]

We again construct two models, the first one including a dummy variable indicating whether or not firm i has donated to a political party in year t and the second including the actual donated amount. The models thus look as follows:

$$Y_{Avg(t->t+2)} = \beta_1 * Y_{t-1} + \beta_2 * DDon_t * Power_t + \beta_3 * X + \epsilon \tag{3.3}$$

$$Y_{Avg(t->t+2)} = \beta_1 * Y_{t-1} + \beta_2 * Don_t * Power_t + \beta_3 * X + \epsilon \tag{3.4}$$

where $Y_{Avg(t->t+2)}$ is the average of a firm performance indicator (ROE and ROA) over the years t to $t + 2$; Y_{t-1}, Don_t, $Power_t$ and X represent the set of variables defined above and in the description of models formulated in Equation 3.1 and Equation 3.2.

3.3.3 Dynamic Matching

The models that we have constructed so far in this section share at least one common disadvantage—they do not account for time-varying effects. Therefore, in those models we compare financial results reported during the times of economic crises with the ones achieved in times of economic growth. However, firms may react to fluctuations in the overall economic situation differently based on a number of factors which are mostly unobservable on a large scale. In this section, we develop a novel approach to matching politically connected firms to non-connected firms with similar characteristics and then compare the financial and economic performance of both groups. The innovation lies in the dynamic characteristic of the matching which allows to mitigate the risks of estimation bias due to variability of the effects of business cycles on different types of companies and industries.

[5]This classification is somewhat tricky, because governments change during the years. For the purposes of this paper, we classify as a governing party in year t the ones that have been in power at least 5 months of year t.

In this model, we define that a firm is politically connected in year t if it donated money to a political party in year $t-2$, $t-1$ or t. As explained above, connections may take time to be exploited by firms and projected in their financial results. For each connected firm, we sum the value of all donations made during the three years. Then, we search for similar firms using four criteria. First, we only keep firms that are registered as the same type of business entity. Second, we drop firms which operate in a different sector based on their two-digit NACE classification. Third, we filter out firms that operate in cities which are different in size based on their population by more than 40 %.[6] The fourth and last criterion concerns the size of the firm. Following Faccio et al. (2006) and Dombrovsky (2008) we use total assets as a proxy for firm size and filter out firms which differ in size by more than 40 %. By design of the filter, there may be none or more than one similar firms for each connected firm. In the former case, we disregard the connected firm from the analysis (these are typically very large firms); in the latter case, we take a simple average of the financial performance indicators across all matched non-connected firms. Using this matching procedure, we obtain pairs of connected and similar non-connected firms (or a set of non-connected firms) for each year. We thus compare the performance of connected firms with the average performance of similar firms.

We employ the matching procedure individually for each year. The dynamic nature of the matching has at least two advantages over simple matching used by Dombrovsky (2008) and Faccio et al. (2006). Firstly, it accounts for the fact that firm characteristics, and thereby also their potential to make profit, change significantly over time. For instance, two firms matched in year t may evolve significantly differently in time and therefore cannot be considered similar (for example in size) in year $t+10$. Secondly, since we compare paired observations in each year individually, the overall economic situation which varies in time does not distort our results.

In total, we have 4,876 observations for connected firms in the sample. Out of these, 4,477 were matched with at least one similar but non-connected firm. Some firms are identified as connected in multiple years. Counting unique firms only, we have 3,151 connected firms out of which 2,864 were matched. However, not all of these firms have reported their financial results in every year of their

[6]Data on population of cities is obtained from the Czech Statistical Office and is as of January 1, 2014.

existence, which is why in the results, we report the number of observations used in each test.

We formulate the hypothesis tested in this section as follows: Firms that are connected to political parties through donations perform, on average, better than their non-connected but otherwise similar peers. In other words, we test whether there is a significant difference in ROE and ROA for connected and non-connected firms which are similar in terms of type of business entity, industry sector and location in which they operate and their size. To do so, we employ a paired t-test with the null hypothesis being that the means of the financial performance indicators of the two paired samples are equal. The rejection of the null hypothesis would suggest that there is a statistically significant difference between similar donating and non-donating firms.

3.3.4 Endogeneity

An important concern in some of our models is the possible endogeneity of campaign contributions—for example, firms that perform well may be more likely to donate money to politicians that worse-performing firms; some firms may even be created primarily for political reasons rather than profit–making motives. Previous literature deals with this issue using several different approaches. Claessens et al. (2008) used a difference-in-differences specification, comparing firms connected to the winning party and those connected to the losing party. A possible drawback of this approach is that different parties may be in power on different levels of government, but connections may be exploited from more government levels simultaneously. We partially solve this problem in the Party in Power Model (Section 3.3.2) by comparing the performance of firms that are connected to the parties present in the national government at the time with firms connected to other parties. We are, nevertheless, aware of the limitation of this model due to different parties being in power at different levels of government. Similarly to the findings of Palanský (2014), many other channels may be used to exploit connections at lower-than-national government levels in the Czech Republic.

Another approach was taken by Boubakri et al. (2012), who employed a two-stage regression model to first construct an instrumental variable estimating the probability of political connectedness of firms based on their location, size and other firm-specific characteristics. In the second stage, this variable was used to estimate the effects of political connectedness. There are, however, at

least two reasons why this methodology cannot be used in our case on Czech data. First, the longitudinal character of our data set does not enable the estimation of political connectedness based on firm characteristics, because for some firms, they vary significantly in time. Second, especially for an individual country study, this approach is not likely to resolve the endogeneity issue, since better–performing firms are more likely to be larger in size, operate in relatively more capital–intensive industries, work closely with the public sector and so on.

Alternatively, some researchers use the technique of matching firms identified as connected with firms with similar characteristics and then apply the difference-in-differences approach (Agrawal and Knoeber 2001; Faccio et al. 2006; Dombrovsky 2008). In Section 3.3.3 we take an analogous (but extended in its dynamic character) approach to matching donating firms with similar, non-connected firms, and estimating the value of the connection as the difference between the performance of such matched firms.

3.4 Data

In this section, we describe the data sources used in the analysis and present some descriptive statistics. We use two main data sets. First, we use data on donations to political parties made by legal persons in the Czech Republic between 1995 and 2014 which are described in more detail in Chapter 2. Second, we use data from a private database called Magnus, which is the most advanced data set on financial results and other information focusing on Czech firms. We merge data from these two sources. In addition, we merge the final data set with other information about firms—their operating sector, size, law form, location, public procurement and European funds obtained from, most importantly, the Magnus database, the Business Registry and EconLab's internal database of firms.

3.4.1 Political Donations Data

In the Czech Republic, information on the financing of political parties is available to the public in the form of lists attached to the parties' annual reports. These are, however, only available in the physical form in the Parliamentary library, which makes computational analysis of the data incredibly tedious.

EconLab[7], a Czech NGO, collects this data every year and publishes it online on the website of the project PolitickeFinance.cz[8], making it available for download and further analysis by other researchers as well as journalists and the general public. The database originally contained data for years 2006-2014. For the purposes of this thesis, the database was extended to cover all annual reports of political parties which are available in the Parliamentary library, i.e. the time period 1995-2014. The database contains 10,213 corporate donations of total value of more than CZK 1.77 billion[9]. A simple summary of the database of corporate donation to parties currently present in the Chamber of Deputies of the Czech Parliament is provided in Table 3.1.

Table 3.1: Summary of the database of corporate political donations in the Czech Republic, 1995-2014, parties present in the Chamber of Deputies as of March 2014.

Party	**Number of donations**	**Sum of donations**	**Total donations per year***
ANO 2011	611	47,748,468	15,916,155.87
ČSSD	914	1,032,348,235	51,617,411.75
KDU-ČSL	826	44,708,752	2,235,437.61
KSČM	93	1,557,351	77,867.57
ODS	6,818	448,874,113	22,443,705.66
TOP 09	486	82,534,317	13,755,719.53
Úsvit	1	30,000	15,000
TOTAL	9749	1,657,801,237	106,061,298

*Sum of donations divided by the number of years in which the party existed.

Source: Author based on data from PolitickeFinance.cz.

Corporate donations vary significantly in value over time. Since the late 1990's, their average value per year has increased markedly, as reported in Figure 3.1. We also include a line displaying the value of corporate donations excluding the two largest non-monetary donations made by *Cíl, akciová společnost v Praze*[10] to ČSSD in 2001 and 2003, respectively, because they exceed the next individual donations in value by more than 15 times.

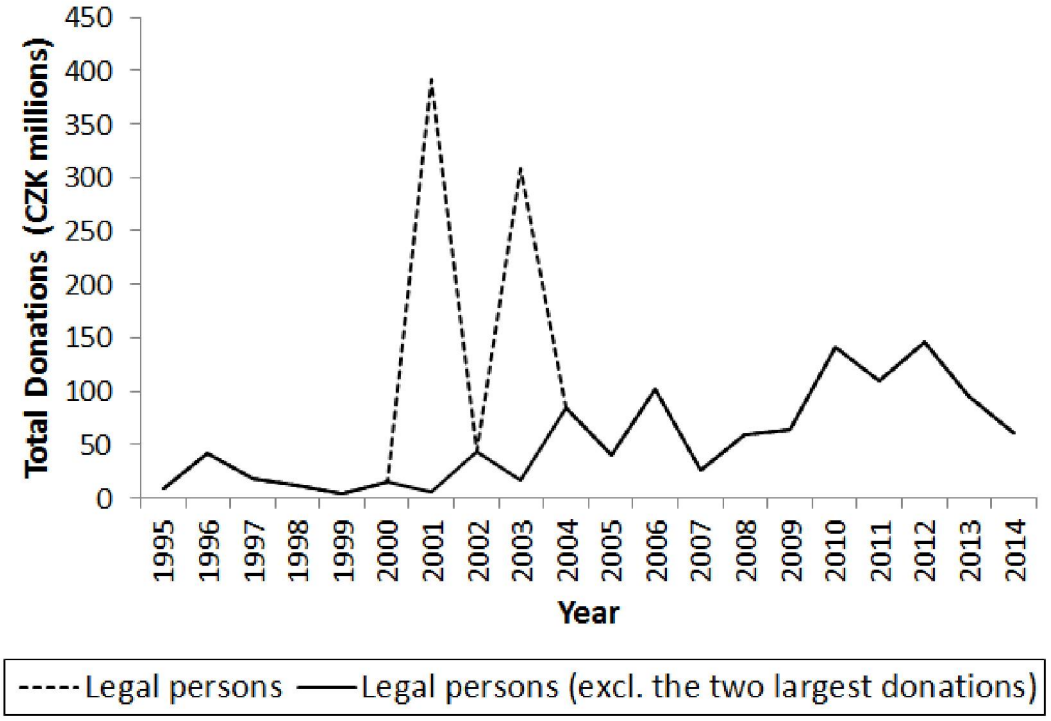
[7] `http://www.econlab.cz/`

[8] English version available at: `http://www.politickefinance.cz/en`

[9] Approximately 64 million EUR in exchange rates as of March 2016

[10] *Cíl, akciová společnost v Praze* is a company owned entirely by ČSSD and its main

Figure 3.1: Value of donations to Czech political parties over time.



Source: Author based on data from PolitickeFinance.cz.

In the Czech Republic, different elections take place in different years and only a few years have not seen any elections. The most important elections, those to the Chamber of Deputies, took place in 1996, 1998, 2002, 2006, 2010 and 2013. Especially for the 2006 and 2010 elections, the peaks are clearly observable. Two elections (1998 and 2013) were snap elections—in these years, the peaks are not as significant. One larger peak shows up in 2012, which can be explained by the creation of ANO 2011, a party built by and around the billionaire and current Czech Minister of Finance, Andrej Babiš, which relied markedly on large corporate donations in the first year of its existence.

The database of donations is discussed more thoroughly in Chapter 2. It is important to note here that in the analysis presented in this chapter, we only use donations that are reported as donations from legal persons, however, it is possible that using only these donations as a proxy for political connections may underestimate the actual extent of connections through donations. Firm officials and business owners may donate money freely as natural persons, hid-

official aim is to print and publish or sell advertisement materials. This company alone donated more than CZK 930 million to ČSSD over the examined time period.

ing the real source of money and thus the information about such connections from our analysis.

3.4.2 Firm Performance Data

Data on firms' financial performance was obtained from *Bisnode Czech Republic*'s private database called Magnus, which is gathered continuously using various techniques, most notably hand-collecting and cleaning data from the firms' annual financial reports. The downloaded data set contains data on all legal persons that have ever operated in the Czech Republic. Financial data are available from the year 1993 onwards.

In the downloaded data set, we included three variables that describe financial performance of firms: Assets, Equity and Earnings Before Taxes. After appending the individually downloaded files (which were numerous due to Magnus's export limit of 10 thousand observations per query), we reshaped the data set to fit the definition of panel data, with the panel variable being the unique id of individual firms and the time variable spreading over the maximum of 21 years between 1993 and 2014.

We chose to include the above-mentioned variables in the data set because they enable the creation of some of the most commonly used indicators of financial performance of firms. Following Li et al. (2008), Amore and Bennedsen (2013) and others, we construct two measures of firm performance: return on equity (ROE) and return on assets (ROA), which are calculated as follows:

$$\text{ROE} = \frac{\text{Earnings before taxes}}{\text{Total capital}} \tag{3.5}$$

$$\text{ROA} = \frac{\text{Earnings before taxes}}{\text{Total assets}} \tag{3.6}$$

A few alterations to the data on Capital and Assets of firms had to be made. Firstly, negative values of Assets, which were reported most likely due to misguided accounting standards, are excluded from the analysis (this step reduces our sample by 0.14 % observations). Secondly, negative values of Capital, which were also most likely reported due to unusual accounting principles, are replaced by 'Registered capital' which represents the reported initial capital of the company at the time of its foundation. This step alters approximately

21.75 % of observations. However, since Capital in this sense serves only as a scaling variable in the construction of ROE, the explanatory power of the variable is maintained. Third, since extreme outliers in the data set would cause our estimations to be biased, we winsorize both firm performance indicators. In doing so, we follow two approaches most common in the related literature: (i) trimming the 1^{st} and the 99^{th} percentile values (Fuest and Riedel 2010; Galema et al. 2008) and (ii) dropping observations which fall outside the $\langle -1, 1 \rangle$ interval (Beaver and Ryan 2000). We present the results for the second winsorization, however, we perform all the estimations using both approaches to check the robustness of the results.

The final data set contains 257,181 firms and 1,486,661 yearly observations, averaging 5.78 years of data per firm. This is caused not only by the fact that many firms have only existed for a few years, but also by other factors. Firms often do not publish their annual reports in the Business Registry even though they are obliged to do so by law. Some documents are also published in low quality which makes their inclusion in the Magnus database impossible. Overall, the data set is relatively strongly unbalanced, which causes us to turn away from the fixed effects framework and use other techniques instead.

3.4.3 Merging the Data Sets

The donations database contains a total of 7,916 corporate donations made by 5,188 legal persons. This is, however, somewhat misleading, because many political parties include self-employed natural persons in the list of donating legal persons. Such donors were filtered out during the process of merging the donations data set with the data set on firm performance, which contains all firms registered in the Business Registry. During the merging, 5,044 donations made by 3,203 different firms were matched with an id of an existing firm. The remaining, unmatched donors (i.e. self-employed natural persons) were dropped from the analysis. Summary statistics of the main variables in the data set are presented in Table 3.2

We further added information about firms from other sources. Most importantly, we use EconLab's internal database of firms and their details, including the best available, hand-cleaned data on public procurement and European grants received by each firm. In addition, data on the size of the cities in which firms operate were obtained from the Ministry of the Interior and data

on the results of elections to the Chamber of Deputies were downloaded from the Czech Statistical Office.

Table 3.2: Summary statistics of the final database.

Variable	Mean	Std. Dev.	Min.	Max.	N
Assets	12.1e8	47.6e8	0	24e11	1483982
Capital	44.7e6	12.2e8	0	81.4e10	1484849
Total Donation	199777.83	4514752.17	1	302523038	4876
ROE	-3324.4	1344041.3	-13.9e8	28500000	1478110
ROA	-48.74	11348.77	-9172700	2915000	1477230
ROE_pctile	-33.04	208.21	-2107	600	1448636
ROA_pctile	-1.95	34.36	-337.5	83.51	1447748
ROE_minus1_1	8.86	32.8	-100	100	1202534
ROA_minus1_1	2.22	21.74	-100	100	1421736

Note: Symbols *_pctile* and *_minus*1_1 represent winsorization at the 1st and 99th percentiles and the $\langle -1, 1 \rangle$ interval, respectively.

3.5 Results

This section sums up the results of the estimation of models formulated in Section 3.3. We present results in three categories. First, we employ the OLS method to estimate pooled models formulated in Section 3.3.1 using as explanatory variables both a dummy variable for donating firms and the actual value of donations made by each firm. We perform a series of tests to check the robustness of our results. Second, we add the effect of donating to a party which is present in the government at the time of the donation, as described in Section 3.3.2, in order to clarify whether the value of donations can be thought of as an actual measure of the level of connectedness or rather as only a proxy variable indicating closeness of the donating firms to politics. Third, we present the results of paired t-tests comparing the means of firm performance indicators for dynamically matched connected and non-connected firms (as described in Section 3.3.3) and further divide the analysis for firms that work closely with the public sector and those that do not.

3.5.1 Pooled Models

Panels (1) and (2) in Table 3.3 present the results of our initial pooled model using as an explanatory variable a dummy variable indicating whether a firm

is connected to a political party through a donation. Since our sample for this model is very large (reaches more than 850 thousand observations), we report 95 % confidence intervals instead of p-values (Lin et al. 2013; Disdier and Head 2008). We observe that the fact that a firm is politically connected is associated with better financial performance, with the lower bound of the confidence interval suggesting over a 1 percentage point difference in ROE and around 0.33 percentage point difference in ROA. Other factors with positive coefficients are firm size (measured as the log of the firm's assets) and *PubSec*, a binary variable indicating whether the firm has signed at least one public procurement contract or has received at least one European grant.

On the other hand, *PubInd* and *LocSize* show a negative sign pointing to a decrease in firm performance associated with these firm characteristics. Note that the nature of the relationship between *PubInd* and *PubSec* causes these coefficient estimates to suggest that operating in a public procurement–intensive industry has a negative effect on firm performance only if the firm has never supplied public procurement contracts nor has received any European grants. The sum of these estimates points to a positive effect of cooperating with the public sector in general, results which are further supported by the results of the estimation of our subsequent models.

The results of regressions which include the actual value of donations rather than a binary variable indicating a connection are presented in Panels (3) and (4) in Table 3.3. As we try to quantify the effect of donating more money (and not the fact that a firm donates), only donating firms are included in this model. The estimates of the effect of the donation value are not significant for neither of the firm performance indicators. These results suggest that the connections established through donations may be comparable regardless of the actual value of these donations—they are thus more likely to represent a proxy variable for political connectedness rather than an actual measure of the level of connectedness.

Interestingly, coefficients for the variable *PubInd* (and *PubSec*) switch significance and become lower (higher) when ROA is used as a dependent variable instead of ROE. These results suggest that the fact that a firm operates in a public procurement–intensive industry is associated with higher differences in ROA than ROE. We perform a series of tests to check the robustness of these results. First, we analyze the sensitivity of the model to the exclusion of individual variables. The results are presented in Table A.1 and Table A.2 for ROE and ROA, respectively, and suggest that the model is fairly robust in its

Table 3.3: Results of the pooled models, OLS.

	(1) ROE	(2) ROA	(3) ROE	(4) ROA
L.ROE	.308***	.144***	.326***	.15***
	[.306,.311]	[.142,.145]	(.017)	(8.1e-03)
PubInd	-1.31***	-1.41***	-.444	-1.82**
	[-1.48,-1.13]	[-1.53,-1.3]	(1.06)	(.593)
PubSec	3.03***	.981***	2.87***	.383
	[2.89,3.17]	[.899,1.06]	(.65)	(.344)
LocSize	-.172***	-.257***	-.785**	-.793***
	[-.204,-.139]	[-.278,-.237]	(.256)	(.133)
FirmSize	.773***	.611***	-.228	.033
	[.754,.792]	[.597,.626]	(.195)	(.123)
DDon	1.69***	.671***		
	(.214)	(.109)		
ln(Don)			-.239	-.018
			[-.658,.179]	[-.232,.197]
Constant	-5.62***	-5.65***	17.6***	8.04***
	[-5.99,-5.24]	[-5.94,-5.37]	(4.02)	(2.38)
Observations	855606	926944	3773	3956
R^2	0.170	0.106	0.172	0.140

95 % confidence intervals in brackets, robust standard errors in parentheses.
* p < 0.05, ** p < 0.01, *** p < 0.001.

specification—the inclusion of each additional variable increases the explanatory power of the model while not markedly altering the estimated effects or the significance of other variables. Second, we test whether the effects are different across industries. We divide our pooled model into 5 groups (by percentile) based on the volume of public procurement they have provided between 2006 and 2014. In Table 3.4 we present the results of estimating the model for these 5 groups individually. We observe that the effect of donations is especially high for firms operating in procurement–intensive industries, which is in support of the hypothesis tested in previous research that public procurement may be an important channel through which firms exploit their political connections in the Czech Republic (Palanský 2014). The estimates of the coefficients for the control variables remain fairly stable across groups, except for *LocSize*, which varies in both the coefficient sign and the level of significance, however, for ROA, we observe a persistent negative and significant effect.

Table 3.4: Results of the pooled model divided into 5 groups (by percentile) based on the volume of public procurement firms have provided between 2006 and 2014; ROE.

Percentile:	$\langle 0-20\rangle$	$(20-40\rangle$	$(40-60\rangle$	$(60-80\rangle$	$(80-100\rangle$
Dependent var.:	ROE	ROE	ROE	ROE	ROE
L.ROE	.322***	.329***	.295***	.291***	.251***
	(2.6e-03)	(2.2e-03)	(2.5e-03)	(2.2e-03)	(5.1e-03)
PubSec	1.29***	5.12***	2.75***	2.55***	4.18***
	(.152)	(.163)	(.143)	(.142)	(.242)
LocSize	.182***	-.476***	.084*	-.249***	.065
	(.04)	(.031)	(.038)	(.031)	(.075)
FirmSize	.51***	.639***	.86***	1.14***	.264***
	(.021)	(.018)	(.021)	(.019)	(.04)
DDon	1.56*	2.23**	1.82**	1.01	3.24***
	(.69)	(.787)	(.645)	(.648)	(.826)
Constant	-3.91***	-4.59***	-8.6***	-11.3***	.06
	(.392)	(.311)	(.367)	(.335)	(.731)
Observations	171787	239979	180068	228786	44670
R^2	0.170	0.185	0.164	0.167	0.119

95 % confidence intervals in brackets, robust standard errors in parentheses.

* p < 0.05, ** p < 0.01, *** p < 0.001.

3.5.2 Party in Power Models

Our second family of models aims to shed more light on whether connections to parties present in the national government are more important than connections to other parties. To do so, we include in the model a binary variable indicating whether or not the donation was made to a party which was part of the government in the particular year. For years in which the composition of the government changed, we classify as governing parties all those that were part of the government for at least 6 months of the year. The results are presented in Table 3.5 and suggest, somewhat surprisingly, that being connected to the party in power is associated with lower financial performance in the years following the establishment of such connections. A possible explanation for the insignificance of this effect is that different parties are often in power at different levels of government. In the Czech Republic, lower-than-national levels of government administer public procurement of significant value. Therefore, if the previously reached results about public procurement being one of the most likely sources of added value to connected firms are in fact true, the results reached in this model are far less surprising.

Within our sample of politically connected firms, firm size does not have a significant effect on performance, but size of the city in which the company operates does. This result suggests that connected firms that operate in smaller cities reach, on average, better financial results than those operating in bigger cities. Connections may thus play a bigger role in smaller cities, where they are arguably easier to exploit, not only through public procurement but also through other channels due to potentially lower public control.

3.5.3 Dynamic Matching

In Table 3.6, we present the results of a paired t-test performed for connected firms and their matched peers (based on the matching procedure described in Section 3.3.3). They suggest that connected firms reach significantly better results, as measured by both ROE and ROA. Specifically, connected firms (ROEc, ROAc) report returns on equity on average between 3.2 and 5 percentage points higher and returns on assets on average between 1.56 and 2.56 percentage points higher than similar but non-connected firms (ROEnc, ROAnc).

We further proceed with the analysis of the differences between the connected and non-connected firms by dividing the non-connected, matched peers into those that do and those that do not work closely with the public sector

Table 3.5: Results of the party-in-power models, OLS.

	(1) ROE	(2) ROA	(3) ROE	(4) ROA
L.ROE	.325***	.15***	.325***	.15***
	(.017)	(8.1e-03)	(.017)	(8.1e-03)
PubInd	-.368	-1.74**	-.534	-1.82**
	(1.05)	(.59)	(1.05)	(.593)
PubSec	3.1***	.467	2.83***	.365
	(.645)	(.343)	(.649)	(.344)
LocSize	-.835***	-.789***	-.829**	-.788***
	(.251)	(.131)	(.252)	(.131)
FirmSize	-.29	.021	-.262	.036
	(.19)	(.119)	(.191)	(.12)
DDon*Power	-4.69***	-1.88***		
	(.649)	(.347)		
Don*Power			-3.7e-07	-2.8e-07*
			(3.3e-07)	(1.3e-07)
Constant	18.9***	9.02***	16.1***	7.82***
	(3.9)	(2.36)	(3.87)	(2.37)
Observations	3773	3956	3773	3956
R^2	0.183	0.147	0.172	0.141

Robust standard errors in parentheses. * p < 0.05, ** p < 0.01, *** p < 0.001.

Table 3.6: Results of a paired t-test of equal means of financial performance indicators for connected and non-connected (but otherwise similar) firms.

Variable	Obs.	Mean	Std. Err.	95% Conf.	Interval	t-statistic	p-value
ROEc	3951	19.323	0.454	18.432	20.214		
ROEnc	3951	15.181	0.201	14.787	15.576		
Difference	3951	4.142	0.472	3.216	5.067	8.775	0
ROAc	4395	7.662	0.247	7.177	8.146		
ROAnc	4395	5.601	0.103	5.400	5.802		
Difference	4395	2.061	0.255	1.561	2.561	8.081	0

(measured by *PubSec*, a binary variable equal to 1 if the firm has supplied at least 1 public procurement contract or has received at least 1 European grant since 2006; and 0 otherwise). For the purposes of this thesis, we will call such firms 'public firms'. Table 3.7 shows that the average difference between the profitability of connected firms and the non-connected public firms is not significantly different from 0, while for non-connected, non-public firms, we reject the hypothesis of the same mean as the similar, connected firms at the 1 % level of significance. Conservative estimates given by the lower bounds of the 95 % confidence interval point to a difference of over 4 percentage points in returns on equity and around 2 percentage points in returns on assets.

Table 3.7: Results of a paired t-test of equal means of financial performance indicators for connected and non-connected (but otherwise similar) firms, public vs. non-public firms.

Variable	Obs.	Mean	Std. Err.	95% Conf.	Interval	t-statistic	p-value
ROEc	3393	19.782	0.483	18.835	20.730		
ROEnc, PubSec1	3393	19.825	0.283	19.271	20.379		
Difference	3393	-0.043	0.536	-1.093	1.008	-0.080	0.532
ROEc	3753	19.291	0.470	18.369	20.213		
ROEnc, PubSec0	3753	14.073	0.226	13.630	14.515		
Difference	3753	5.219	0.498	4.243	6.194	10.487	0
ROAc	3801	7.754	0.260	7.244	8.265		
ROAnc, PubSec=1	3801	7.568	0.150	7.274	7.863		
Difference	3801	0.186	0.295	-0.393	0.765	0.630	0.264
ROAc	4196	7.610	0.256	7.107	8.113		
ROAnc, PubSec=0	4196	5.097	0.109	4.884	5.310		
Difference	4196	2.513	0.265	1.993	3.033	9.477	0

Our results from the dynamic matching procedure thus point to similar results reached with the first two groups of models. We find relatively robust

evidence for our hypothesis that connected firms outperform, on average, their non-connected peers, however, only in case the non-connected matched firms do not work closely with the public sector. These results suggest that working closely with the public sector may represent a substitute to being connected through political donations, pointing to the limitations of using political donations as a proxy for connections (as described in more detail in Section 3.2. We perform one more test to analyze this issue—we include only non-public connected firms and compare them with their non-public, non-connected peers.

Table 3.8: Results of a paired t-test of equal means of financial performance indicators for connected and non-connected (but otherwise similar) firms, non-public firms only.

Variable	Obs.	Mean	Std. Err.	95% Conf.	Interval	t-statistic	p-value
ROEc, PubSec=0	2047	17.848	0.681	16.513	19.184		
ROEnc, PubSec=0	2047	13.558	0.303	12.964	14.152		
Difference	2047	4.290	0.705	2.908	5.673	6.086	0
ROAc, PubSec=0	2382	7.128	0.391	6.361	7.896		
ROAnc, PubSec=0	2382	4.885	0.146	4.598	5.171		
Difference	2382	2.244	0.394	1.471	3.017	5.692	0

The results, presented in Table 3.8, show that the significance of the differences persists, which suggests that these are driven by the connectedness itself. Therefore, firms that do not receive public procurement nor European grants may be able to use other channels through which they exploit their connections. Conservative estimates of the difference amount to around 2.9 percentage points (22.38 %) for ROE and nearly 1.5 percentage points (32.02 %) for ROA.

3.6 Conclusion

The purpose of this case study was to analyze political connections and shed more light on whether the connected firms reach better results as compared to their non-connected peers. We identify firms as connected using a novel data set on all corporate donations to Czech political parties made between 1995 and 2014. Our principal hypothesis is that connected firms on average outperform the non-connected but otherwise similar ones. We further formulate several hypotheses that deal with individual aspects of the problem. The motivation behind the ideas testes in this thesis lies in providing further evidence of the added value that political connections may bring to firms. We focus on the

overall effect on profitability rather than individual channels through which the added value may be generated.

Our results suggest that for Czech firms, being connected to political parties through donations does pay off. Using the universe of all firms that ever operated in the Czech Republic, we conservatively estimate the effect associated with being politically connected at 1.06 percentage points in return on equity and 0.331 percentage points in return on assets. The results remain robust after performing several sensitivity and robustness checks. We do not find a significant effect of the size of the donation itself within the group of connected firms, which suggests that donations are likely to play the role of a proxy for closeness of firms to the politicians rather than an actual measure of the level of connectedness.

Furthermore, the results suggest that the effects of donating are stronger for firms that work in the most procurement–intensive industries, pointing to public procurement as one of the likely channels through which the investment represented by the donations may yield profit for the connected firms, which is in line with results reached in the previous literature. Moreover, we find that in general, firms in smaller cities may be more likely to succeed in exploiting their connections to politicians, which is supported also by the fact that we do not observe significant differences between the effects of donating to the parties currently present in the national government and donating to other parties.

We further examine the value of political connections using a novel, dynamic approach to matching connected and non–connected firms. Based on several firm–level characteristics, we match connected firms with their non–connected peers for each year individually, which allows to capture time–specific effects of the overall economic situation and the changing state of firm characteristics over time. We find that connected firms reach, on average, better results than the non-connected but otherwise similar firms. We conservatively estimate the effect at 3.2 and 1.5 percentage points (21.75 % and 28.9 %) in terms of returns on equity and returns on assets, respectively. We proceed by comparing connected firms with non-connected firms that receive public procurement and European grants ('public firms') and we do not find significant differences in financial performance of these two groups of firms. However, comparing non-public connected firms and non-public non-connected firms, the results again point to positive effects of being connected, even though slightly weaker.

To sum up, in the post-transition setting of the Czech Republic between 1995 and 2014, we find relatively robust evidence for the notion that being

connected to politics through political donations is associated with significantly better financial results as compared to these firms' non-connected rivals. We thereby provide further empirical evidence of the negative effects of corporate political contributions. We argue that any favors or preferential treatment that politicians may possibly grant to private firms are illegal or at least unethical.

Potential areas for further research include for example finding other proxy variables to estimate the firms' connectedness. For Czech firms, this side of the analysis could be further strengthened by matching firm officials (whose information can be obtained from the Business Registry) and electoral candidates (both successful and unsuccessful) in municipality elections to identify the connected firms. A drawback is that personal identification numbers are not provided in neither data source, which makes pairing less reliable. On the other side of the problem, one of the possibilities is to observe only listed firms and focus on their stock market returns as performance indicators for which better data are available, especially in that such data sets would be more balanced and the fixed effects framework could be used to mitigate the risks of omitted variable bias. The analysis could also potentially focus on public procurement outcomes and use exogenous changes in the political landscape at different levels of government. Increased data availability in the future may bring about the possibility to use better methods to estimate the effects of corporate political connections.

This thesis, focusing on the post-transition period in the Czech Republic, provides further evidence of the significant role of corporate political ties and the added value they might bring to the connected firms. We aim to use the results as advocacy material in the ongoing discussions regarding the revision of the Act on Political Party Financing. In many countries, corporate donations to political parties are banned, since evidence suggests that in some settings, firms may profit from being politically connected. In this thesis, we provide further corroboration of these effects.

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Appendix A

Figure A.1: An example of the income report that parties must include in their annual reports.

a) Přehled o celkových příjmech politické strany
v členění podle § 17 odst. 4 zákona č. 424/1991 Sb., ve znění pozdějších předpisů

Poř. čís.	Název ukazatele	v Kč
a	b	c
1	Příjmy celkem	46 409 550,94
2	z toho: Příspěvek ze státního rozpočtu České republiky na úhradu volebních nákladů	0,00
3	Příspěvek ze státního rozpočtu České republiky na činnost strany a hnutí (příspěvek na činnost)	40 067 500,00
4	Členské příspěvky	2 321 374,00
5	Příjmy z nájmu a prodeje movitého a nemovitého majetku	206 284,00
6	Úroky z vkladů	42 615,74
7	Příjmy vznikající z účasti na podnikání jiných právnických osob podle § 17 odst. 3 zák. č. 424/1991 Sb., ve znění pozdějších předpisů	0,00
8	Příjmy z pořádání tombol, kulturních, společenských, sportovních, rekreačních, vzdělávacích a politických akcí	155 953,20
9	Dary a dědictví	3 615 824,00
10	Půjčky a úvěry	0,00

Source: Annual Report of TOP 09, 2015.

Table A.1: Sensitivity analysis, pooled model, ROE.

	(1) ROE	(2) ROE	(3) ROE	(4) ROE	(5) ROE	(6) ROE
L.ROE	.321***	.321***	.316***	.316***	.308***	.308***
	[.319,.323]	[.318,.323]	[.314,.318]	[.314,.318]	[.306,.311]	[.306,.311]
PubInd		-1.53***	-1.59***	-1.5***	-1.31***	-1.31***
		[-1.7,-1.35]	[-1.76,-1.42]	[-1.68,-1.33]	[-1.48,-1.13]	[-1.48,-1.13]
PubSec			4.99***	4.95***	3.05***	3.03***
			[4.86,5.12]	[4.82,5.08]	[2.91,3.19]	[2.89,3.17]
LocSize				-.221***	-.173***	-.172***
				[-.254,-.189]	[-.205,-.14]	[-.204,-.139]
FirmSize					.775***	.773***
					[.756,.794]	[.754,.792]
DDon						1.69***
						[1.06,2.31]
Constant	4.56***	5.98***	5.5***	6.36***	-5.64***	-5.62***
	[4.51,4.61]	[5.81,6.14]	[5.33,5.67]	[6.16,6.57]	[-6.01,-5.26]	[-5.99,-5.24]
Observations	870575	860849	860849	860849	855606	855606
R^2	0.160	0.161	0.165	0.165	0.170	0.170

95 % confidence intervals in brackets. * p < 0.05, ** p < 0.01, *** p < 0.001.

Table A.2: Sensitivity analysis, pooled model, ROA.

	(1) ROA	(2) ROA	(3) ROA	(4) ROA	(5) ROA	(6) ROA
L.ROA	.317***	.317***	.314***	.313***	.308***	.308***
	[.315,.32]	[.314,.32]	[.311,.317]	[.311,.316]	[.305,.31]	[.305,.31]
PubInd		-1.42***	-1.44***	-1.35***	-1.28***	-1.28***
		[-1.53,-1.3]	[-1.56,-1.33]	[-1.46,-1.23]	[-1.39,-1.16]	[-1.39,-1.16]
PubSec			3.03***	2.98***	1.75***	1.74***
			[2.95,3.11]	[2.91,3.06]	[1.67,1.83]	[1.66,1.82]
LocSize				-.261***	-.253***	-.252***
				[-.281,-.241]	[-.273,-.233]	[-.272,-.233]
FirmSize					.558***	.557***
					[.544,.572]	[.543,.571]
DDon						.973***
						[.627,1.32]
Constant	1.53***	2.83***	2.54***	3.57***	-5***	-4.99***
	[1.5,1.56]	[2.72,2.94]	[2.43,2.65]	[3.44,3.71]	[-5.27,-4.73]	[-5.26,-4.72]
Observations	1111563	1100505	1100505	1100505	1100505	1100505
R^2	0.144	0.145	0.148	0.148	0.153	0.153

95 % confidence intervals in brackets. * p < 0.05, ** p < 0.01, *** p < 0.001.