Political Turnover and Firm Productivity: Evidence from the Ukrainian Presidential Election of 2010

By

Iaroslav Miller

Submitted to

Central European University

Department of Economics

In partial fulfillment of the requirements for the degree of Master of Arts in Economic Policy in Global Markets

Supervisor: Professor Miklós Koren

Budapest, Hungary

2015

CEU eTD Collection

Abstract

Earle and Gehlbach (2014) find that political turnover that took place in Ukraine in 2004 after the Orange Revolution had an impact on firm level productivity. In this study I examine the effect of political turnover on the firm level productivity in Ukraine after the Presidential Election of 2010. In order to estimate the effect I employ difference-in-differences as identification strategy. I use Ukrainian firms' balance sheet data for the 2007-2013 period available at the Amadeus database. On the basis of the voting results of the Presidential Election of 2010, I select 16 regions of Ukraine: 6 that gave the largest share of votes to Viktor Yanukovych, the eventual winner, 6 that gave the largest share of votes to Yulia Tymoschenko, his opponent and a successor of Viktor Yushchenko as a pro-Western candidate, and 4 regions that did not show any particular support for any of the candidates. On the basis of the region of location I divide the companies into 3 groups: opposing, supporting and control firms. I find a statistically significant effect of Yanukovych's term on firm level productivity in Ukraine. I do not find that firms located in the supporting regions experienced a statistically significant positive effect of political turnover on their productivity. However, I find that SMEs located in the opposing regions experienced a significant negative impact of his term on their productivity. As a result, I suggest four policy recommendations that can be implemented by the Ukrainian government in order to decrease dependence of firms on politicians.

Keywords: political turnover, political connections, corruption, firm level productivity, Ukraine.

CEU eTD Collection

Acknowledgements

I would like to thank Professor Miklós Koren for his valuable comments and recommendations. I would also like to express my gratitude to the Central European University and the Department of Economics in particular for a great experience and knowledge that I obtained during my studies.

I thank my parents, friends and girlfriend for being patient with me and supporting me during the studies and the research.

CEU eTD Collection

Contents

CEU eTD Collection

List of Tables and Figures

CEU eTD Collection

Introduction

It has already been more than half of a century since Solow (1957) built his growth model and formally linked productivity and economic growth. Nevertheless, although it has been obvious for many years that countries neither trade nor produce while enterprises do, only recent decade with an increasing computing capacity of machines and availability of firm level balance sheet and surveys data allowed economists to explore factors of the firm level productivity. These factors vary substantially from business organization factors such as capital or R&D investments to institutional factors such as corruption, red tape or political stability.

Political turnover is a feature of all democratic societies and can cause introduction of better policies (Bates and Block, 2013). However, in countries with weak institutions (high level of corruption, low property rights protection and strong dependence of business on politicians) political turnover may not benefit everybody equally (Earle and Gehlbach, 2011). Earle and Gehlbach (2014) explore an effect of political turnover that followed the Orange Revolution in Ukraine in 2004 on firm level productivity. They find that firms that were located in regions that supported politically Viktor Yushchenko, the eventual winner of the Presidential Election of 2004, experienced a positive effect of his term on their firm productivity.

The authors suggest that a future research should focus on the effect of political turnover on firm level productivity after the Presidential Elections of 2010 in Ukraine. In 2010 Viktor Yanukovych, who was Yushchenko's opponent in 2004, became a President of Ukraine. This changed dramatically the political landscape in the country. Hence, his victory could have an impact on firm level productivity as well.

CEU eTD Collection

Therefore, I continue the authors' research and assess the impact of the political turnover in Ukraine following Yanukovych's victory in 2010 on firm level productivity. My hypothesis is that political turnover of 2010 had a positive productivity impact on firms from pro-Yanukovych regions and a negative productivity impact on firms located in anti-Yanukovych regions.

This study employs difference-in-differences as identification strategy. I use Ukrainian firms' balance sheet data for the 2007-2013 period available at the Amadeus database. On the basis of the voting results of the Presidential Election of 2010, I select 16 regions of Ukraine: 6 that gave the largest share of votes to Viktor Yanukovych, the eventual winner, 6 that gave the largest share of votes to Yulia Tymoschenko, his opponent and a successor of Viktor Yushchenko as a pro-Western candidate, and 4 regions that did not show any particular support for any of the candidates. On the basis of the region of location I divide the companies into 3 groups: opposing, supporting and control firms. Empirical findings suggest that political turnover in 2010 had a negative impact on firm level productivity of SMEs that were located in opposing regions.

The next chapters discuss firm productivity measures, relevant literature, research structure and the results of econometric estimations. As a result of my findings, I suggest policy recommendations that can be employed by the Ukrainian government in order to ease firms' dependence on political connections.

CEU eTD Collection

Chapter 1. Productivity Measures

Productivity describes an ability of some entity: an individual, a firm, an industry, region or a country to create outputs out of given inputs. In other words, productivity is an efficiency of a production effort.

$$\textbf{Productivity} = \frac{Outputs}{Inputs}$$

Due to the fact that productivity is unobserved characteristic there is a need to measure or proxy it. According to the OECD Manual – Measuring Productivity there are two widely used categories of the productivity measures: a single factor and a multifactor productivity.

Labour productivity is the most widely used single factor productivity measure. It is defined as an amount of output a single employee produces assuming a constant amount and a constant quality of other inputs. However, this measure attracts skepticism because it reflects a scope of different factors such as a change in quantity or quality of capital and intermediary material inputs, change in organizational structure of production, economies of scale, technological or management improvement (OECD Manual – Measuring Productivity, 2001).

In reality production requires a number of tangible inputs such as labour, capital and intermediary materials. Thus, it is more realistic to rely on a multifactor productivity measure. Since this measure is aimed to account for productivity contribution of all factors it is usually referred to as Total Factor Productivity (TFP). Economists usually assume that production function takes the form of a Cobb-Douglas function (see e.g. Van Beveren, 2010):

$$\mathbf{Y_{it} = A_{it} * K_{it}^{\alpha} * L_{it}^{\beta} * M_{it}^{\gamma}}$$

CEU eTD Collection

Where $\mathbf{Y_{it}}$ is an observed output of an entity i in a period t, $\mathbf{K_{it}}$ is an observed capital input (fixed assets), $\mathbf{L_{it}}$ is an observed labour input (number of employees or working hours), $\mathbf{M_{it}}$ is an observed intermediary materials inputs (e.g. energy) and $\mathbf{A_{it}}$ is an unobserved level of productivity of an entity in a period t. In order to facilitate the further derivation I can take both sides of the equation in natural logarithms:

$$\mathbf{y_{it} = a_{it} + \alpha * k_{it} + \beta * l_{it} + \gamma * m_{it}}$$

Lower case letters are used to demonstrate that variable is in natural logarithm. If I rearrange the equation I arrive to the following expression of productivity $\mathbf{a_{it}}$:

$$\mathbf{a_{it} = y_{it} - (\alpha * k_{it} + \beta * l_{it} + \gamma * m_{it})}$$

Thus, TFP approach estimates productivity as a residual from production function. Unfortunately, my sample does not contain material costs observations as proxies for intermediary materials and I cannot estimate TFP. Therefore, I will be referring to my findings as a multifactor productivity in accordance with Earle and Gehlbach (2014) notations.

The next chapter provides a review of relevant literature.

CEU eTD Collection

Chapter 2. Literature Review

This chapter discusses theoretical and empirical studies that assess how political turnover, political connections and corruption can influence firm productivity. This review will help me to develop my empirical model and suggest channels of Ukrainian political turnover impact on Ukrainian firm productivity in latter chapters.

2.1. Firm Productivity and Political Turnover

Political turnover may lead to improvements in productivity if a new government leads to better designed policies (Bates and Block, 2013). However, in countries with weak institutions (high level of corruption, ineffective bureaucracy and low property rights protection) political turnover may have unequal influence on different economic actors (Earle and Gehlbach, 2014). A sudden change in a political environment can break established links between political and economic agents, change economic policies and create uncertainties regarding the future outcome of investments (Earle and Gehlbach, 2011). Therefore, political turnover can create winners and losers within sectors or regions.

In my study I would like to build on the study conducted by Earle and Gehlbach (2014) because they estimate the effect of Ukrainian political turnover on firm productivity. The political turnover happened after the Ukrainian Presidential Election of 2004 and the following Orange Revolution in 2004. During the election that triggered the revolution Viktor Yanukovych, who was a Prime Minister of Ukraine and a candidate for the Presidency from a long term ruling political elite had his electoral support in the East and the South of Ukraine. His opponent, Viktor Yushchenko, was a candidate for the Presidency from a political opposition that was backed by citizens and businesses in the West and the Centre of Ukraine (Karatnycky, 2005; Earle and

CEU eTD Collection

Gehlbach, 2011). After the revolution the landscape of a political environment changed and Yushchenko's team formed a new government and a new parliament majority leading to the reallocation of political support from the East to the West of the country (Earle and Gehlbach, 2014). The authors find that in three years after the revolution firms from the regions that supported Yushchenko increased their productivity more than those from the opposing regions. In addition, they find that political turnover had a negative impact on productivity of large firms located in pro-Yanukovych regions. The authors suggest that the reason is that big companies rely more on national scale politicians in terms of protection than small firms that are usually connected to local regional level politicians or public officials. The authors conclude that the plausible source of the post-election differences in firm productivity could have been caused by reallocation of political support, including government purchases, from pro-Yanukovych to pro-Yushchenko regions.

The assessment of the impact of political turnover on firm productivity per se is a relatively new area of research. However, political turnover usually influences firms via its channels such as corruption and political connections. Therefore, I will also discuss studies that assess relationship between corruption, political connections and firm productivity and performance.

2.2. Firm Productivity and Political Connections

Faccio (2006) studies politically connected firms from 47 countries. She finds that firms seeking political connections are more common in countries with a higher corruption level and less financial and capital flexibility. Moreover, political connections are more common feature of large companies. According to her firms seek political connections in order to enjoy economic advantages over market competitors. Such advantages can include preferential terms of credit

CEU eTD Collection

provisions from state-owned banks, higher chances to obtain government contracts, tax and regulation relaxation or even straightforward subsidies. She finds that corporate stocks grow when CEOs enter politics while they are unaffected when politicians get appointed to management boards. These findings support the view that politicians can to take advantage of companies for personal benefit and that benefits of political connections for firms may be dwarfed by their costs (Shleifer and Vishny, 1994). In line with these findings, Domadenik, Prasnikar and Svejnar (2014) develop a theoretical model showing that political connections occur and harm firm performance in societies with weak institutions. Going further, they test the relationship between firm TFP and firm supervisory board structure in a dataset of Slovenian companies. Their results show that companies with a higher share of politicians in supervisory boards have lower productivity. Desai and Olofsgard (2011) use World Bank's Enterprise Surveys data that consists of around 8000 firms from 40 countries and find that firms with political connections are more likely to experience easier administrative regulations, easier access to financing and larger market power. However, such firms have to provide politicians with political benefits as bigger employment and tax contributions. As a result politically connected firms are less productive than their peers with no political affiliations.

Hence, despite a general perception that political connections and associated economic benefits lead to improvement in firm performance, the empirical studies share an opposite view that politicians tend to exploit companies. It might still be true that politicians and managers of politically connected companies enrich themselves through "cooperation", however, political links harm politically affiliated firms' productivity due to the need to deliver political benefits.

CEU eTD Collection

2.3. Firm Productivity and Corruption

Corruption is also an important factor of political and business environment that can affect firm productivity in a case of political turnover. Corrupt public officials can harm firm performance by distorting market competition, exploiting firms directly or encouraging unnecessary and expensive investments (Rose-Ackerman, 1997). On the one hand, less efficient firms yet with better connections with public officials or a willingness to offer higher bribes may receive public services faster than law obedient peers (Rose-Ackerman, 1997). On the other hand, officials themselves are willing to manipulate the administrative burden in order to force companies to bribe (Kaufmann and Wei, 2000; Aidt and Dutta, 2008).

"Grease the wheels" is an opposite theory that suggests that corruption can be a positive factor of firm performance. Proponents of the theory hypothesize that corruption is a mechanism that helps firms to cope with inefficient bureaucracy and rigid laws (Huntington, 1968) or even facilitate efficient allocation of public services (Lui, 1985). However, Kaufmann and Wei (2000) argue that corruption only produces optimal results when level of bureaucracy is exogenous while usually it is not true.

There is a number of econometric researches that estimate impact of corruption on firm performance and the productivity. McArthur and Teal (2004) discover that African firms that bribe public officials has on average 20% lower labour productivity that their prudent peers. Fisman and Svensson (2007) find that corruption has negative impact on firm growth in Uganda. More recently, De Rosa, Gooroochurn and Gorg (2010) and Kochanova (2012) focus on CEE region. De Rosa, Gooroochurn and Gorg (2010) use sample of CEE and CIS countries and find that firms that experience higher levels of corruption have lower levels of TFP. Kochanova (2012) finds that corruption can lead to inefficient employment structure and damage a labour

CEU eTD Collection

productivity of firms. Nevertheless, several studies also find that corruption may have a positive impact on economic performance when institutions are very weak (see e.g. Infante and Smirnova, 2009; Vial and Hanoteau, 2010; De Vaal and Ebben, 2011).

Corruption, political connections and political turnover are interdependent phenomena and can have different effects on firm productivity. Therefore, every case of political turnover should be investigated separately. The next chapter presents reasons why in my opinion the political turnover of 2010 should have had impact on productivity of Ukrainian firms.

CEU eTD Collection

Chapter 3. Background of the Presidential Election of 2010

I believe there are two reasons why the political turnover of 2010 had an impact on Ukrainian firm productivity: historical problems of Ukraine with its weak institutions and companies' inability to predict the eventual winner of the Presidential Election of 2010.

Table 1. Ukraine's position in the international institutions quality rankings, percentile in a corresponding ranking[1]

	2007	2010	2013
Control of Corruption	16	17	12
Political Stability	43	42	21
Rule of Law	24	25	23
Property Rights Protection Index	17	22	14[2]

(The World Bank Group Worldwide Governance Indicators, The PRA Property Right Protection Index, the author's own calculations)

Ukraine has long term institutional problems. Table 1 illustrates the positions of Ukraine in the World Wide Governance Indicators constructed by the World Bank Group (WB) and in the Property Rights Protection Index by Property Rights Alliance (PRA). Ukraine's problems with corruption, rule of law and property rights protection are among the biggest in the world.

However, these problems are not surprising. A salary of a Member of Parliament of Ukraine was increased to around USD 770 per months as of April 1, 2015 (Vzglyad, 2015), the average salary of ministerial employees is around USD 290 (Segodnya, 2015). Salaries of other public employees like judges are probably even more modest. This creates incentives for public officials to accept bribers and favour those who pay more.

CEU eTD Collection

[1]The number in the table corresponds to the percentile under which position of Ukraine falls in comparison to positions of other countries in the corresponding rankings. Lower percentile means lower position in the ranking.
[2] Data for 2012.

According to Executive Opinion Surveys published annually by the Foundation for Effective Governance in the annual "Ukrainian Competitiveness Reports" inefficient bureaucracy is an additional factor of problematic business environment. Ukraine is among regional leaders in terms of the number of public workers. For instance, there are around 600 workers of the Interior Ministry per 100 thousand of citizens (Zerkalo Nedeli, 2012), while there are on average around 30% less policemen in other European countries (Havronuk, 2012). Anecdotal evidence suggests that Ukraine has the same problem with judges, prosecutors and other public employees (Havronuk, 2012). This increases the regulatory burden and creates a significant pressure for the state budget (Baker Tilly, 2015), while foreign investors and local businessmen keep complaining about inefficient bureaucracy (Tymchenko, 2015; Novoe Vremya, 2015) and corrupt courts (Popova, 2014). Excessive and inefficient bureaucracy makes it difficult for businessmen to avoid bribing and force them to seek political connections in order to facilitate business operations. In addition, they can also seek political connections in order to ensure their property rights (Earle and Gehlbach, 2011). Therefore, firms' performance can be hampered if they lose established connections with public officials or politicians.

Table 1 also illustrates that political stability has also been an issue in Ukraine. Although the Presidential Election of 2010 was not accompanied by a revolution, as it happened in 2004, the tensions were similarly high. The political preferences of Ukrainians remained geographically polarized. In February, 2010, Ukrainians were deciding between Viktor Yanukovych, again supported by the East and the South of the country, and Yulia Tymoschenko, who substituted Viktor Yuschenko as a seemingly pro-Western politician, supported by the West and the Centre of Ukraine (The Economist, 2010). Despite people's disappointment with constant quarrels within the so-called "Orange" political parties (Vorobyova, 2009) and the deterioration in the

CEU eTD Collection

economic well-being triggered by the global financial crisis in 2008-2009 under the post-Revolution governments the results of presidential election were very close. Tymoschenko received 45% votes against 49% votes to Yanukovch in the second round ballot (see Table A2 in the appendix for more details).

Thus, corruption, weak property rights protection and inefficient public bureaucracy made businesses dependent on political connections. While the uncertain result of the Presidential Election of 2010 prevented companies from adjusting their operations to the upcoming political turnover and changes in business environment (e.g. find political patrons in the opposite political camp, reallocate production to a different region) prior to the election results.

The next chapter will discuss empirical strategy of this study.

CEU eTD Collection

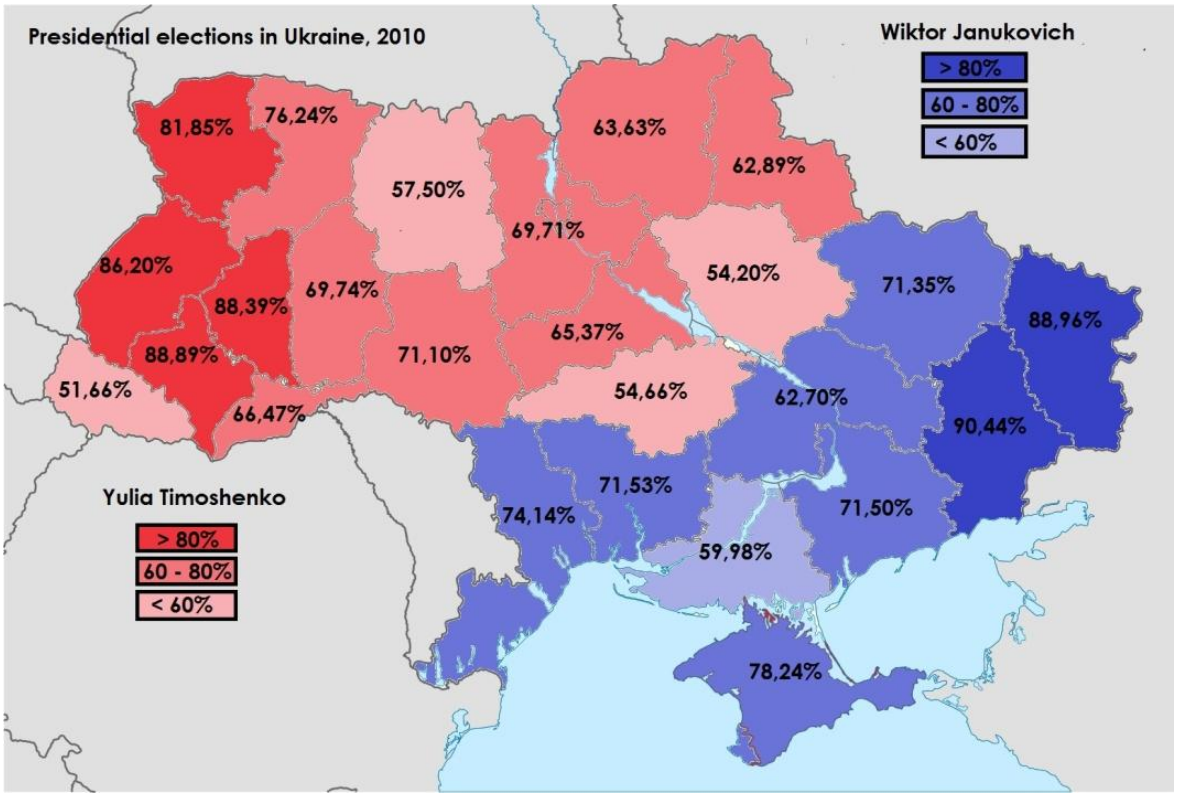
Chapter 4. Research Structure

In this chapter I discuss the research methodology and the firm level data that I use.

4.1. Difference-in-differences strategy and Region Selection

In order to assess the hypothesis that political turnover of 2010 had a positive productivity impact on firms from pro-Yanukovych regions and a negative productivity impact on firms located in anti-Yanukovych regions I employ differences-in-differences (diff-in-diffs) identification strategy.

Figure 1. The voting results of the Presidential Election of 2010[3]



(Central Election Commission of Ukraine)

[3] Red colour indicates that the majority of voters supported Tymoschenko, blue color – Yanukovich. A figure in each region illustrates how many votes a regional winner received in the corresponding region.

CEU eTD Collection

I divide regions of Ukraine on the basis of regional voting support illustrated in Figure 1. The supporting regions are 6 regions that gave the biggest share of votes to Yanukovych. The opposing regions are 6 regions that gave the biggest share of votes to Tymoschenko. The control regions are 4 regions that did not show an obvious support to any of the candidates (see Table A2 in the appendix for more details). Therefore, I select 16 Ukrainian regions:

- Supporting (Yanukovych) regions:[4] Donetsk, Luhansk, Mykolaiv, Odesa, Kharkiv, Zaporizhya regions;
- Opposing (Tymoschenko) regions: Lviv, Volyn, Ternopil, Rivne, Ivano-Frankivsk, Vinnytsya regions;
- Indifferent (control) regions: Poltava, Zakarpattya, Zhytomyr, Kirovograd regions.

Table 2. Basic macroeconomic characteristics of regional groups in 2007[5]

	Control	Opposing	Supporting
Average GRP, UAH million	14,995	14,469	41,547
Average Population, thousand	1,269	1,479	2,504
GRP per capita, UAH thousand	11,819	9,784	16,594

(The State Statistical Service of Ukraine, "Ukraine in Figures 2007", the author's own calculations)

Table 2 illustrates basic macroeconomic characteristics of selected groups of regions. The supporting regions are located in the East and the South of the country, owing to the rich endowment of natural resources (Segura, 2013), on average they are more specialized in production of heavy industrial goods. Although these regions seem to be the wealthiest regions

[4] I will not include Crimea due to my strong believe that local voters supported Yanukovych not because of associated economic benefits but rather due to geopolitical sentiments.
[5] GRP per capita and Average GRP are given in constant 2007 prices.

CEU eTD Collection

and drivers of the Ukrainian economy this impression is not completely true as they are also the most subsidized regions of the country due to high concentration of heavy industries (Skumin, 2013; Zaharchenko, 2014) that employ a lot of people, however, lacks modernization, for instance coal industry (Rodionov, 2015).

I assume that firms in the regions that were indifferent regarding the candidates received neither preferential nor negative treatment after the political turnover, during Yanukovych's term. Moreover, since votes in these regions did not support any particular candidate then on average business environment perception of local business entities should not have changed after the victory of Yanukovych.

Therefore, I can use firms located in the indifferent regions as a control group for my study. I assume that two other regional groups: supporting and opposing were the treatment groups. I expect that firms located in the opposing regions received a negative treatment after political turnover while firms located in the supporting regions received a positive treatment of Yanukovych's term. The main diff-in-diffs assumption is that in the absence of the political turnover in 2010 all firms regardless of their location would experience similar productivity trends on average.

It is important to note that Figure 2 and Table A2 in the appendix show that although I assume the control regions were indifferent between the candidates they showed a marginally higher support for Tymoschenko in 2010. Therefore, in case if in reality they also experienced a negative impact of the political turnover my estimation results will overestimate the positive impact of Yanukovych's term on supporting companies and underestimate the negative impact of his term on opposing companies.

CEU eTD Collection

It is also important to note that the post-election period coincided with the period when Ukraine suffered the consequences of global financial crisis of 2008. Therefore, I have to make an assumption that all the regions were hit by the crisis consequences in the similar manner. Hence, the difference in the firm level productivity dynamics among the regions in the post-election period should have been caused by the differential impact of Yanukovych's term rather than by the differential impact of the crisis.

4.2. Firm Data

In my research I rely on the dataset available at online Amadeus database. The database reports balance sheet data of Ukrainian firms since 2003. For my study I collect data for the 2007-2013 period. Although Yuschenko remained a President till 2010 in my opinion differential impact of his term was subdued already in 2006 as Yanukovich became a Prime Minister of Ukraine after the Parliament Election of 2006 (Vorobyova, 2009), thus, constraining political power of Yuschenko and his affiliates.

I select only firms that were located in one of the 16 selected regions. Most of the literature that I have covered deals with manufacturing rather than services firms. Therefore, I only select firms from manufacturing industries in my dataset. In addition, in order to make my dataset representative I only select those industries that have at least 40 firms in each of the three regional groups after I use initial industry selection criterion online at the Amadeus database. Thus, I have selected 8 manufacturing industries that correspond to NACE Rev. 2 classification: apparel production, food processing, chemical products, electrical equipment, machinery production, fabricated metals, plastic and rubber products and mineral products.

CEU eTD Collection

The initial selection criterion requires companies to have at least 10 employees in any single year of the 2010-2013 period. I further drop observations that in any single year had less than 5 employees or did not report employment, reported 0 or did not report fixed assets value, had 0 or did not report operating revenue in any single year of the 2007-2013 period. In other words I have kept only firms that reported at least 5 employees at any given year and higher than 0 fixed assets and operating revenues. In order to omit outlier bias I also dropped observations that reported top or bottom 10% values of fixed assets in 2007. The final sample is a balanced panel data that consists of 3082 firms in the period between 2007 and 2013. In total the sample has 21574 observations. The firms do not change location or specialization in the sample.

Table 3. Main firm level variables and summary statistics[6]

Variable	Opposing	Supporting	Control
Operating Revenue	11.8	12.4	10.8
	(48.3)	(28.5)	(28.9)
Fixed Assets	2.5	3.0	2.6
	(7.1)	(9.4)	(5.9)
Current Liabilities	5.5	5.8	4.4
	(27.1)	(33.4)	(13.7)
Employment	78.7	80.8	89.7
	(110.1)	(132.8)	(137.2)
Observations	6321	11368	3885

(The Amadeus database, the author's own calculations)

Table 3 illustrates the basic characteristics of an average firm in the three different regional groups. Supporting, opposing, control regions contain 1624, 903, 555 unique firms, respectively. The study dataset includes output (operating revenue), capital (fixed assets), employment (number of employees) and current liabilities. The dataset also includes region of location and

[6] Means, Standard Deviations in parentheses for the 2007-2013 period. Fixed Assets, Operating Revenue and Current Liabilities are expressed in constant 2007 prices: UAH million.

CEU eTD Collection

industry classification. In order to make monetary values comparable across the time I deflate all the values to the levels of 2007 using PPI at industry level provided by the State Statistical Office of Ukraine (see Figure A1 in the appendix). Unfortunately, PPI is only available at industry level, hence, there is no variation of PPI across regions. I also conduct a robustness check and make estimations (see the results in Table A4 in the appendix) with operating revenues and fixed assets deflated by regional CPI (see Figure A2 in the appendix).

4.3. Econometric Models

Due to the fact that in my sample firms do not change location or specialization neither prior, nor after the election and the fact that both candidates were similarly likely to win in 2010 I can assume that firms could not choose whether they wanted to be treated by the political turnover or not. Hence, I can rule out selection bias.

Similarly to Earle and Gehlbach (2014) I use the multifactor productivity as a productivity measure and an extended Cobb-Douglas function as a base Model 1:

$$\mathbf{y_{it} = \beta_1 * k_{it} + \beta 2 * e_{it} + \gamma_1 * O_g + \gamma_2 * S_g + \gamma_3 * (O*P)_{tg} + \gamma_4 * (S*P)_{tg} + \gamma_5 * P_t + \varepsilon_i + \mu_{it} + \delta_{it},} \qquad \mathbf{(1)}$$

where i is a firm index, t is a time index and g is a treatment group index. Smaller case letters indicate that they are taken in the form of a natural logarithm. Hence, $\mathbf{y_{its}}$ is a log of deflated operating revenues of a company i in period t, $\mathbf{k_{it}}$ is a log of deflated fixed assets of a company i in period t, $\mathbf{e_{itsg}}$ is log of a number of employees of a company i in period t. **O** and **S** are dummy variables that equal 0 if a firm is located in the the control regions and 1 if a company is located in the opposing or supporing regions, respectively. Hence, coefficients **γ1** and **γ2** show average pre-election differences in the firm level productivity between control and two other region groups. **P** variable is a dummy variable that equal 0 in 2007 through 2009 and 1 afterwards.

CEU eTD Collection

Hence, coefficient **γ5** shows an average firm level productivity increase of firms located in the control regions in the post-elections years. **O*P** and **S*P** are interactions of **O** and **S** variables with **P** variable, respectively - diff-in-diffs variables. Hence, coefficients **γ3** and **γ4** are diff-in-diffs coefficients that show differential impact of political turnover on firm productivity growth of Ukrainian firms that were located in the supporting and opposing regions. Finally, **εi, μit, δitsg** is a vector of time-fixed firm unobservable characteristics, a vector of time-varying firm unobservable characteristics and idiosyncratic error, respectively.

Although the firm productivity is unobserved firm characteristic, managers can have a good idea about the productivity of their companies. Therefore, they can adjust inputs accordingly. Hence, simple OLS estimation of the firm productivity can be biased due to simultaneity of the productivity observation and inputs decision (Van Beveren, 2010).

In order to control for the simultaneity bias I extend Model 1 with firm fixed effects (FE).[7] Since firms cannot change industry of operation or region of location fixed effects also allow me to control for firm, region and industry time invariant characteristics. Thus, in Model 2 I substitute **S** and **O** variables with vector of firm dummies $\mathbf{F_i}$ – firm fixed effects (FE):

$$\mathbf{y_{it} = \beta_1 * k_{it} + \beta 2 * e_{it} + \gamma_3 * (O*P)_{tg} + \gamma_4 * (S*P)_{tg} + \gamma_5 * P_t + \phi_i * F_i + \mu_{it} + \delta_{it},} \quad \mathbf{(2)}$$

I further add a vector of firm trends ($\mathbf{F_i * T_t}$), an interaction of firm fixed effects $\mathbf{F_i}$ and $\mathbf{T_t}$, which is a variable that consists of values from 1 to 7 that corresponds to each year in the 2007-2013 period:

$$\mathbf{y_{it} = \beta_1 * k_{it} + \beta 2 * e_{it} + \gamma_3 * (O*P)_{tg} + \gamma_4 * (S*P)_{tg} + \gamma_5 * P_t + \phi_i * F_i + \alpha_{ts} * F * T + \delta_{itsg},} \quad \mathbf{(3)}$$

[7] In practice I use Stata built-in fixed effects command.

CEU eTD Collection

Inclusion of firm trends allows me to control for firm (change in management, change of supplier), region (change in regional demand) and industry (change in industrial policies) specific time variant factors because firms' locations and specializations are unchanged in time. Hence, according to Earle and Gehlbach (2014) this helps to be sure that the diff-in-diffs assumption of parallel firm productivity trends in the absence of political turnover is valid. In the next chapter I will report and discuss the results of econometric estimations.

CEU eTD Collection

Chapter 5. Estimation Results and Interpretations.

5.1. Estimation Results

I report heteroskedusticity-robust standard errors clustered at the firm level in order to control for correlation of errors within firms' time series. The estimations of the regressions on the basis of the total sample illustrated in Table 4 suggest several important findings.

Table 4. Productivity diff-in-diffs: the different model specifications

VARIABLES	(1) Base	(2) FE	(3) FE&Trends
k	0.250***	0.111***	0.085***
	(0.013)	(0.013)	(0.016)
e	0.925***	0.913***	0.716***
	(0.019)	(0.022)	(0.029)
S	0.425***		
	(0.046)		
O	0.211***		
	(0.051)		
S*P	0.007	0.001	0.030
	(0.027)	(0.027)	(0.034)
O*P	-0.091***	-0.097***	-0.078**
	(0.030)	(0.030)	(0.037)
P	0.072***	0.043*	0.082***
	(0.024)	(0.024)	(0.029)
Constant	2.589***	3.854***	4.839***
	(0.074)	(0.099)	(0.145)
Observations	21,574	21,574	21,574
R-squared	0.636	0.362	0.622
Firm FE	No	Yes	Yes
Firm Trends	No	No	Yes
Number of firms		3,082	3,082

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

CEU eTD Collection

Firstly, Model 1 estimation shown in Column 1 suggests that in the pre-election period supporting and opposing firms were on average 43% and 21% more productive than firms that were located in the control regions, respectively. Secondly, all the model specifications shown in Table 4 arrive at a similar result that while in the post-election period difference between supporting and control firms' average multifactor productivity is not statistically significant the difference between opposing and control companies' average productivity is statistically and economically significant amounting to 8-10 pp productivity growth difference depending on model specification. Hence, the political turnover of 2010 did not have a positive impact on productivity of supporting firms (statistically insignificant coefficient of **S*P** variable) but it had a negative effect on productivity of opposing firms (statistically significant negative coefficient of **O*P** variable). This is in line with the results of Executive Opinion Surveys published in Ukraine by the Foundation for Efficient Governance after the election in 2010. These surveys show that corrupt and inefficient bureaucrats and tax regulations remained major problems for business in the supporting regions during Yanukovych's term (see Table A3 in the appendix). Thirdly, in all model specifications the coefficient of the **P** variable is positive and statistically significant. This means that in the post-election period average productivity of firms located in supporting and control regions increased while productivity of opposing companies either declined or did not change significantly.

I also perform the same estimations with variables deflated by regional level CPI for robustness check (see Table A4 in the appendix). In all the Model specifications the coefficients of **O*P** remain highly significant and have a negative magnitude of a similar size as shown in Table 4. In addition, Model 2 also reports negative coefficient of **S*P** that is statistically significant at 10%

CEU eTD Collection

significance level. This additionally supports the idea that on average Yanukovych's term was not beneficial for his supporters because the problems of local business environments remained.

Since all the three model specifications produce similar results I will use Model 2 (fixed effects diff-in-diffs) as a base specification to test plausible channels of the impact of the political turnover on the firm productivity.

5.2. The Impact Channels Analysis

Although literature suggests a number of ways how political turnover can impact firm level productivity, data available for Ukrainian companies restricts my research to a set of specific channels that can be tested: firm size, access to financing, capital investments and regional policies. I will use the same variables as defined previously in Model 2 and indicate when I add additional new variables.

5.2.1. Firm Size

Earle and Gehlbach (2014) find that large pro-Yanukovych firms were more sensitive to the political turnover than pro-Yanukovych SMEs in 2004. Owners of large companies usually tend to have closer contacts with politicians than SMEs (Faccio, 2006). However, they also depend on politicians more than SMEs. Hence, they are the ones to gain or lose from the political turnover the most.

Therefore, I will test the effect of the 2010 political turnover separately in the samples of SMEs and big firms. I divide the total sample into 2 distinct samples:

- SMEs are the companies whose fixed assets were less than the 70^{th} percentile of 2007 fixed assets in the corresponding industry: 2155 unique firms.

CEU eTD Collection

- Big companies are the companies whose fixed assets were more or equal to the 70th percentile or of 2007 fixed assets in the corresponding industry: 927 unique companies.

I divide firms on the basis of their relative size within their industry of specialization and not by the absolute size threshold because this division method better fits the assumption that bigger firms are more politically connected. For instance, a big firm in Metals or Machinery industry might be on average smaller than a big firm from Food or Chemicals industry (see Table A5 in the appendix). Hence, absolute size threshold will leave it in the SMEs sample. However, the fact, that it is a big firm within its own industry, makes it more "systemically" important so it can also have strong connections with politicians. Hence, I choose relative size of a company within the industry as a proxy for the size of its political connections. The main firm level variables and summary statistics for SMEs and big companies are illustrated in the appendix: Tables A6 and A7.

Table 5 illustrates Model 2 estimation for SMEs and big firms separately. There are several important findings. Firstly, Column 2 and 3 show **S*P** is insignificant both for SMEs and big firms. Moreover, **S*P** coefficient is negative in the sample of SMEs. Hence, on average there was no positive treatment for supporting firms during the post-election period. This is in line with the results of the Executive Opinion Survey (see Table A3 in the appendix).

Secondly, Column 2 shows that both control and supporting SMEs experienced increase of around 8% in multifactor productivity in the post-election period while productivity of opposing SMEs declined by around 3%. Although **O*P** coefficient is negative while **S*P** coefficient is positive in the sample of big companies (Column 3), they are not statistically significant. This suggests that in contrast to opposing SMEs, opposing big companies on average did not

CEU eTD Collection

experience a statistically significant negative productivity effect of the political turnover. This result contradicts the findings of Earle and Gehlbach (2014) that suggest that big firms with assumingly stronger political connections were the ones influenced the most by the political turnover in 2004.

Table 5. Productivity FE diff-in-diffs: SMEs and big firms

VARIABLES	(1) All	(2) SMEs	(3) Big
k	0.111***	0.108***	0.128***
	(0.013)	(0.015)	(0.030)
e	0.913***	0.905***	0.912***
	(0.022)	(0.027)	(0.039)
S*P	0.001	-0.013	0.032
	(0.027)	(0.032)	(0.050)
O*P	-0.097***	-0.104***	-0.078
	(0.030)	(0.035)	(0.054)
P	0.043*	0.077***	-0.036
	(0.024)	(0.028)	(0.043)
Constant	3.854***	3.809***	3.927***
	(0.099)	(0.100)	(0.269)
Observations	21,574	15,085	6,489
R-squared	0.362	0.327	0.431
Company FE	Yes	Yes	Yes
Company Trends	No	No	No
Number of id	3,082	2,155	927

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Thirdly, Column 3 reports insignificant **P** coefficient as well. Hence, on average all big companies experienced productivity stagnation in the post-election period regardless of their location.

In order to make a robustness check I also use the same method to divide companies into SMEs and big companies on the basis of employment size in 2007 instead of fixed asset size in 2007. I

CEU eTD Collection

repeat Model 2 estimations and report the results in Table A8 in the appendix. I receive virtually the same diff-in-diffs coefficients for the sample of SMEs. Moreover, I also receive a negative **O*P** coefficient that is statistically significant at a 10% significance level in the sample of big firms (see Table A8, Column 3, in the appendix). Nevertheless, **O*P** coefficient is larger in the sample of SMEs than in the sample of big firms.

Hence, despite the (weak) evidence that opposing big firms were also negatively affected by the political turnover in 2010, on average opposing SMEs were the biggest victims of the political turnover.

5.2.2. Access to Financing

Political turnover can break established links between local politicians and business (Gehlbach and Earle, 2011) while easier access to financing is one of the benefits that companies gain from politicians (Faccio, 2006). If firms from the opposing regions had more problems with access to financing, they would have experienced a subdued dynamics of current liabilities in comparison to supporting peers and a worse productivity performance due to their inability to adequately finance their business operations. I can use firm level current liabilities observations as a proxy for access to financing in order to test this hypothesis. I extend Model 2 with current liabilities variable:

$$\mathbf{y_{it} = \beta_1 * k_{it} + \beta 2 * e_{it} + \beta 3 * cl_{it} + \gamma_3 * (O*P)_{tg} + \gamma_4 * (S*P)_{tg} + \gamma_5 * P_t + \phi_i * F_i + \mu_{it} + \delta_{it},} \quad \mathbf{(4)}$$

where **cl** is a log of deflated current liabilities. All the other variables and indices of Model 2 are left unchanged.

CEU eTD Collection

Table 6. Productivity FE diff-in-diffs extended with current liabilities: SMEs and big firms

VARIABLES	(1) All	(2) SMEs	(3) Big
k	0.083***	0.079***	0.104***
	(0.013)	(0.015)	(0.030)
cl	0.113***	0.122***	0.088***
	(0.009)	(0.010)	(0.017)
e	0.872***	0.855***	0.887***
	(0.023)	(0.027)	(0.039)
S*P	0.001	-0.011	0.031
	(0.027)	(0.031)	(0.049)
O*P	-0.088***	-0.094***	-0.074
	(0.029)	(0.034)	(0.054)
P	0.031	0.063**	-0.041
	(0.023)	(0.028)	(0.043)
Constant	3.428***	3.395***	3.530***
	(0.100)	(0.102)	(0.262)
Observations	21,503	15,018	6,485
Number of id	3,082	2,155	927
R-squared	0.378	0.349	0.438
Company FE	Yes	Yes	Yes
Company Trends	No	No	No

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The results of the econometric estimation of the Model 4 in the samples of SMEs and big companies illustrated in Table 6 suggest that there is no strong evidence to support this hypothesis. Although the additional current liabilities variable makes diff-in-diffs coefficient of opposing SMEs less negative – it increases by around 1 pp from negative 10.4% to negative 9.4% - this change is not economically significant. Therefore, it suggests that access to credit was not the source of different productivity dynamics among SMEs from different regions in the post-election period.

CEU eTD Collection

Diff-in-diffs estimation for current liabilities as the dependent variable (Model 5) illustrated in Table 7 does not produce a statistically significant difference between opposing and supporting firms:

$$cl_{it} = \beta 1*eit + \gamma 3*(O*P)_{tg} + \gamma_4*(S*P)_{tg} + \gamma_5*P_t + \phi_i*F_i + \mu_{it} + \delta_{it}, \quad (5)$$

This is also in line with the results of Executive Opinion Surveys that did not indicate that the companies from the opposing regions considered access to financing as a more problematic issue of local business environment than companies from the supporting regions in the post-election period.

Table 7. Current liabilities FE diff-in-diffs: SMEs and big firms

VARIABLES	(1) SMEs	(1) Big
e	0.529***	0.380***
	(0.030)	(0.049)
S*P	-0.001	0.005
	(0.045)	(0.061)
O*P	-0.059	-0.055
	(0.051)	(0.068)
P	0.056	0.025
	(0.039)	(0.052)
Constant	4.398***	6.456***
	(0.104)	(0.232)
Observations	15,018	6,485
Number of id	2,155	927
R-squared	0.062	0.062
Company FE	Yes	Yes
Company Trends	No	No

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Nevertheless, these findings are important because they help to support the assumption that the difference in firm level productivity was caused by Yanukovych's term effect but not by the

CEU eTD Collection

different effect of the financial crisis on different regions. According to Marer (2009), after the financial crisis Ukraine was hit most severely by the global liquidity crisis. In other words, the real economy crisis in Ukraine was just a consequence of the liquidity crisis. Foreign banks cut the financing of its subsidiaries in Ukraine. The subsidiaries had to halt lending to enterprises, thus, creating liquidity problems for companies that became reliant on available and cheap credit. One may argue that banks in the opposing regions that are also mostly located in the Western Ukraine had more exposure to European banks, while the banks in the supporting, mostly Eastern regions, had more dependence on Russian capital. Then the difference in the credit availability would have not been caused by Yanukovych's term but by different sources of foreign capital (Europe or Russia) among different regions. However, the results in Table 8 show that there was no statistically significant difference in the access to financing among the regions after the crisis. Since liquidity crisis was the major reason for the real economy crisis in Ukraine, the absence of statistically significant difference in exposure to the liquidity crisis among the regions allows me to conclude that on average neither the supporting, nor the opposing firms were hit by the global financial crisis differently from the control regions.

Hence, given that the supporting and the opposing regions were on average hit similarly by the financial crisis and that the post-election difference in firm productivity is statistically significant in the sample of SMEs (as shown in Table 5 and 6), I can conclude that Yanukovich's presidency had a statistically significant negative effect on the firm productivity of opposing SMEs.

5.2.3. Capital Investments

Opposing SMEs could have perceived the results of the 2010 election as a signal of inevitable deterioration in the local business environment. Earle and Gehlbach (2011) suggest two possible reasons for change in the perception of business environment: shift in geopolitical integration

CEU eTD Collection

processes and increasing uncertainty of property rights. Firstly, a new President could have decided to integrate the economy closer with Russia and away from the EU benefiting supporting firms and harming opposing ones. Secondly, the deterioration in political connections could have also increased firms' uncertainty about the property rights protection. Therefore, the change in the business environment perception could have changed their investment plans and scared out investments in productivity enhancement or a capacity expansion.

In contrast, the victory of Yanikovych could have encouraged supporting firms to invest more in the productivity increase than previously planned. These changes should have added up to differences in investments dynamics and lead to the increase in fixed assets (capital) of supporting firms over opposing ones in the post-election period.

$$k_{it} = \beta 2 * e_{it} + \gamma_3 * (O*P)_{tg} + \gamma_4 * (S*P)_{tg} + \gamma_5 * P_t + \phi_i * F_i + \mu_{it} + \delta_{it}, \quad (6)$$

Model 6 tests this hypothesis and the result of the regressions in all samples are shown in Table 8. The coefficients of diff-in-diffs variables are statistically insignificant in all samples. In other words, Yanukovych's term had neither any particular negative effect on the investments of opposing companies nor any positive effect on the investments of supporting companies.

This finding is also in line with the results of Executive Opinion Surveys that find that political instability together with corruption and bureaucracy remained the most important negative factors of local business environment in the supporting regions in the post-election period. Hence, different the investment strategies across regions were not the drivers of differential productivity dynamics among SMEs.

CEU eTD Collection

Table 8. Fixed assets FE diff-in-diffs: SMEs and big firms

VARIABLES	(1) All	(1) SMEs	(1) Big
e	0.415***	0.487***	0.304***
	(0.022)	(0.028)	(0.034)
S*P	-0.043	-0.039	-0.053
	(0.030)	(0.038)	(0.043)
O*P	-0.009	0.016	-0.062
	(0.032)	(0.040)	(0.048)
P	-0.138***	-0.146***	-0.124***
	(0.025)	(0.032)	(0.037)
Constant	5.107***	4.248***	7.050***
	(0.087)	(0.099)	(0.159)
Observations	21,574	15,085	6,489
Number of id	3,082	2,155	927
R-squared	0.133	0.129	0.168
Company FE	Yes	Yes	Yes
Company Trends	No	No	No

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

5.2.4. Regional Policies

Anecdotal evidence suggest that after the victory of Yanukovich, the supporting regions, the Eastern part of the country in particular, started receiving on average more subsidies, current and capital transfers from the general budget than they used to previously (Korrespondent, 2010; TSN, 2012).

Therefore, I compare regional level dynamics in retail and wholesale trade turnover and industry output[8] in order to assess whether a plausible increase in budgetary transfers to the supporting

[8] The Regional Data on Retail and Wholesale Turnover and Industrial Output comes from annual "Ukraine in Figures" reports published by the State Statistical Office of Ukraine.

CEU eTD Collection

regions came at a cost of economic activity of the opposing regions. I use diff-in-diffs with regional fixed effects:

$$\mathbf{turnover_{rt} = \gamma_3*(O*P)_{tg} + \gamma_4*(S*P)_{tg}\ \gamma_5*P_t\ + \beta_r*R_{tr} + \mu_{rt} + \delta_{ir},} \quad \mathbf{(7)}$$

$$\mathbf{output_{rt} = \gamma_3*(O*P)_{tg} + \gamma_4*(S*P)_{tg}\ \gamma_5*P_t\ + \beta_r*R_{tr} + \mu_{rt} + \delta_{rt},} \quad \mathbf{(8)}$$

where **r** and **t** are region and time indices, respectively, **R** is a vector of regional time fixed effects (FE), and μ_{rt} and δ_{ir} are unobserved regional time variant characteristics and idiosyncratic errors. **turnover** and **output** are log values of deflated with regional CPI retail and wholesale trade turnover and industry output, respectively. **O**, **S** and **P** variables are diff-in-diffs variables.

Table 9. Regional economic activity FE diff-in-diffs

VARIABLES	(1) Industry	(2) Retail
S*P	-0.125	0.053***
	(0.072)	(0.018)
O*P	-0.083	0.015
	(0.070)	(0.016)
P	0.047	0.174***
	(0.063)	(0.009)
Constant	10.332***	9.246***
	(0.013)	(0.005)
Observations	112	112
R-squared	0.046	0.415
Region FE	Yes	Yes
Number of oblast	16	16

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

CEU eTD Collection

Table 9 illustrates the results of Models 8 and 9 estimations. Firstly, estimations on the region level manufacturing output suggest that the political turnover did not have a statistically significant impact on manufacturing output. Neither coefficient of **S*P,** nor coefficient of **O*P** in

Column 1 is statistically significant. Secondly, retail turnover regression shown in Column 2 suggests that there was a positive post-election impact on the supporting regions in trade, while opposing regions were growing similarly to the control regions. The lack of the post-election impact on industry and a significant post-election impact on trade can be explained by the short sighted regional economic policy of the new government and a President. If Yanukovych and his government were deliberately increasing the grants and subsidies to the supporting regions, they could only stimulate short term household consumption. However, given the specialization of the supporting regions, the Eastern regions in particular, in the heavy industries (Segura, 2013) rather than light industries, this short term consumption boom could not stimulate significantly output of the supporting regions' manufacturing producers.

5.3. The Dynamics of the Political Turnover Impact

In order to understand the nature of the impact of political turnover on firm level multifactor productivity it is important to assess the dynamics of this impact. Therefore, I amend Model 2 in order to include a vector of year dummies $\mathbf{Y_t}$ instead of **P** variable and two vectors of interactions of **O** and **S** with year dummies ($\mathbf{O*Y_t}$ and $\mathbf{S*\ Y_t}$) instead of **O*P** and **S*P** variables:

$$y_{it} = \beta_1 * k_{it} + \beta 2 * e_{it} + \gamma_t * (O*Y_t)_{tg} + \gamma_t * (S*\ Y_t)_{tg} + \gamma_t * Y_t\ + \phi_i * F_i + \mu_{it} + \delta_{it}, \qquad (9)$$

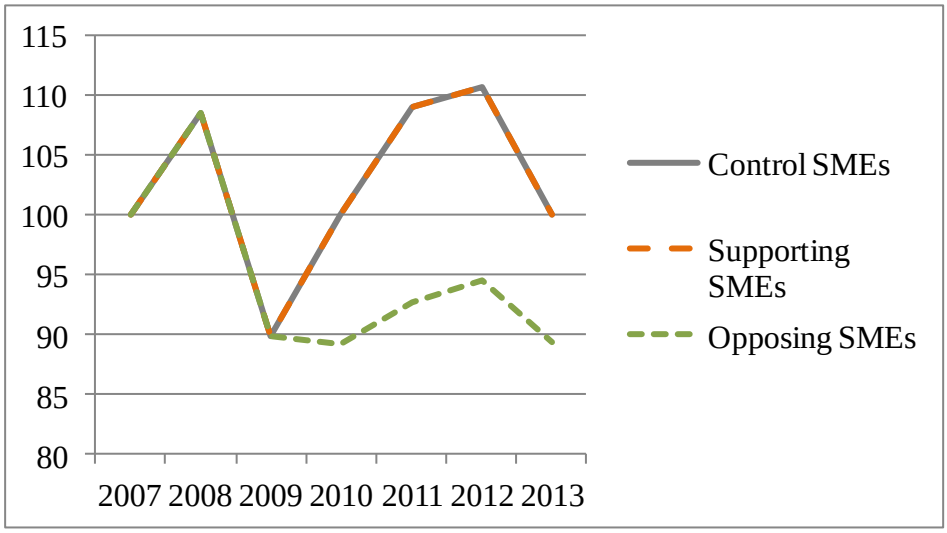
$\mathbf{Y_t}$ will allow me to estimate the average annual dynamics of productivity of control firms while the vectors of interactions ($\mathbf{O*Y_t}$ and $\mathbf{S*\ Y_t}$) will allow me to estimate the annual dynamics of the political turnover effect on firm productivity in opposing and supporting regions.

The results of Model 9 econometric estimations are reported in Table A10 in the appendix. I collect the coefficients of $\mathbf{Y_t}$ and of the vectors of interactions ($\mathbf{O*Y_t}$ and $\mathbf{S*Y_t}$) in order and build the annual productivity dynamics indices for SMEs and big firms in order to summarize the

CEU eTD Collection

Model 9 results in Figures 2 and 3. I only collect coefficients that are statistically significant at a 10% significance level.

Figure 2. Index of the annual productivity dynamics of SMEs, 2007 = 100



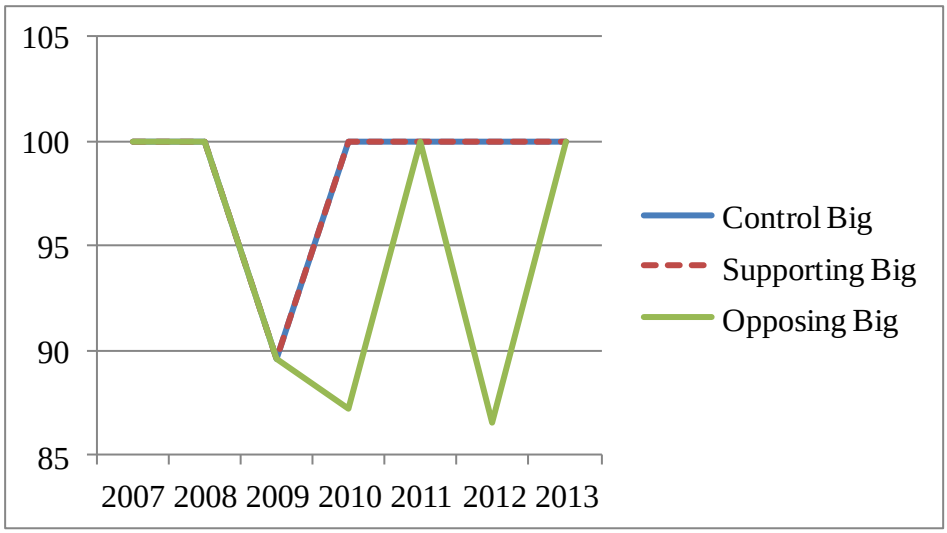
(The Amadeus database, the author's own calculations)

Figure 2 illustrates the annual productivity dynamics for SMEs. First of all, it shows that productivity dynamics of SMEs was similar prior to the political turnover in 2010. Moreover, there is no statistically significant difference in the dynamics in 2009. This is additional evidence that the crisis had an equal impact on all SMEs regardless of their location. Secondly, it shows that the negative effect of political turnover started influencing opposing SMEs already in 2010 during the first year of Yanukovych's term. According to the estimated $\mathbf{O*Y_t}$ coefficients the impact increased in 2011 and 2012 and amounted to more than 16%. However, already in 2013 this effect was already less pronounced in economic terms amounting to 10% and only significant at a 10% significance level. Finally, the estimation suggests there was no statistically significant positive effect on the multifactor productivity of supporting SMEs because all the estimated coefficients of $\mathbf{S*Y_t}$ are statistically insignificant.

CEU eTD Collection

Figure 3 summarizes the estimation results for the sample of big companies. It also shows that the pre-election dynamics was similar among big companies. Moreover, there is evidence that the political turnover had a negative impact on multifactor productivity of big opposing companies. However, the magnitude is more modest than in case of SMEs. Moreover, the conclusions should be cautions because the highest level of statistical significance of the coefficients is a 10% level.

Figure 3. Index of the annual productivity dynamics of big companies, 2007 = 100



(The Amadeus database, the author's own calculations)

In the next chapter I will conclude the main findings of this paper and suggest four policy recommendations for the Ukrainian government aimed to decrease the dependence of firm productivity on political environment in Ukraine.

CEU eTD Collection

Conclusions and Policy Recommendations

Conclusions

The main purpose of this study was to assess whether political turnover had an impact on Ukrainian firm level multifactor productivity after the Presidential Election of 2010 as it had after the Orange Revolution in 2004 according to Gehlbah and Earle (2014). I employed diff-in-diffs identification strategy dividing Ukrainian firms into three groups: control, opposing and supporting. Opposing firms were located in the regions that were supporting Tymoschenko in 2010. These firms were supposed to lose the most from Yanukovych's victory. Supporting firms were located in the regions that were supporting Yanukovych in 2010, the eventual winner, and were supposed to benefit the most from his victory. Control firms were located in the regions that showed relatively equal support to the both candidates.

Gehlbah and Earle (2014) find that the difference in firm level productivity after the Orange Revolution in 2004 was driven by the positive effect of the political turnover on the productivity of companies from the regions that supported the eventual winner of the election in 2004. In contrast, my findings for the 2010 Presidential Election in Ukraine suggest that the political turnover did not have a positive impact on firms that are located in the regions that supported the winning candidate, Viktor Yanukovych. In addition, robustness check suggests that there is weak evidence (only significant at 10% level) that it could have a negative impact on the firm level productivity of supporting firms. This is in line with the results of Executive Opinions Surveys (see the Table A3 in the appendix) that show that corrupt and inefficient bureaucrats and tax regulations remained major problems for business in the supporting regions after the election.

CEU eTD Collection

I find that the political turnover had a statistically and economically significant negative impact on firm productivity of firms located in the regions that were supporting Yanukovych's opponent. Depending on model specification, results suggest that while in the post-election period firms from the supporting (supporters of Yanukovich) and the control regions (indifferent voters) experienced the average productivity growth of 4-8%, firms from the opposing regions on average experienced either the productivity stagnation or the productivity decline of 2-5%.

More precisely, the political turnover had a very strong negative effect on opposing SMEs's multifactor productivity. Although the basic methodology suggests that opposing big firms did not experience a negative productivity effect of the turnover, robustness check suggests weak evidence (only significant at 10% significance level) that they could also experience a negative impact of the political turnover. Nevertheless, the magnitude of the negative impact on opposing SMEs is larger than on opposing big firms. This also contradicts findings of Earle and Gehlbach (2014) that find that big anti-winner firms were the biggest victims of the political turnover in 2004. Econometric estimations based on the sample of SMEs suggest that in the post-election period opposing SMEs on average experienced a productivity decline of around 2.5%, while SMEs from the supporting and the control regions increased their productivity by around 8% on average.

Hence, these findings contradict Earle and Gehlbach (2014) in two important ways. Firstly, unlike the authors' findings for 2004 I found that the political turnover of 2010 had only negative impact on firm level performance of opposing firms. Secondly, I found that SMEs were the ones hit the most.

CEU eTD Collection

The assessment of the relationship between firm level productivity dynamics and current liabilities shows that firms from the opposing regions did not have bigger problems with financing than their supporting peers. This result is in line with the results of the Executive Opinion Surveys. I also did not find evidence that firms in different regions had different investment appetite due to the plausible changes in local business environment. The analysis of regional level economic activity suggests that Yanukovich was benefiting supporting regions with subsidies and grants. However, this policy only benefited supporting consumers but not producers.

The limited scope of the research and data availability did not allow me to decide between two reasons of productivity underperformance of SMEs in the post-election period. On the one hand, it is possible that the new political elite and its affiliates were deliberately punishing opposing SMEs. On the other hand, it is still possible that in the pre-election period, during the Presidential term of Viktor Yushchenko supported by the Western (opposing) regions in 2004, Western (opposing) companies were receiving a preferential treatment. Hence, their underperformance during Yanukovych's term could have been just a result of the disappearance of such a treatment. Nevertheless, my findings show that supporting firms were on average more productive than opposing firms in the pre-election period. Hence, the political turnover in 2010 exacerbated regional inequality even further.

Lack of the firm level data for corruption and regulatory burden for Ukrainian firms in my sample make it impossible to assess these channels of the political turnover impact. Hence, although I conclude that in the post-election period productivity of opposing SMEs experienced a negative impact of political turnover, I cannot conclude about the exact channels of this impact. In order to assess the impact of corruption on Ukrainian firms' productivity future researches can

CEU eTD Collection

use the BEEPS database collected by the World Bank Group in order to get the firm level observations for corruption in Ukraine and match it with the Amadeus database firm level balance sheet data.

Policy Recommendations

Although I could not find the exact channel of the impact of political turnover of 2010 on firm productivity, in my opinion rampant corruption among public employees is a plausible reason why firm productivity depends on political environment in Ukraine. Corrupt public employees are interested in low efficiency of public services because it helps them to force firms to bribe them. Corrupt courts make property rights protection problematic. Therefore, firms are encouraged to seek patrons among politicians both on national and regional level. And in case they lose patronage they can suffer productivity losses.

Although it is difficult to defeat corruption, it is possible to fight with its roots. The most important reasons for corruption are low salaries of public workers and a large number of inefficient public employees with vague responsibilities. I suggest four recommendations that can be applied by the Ukrainian government to reduce dependence of business on political connections.

Firstly, Ukraine should conduct a significant reduction in the number of public officials, including policemen and judges, and optimize their responsibilities. The optimization should include the abandonment of unnecessary responsibilities and the increase in amount of work load per public employee. A development of an electronic government will be an invaluable aid in the process of the optimization of public bureaucracy (Kovalenko, 2015).

CEU eTD Collection

Secondly, Ukraine should invest into education and the work equipment of public employees. It will increase their effectiveness, allow for responsibility optimization and improve their work satisfaction.

Thirdly, salaries of public servants should be significantly increased. Higher salaries and education can change the motivation of public servants, especially young ones, from corruption to career building. The decrease in the number of public employees can free budget room for salary increase, while the increase of their efficiency can justify the salary increase for the society. Alternatively, given the current difficult situation of the Ukrainian economy, the increase in public salaries can be funded by international organizations that are interested in the improvement of political stability and business environment in Ukraine (Ekonomicheskaya Pravda, 2015).

Fourthly, in order to decrease the dependence of firms on local regulations, the Ukrainian government should allow companies to use business certifications obtained from abroad (e.g. the US or the EU) for local operations (Roland and Gorodnichenko, 2015). In addition, the government should also allow companies to choose regulatory administration where to apply for business certifications and permits independently from the location of registration. For instance, if public officials are more efficient and less corrupt in Lviv, then firms from Kyiv should be allowed to use their services (Roland and Gorodnichenko, 2015). This will allow more companies to benefit from efficient public services, it will also identify the best and the worst performers among public officials and enhance competition among them improving efficiency even further. The decrease in corruption incentives among public employees should constrain the ability of politicians to influence the business environment.

CEU eTD Collection

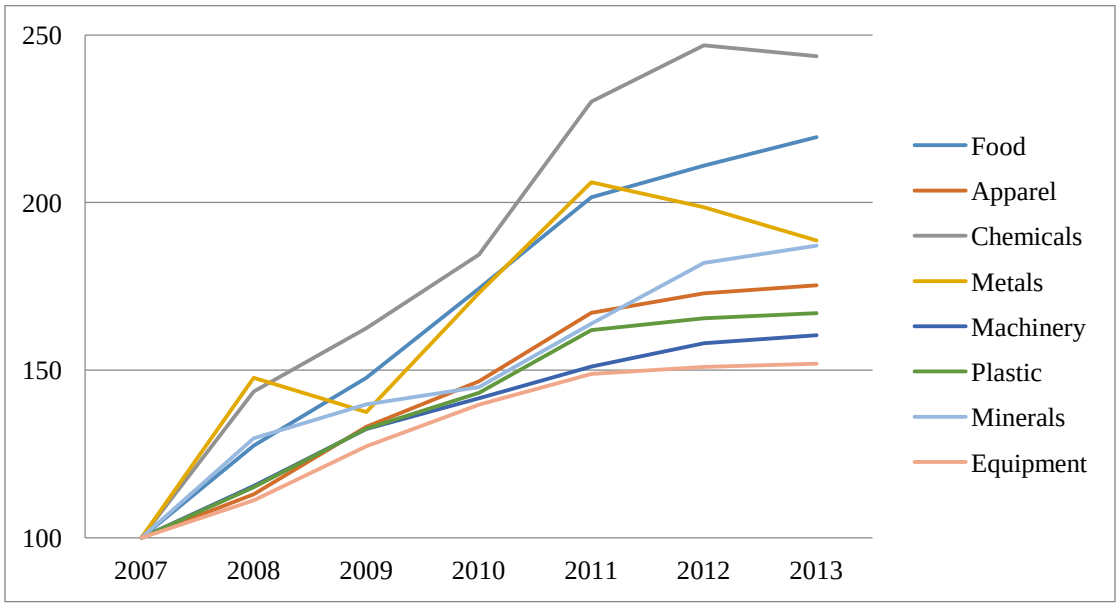
Appendix

Table A1. Correlations

	y	e	k	cl	O	S	O*P	S*P	P
y	1.0000								
e	0.4709	1.0000							
k	0.3826	0.3575	1.0000						
cl	0.4348	0.2671	0.3758	1.0000					
O	-0.0023	-0.0156	-0.0157	-0.0005	1.0000				
S	0.0095	-0.0083	0.0216	0.0127	-0.6794	1.0000			
O*P	0.0112	-0.0302	0.0126	0.0188	0.6966	-0.4733	1.0000		
S*P	0.0357	-0.0251	0.0483	0.0408	-0.4225	0.6219	-0.2943	1.0000	
P	0.0503	-0.0372	0.0621	0.0549	0.0000	0.0000	0.3884	0.5684	1.0000

(The Amadeus database, the authors' own calculations)

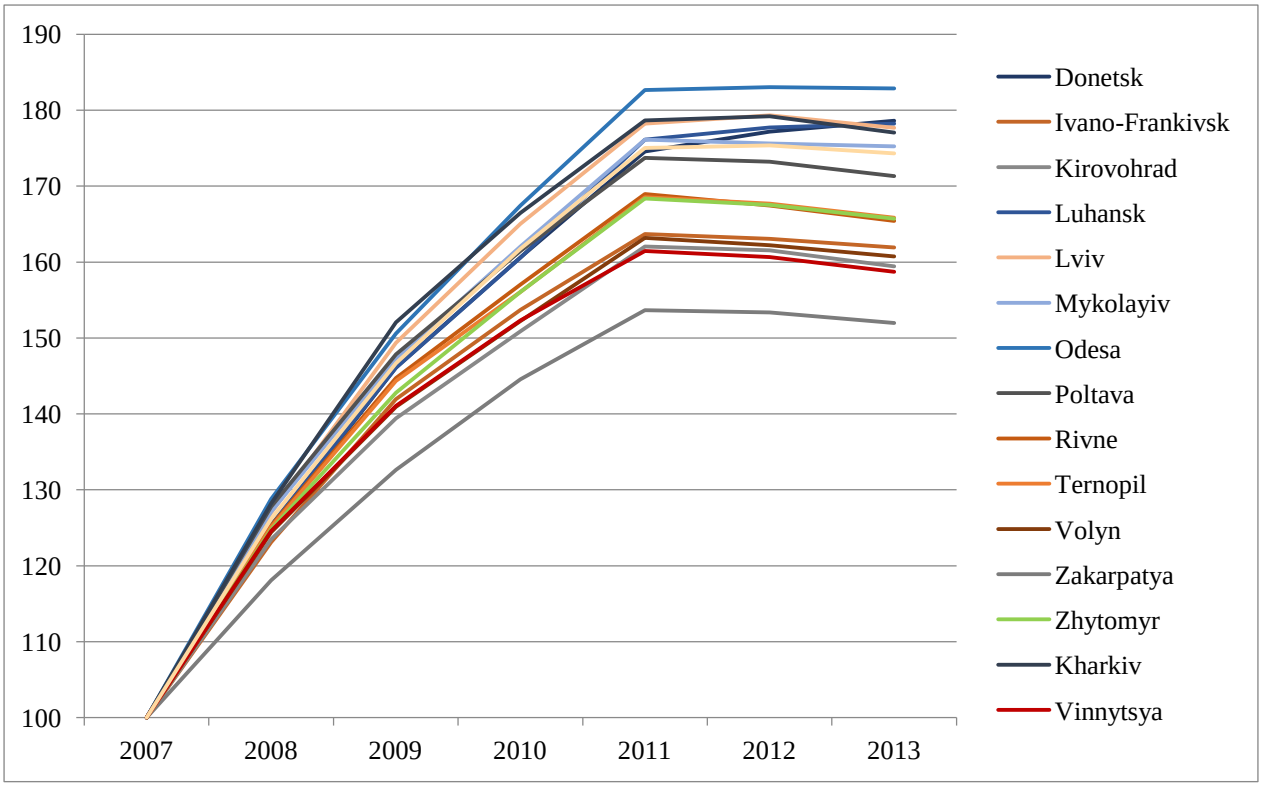
Figure A1. PPI by industry, 2007=100



(The State Statistical Office of Ukraine, the author's own calculations)

CEU eTD Collection

Figure A2. CPI by region, 2007=100



(The State Statistical Office of Ukraine, the author's own calculations)

CEU eTD Collection

Table A2. Regional 2010 Presidential Election voting statistics

Region	Share of votes for Tymoschenko, %	Share of votes for Yanukovych, %
Ivano-Frankivsk	**89**	7
Ternopil	**88**	8
Lviv	**86**	9
Volyns	**82**	14
Vinnytsya	**71**	24
Rivne	**76**	19
Donetsk	6	**90**
Luhansk	8	**89**
Zaporizhya	22	**72**
Mykolaiv	23	**72**
Kharkiv	22	**71**
Odesa	20	**74**
Zakarpattya	52	42
Kirovograd	55	40
Poltava	54	39
Zhitomyr	58	37
Total Vote Results	45	49

(The Central Election Commission of Ukraine)

Table A3. Main problems of business environment by region in 2013

Region	Main problems of local business environment
Donetsk	policy instability, tax regulations, inefficient beuraucracy, corruption
Ivano-Frankivsk	policy instability, tax regulations, corruption, local and national government instability
Kirovohrad	tax regulations, policy instability, corruption, tax rates
Luhansk	policy instability, tax regulations, corruption, inefficient beuraucrats
Lviv	policy instability, tax regulations, corruption, tax rates
Mykolayiv	tax regulations, policy instability, corruption, tax rates
Odesa	policy instability, tax regulations, inefficient beuraucracy, corruption
Poltava	policy instability, tax regulations, corruption, tax rates
Rivne	policy instability, tax regulations, corruption, tax rates
Ternopil	policy instability, tax regulations, corruption, tax rates
Volyn	policy instability, tax regulations, inefficient beuraucracy, tax rates
Zakarpatya	policy instability, tax regulations, corruption, tax rates
Zhytomyr	policy instability, tax regulations, corruption, tax rates
Kharkiv	policy instability, tax regulations, inefficient beuraucracy, corruption
Vinnytsya	policy instability, tax regulations, inefficient beuraucracy, corruption
Zaporizhya	policy instability, tax regulations, corruption, tax rates

(Executives Opinion Survey published by the Foundation for Effective Governance)

CEU eTD Collection

Table A4. Productivity FE diff-in-diffs (variables deflated by CPI instead of PPI)

VARIABLES	(1) Base	(2) FE	(3) FE+Trends
k	0.262***	0.111***	0.106***
	(0.013)	(0.014)	(0.016)
e	0.918***	0.914***	0.721***
	(0.019)	(0.022)	(0.029)
S	0.407***		
	(0.046)		
O	0.206***		
	(0.051)		
S*P	-0.035	-0.050*	0.042
	(0.027)	(0.027)	(0.034)
O*P	-0.094***	-0.101***	-0.067*
	(0.030)	(0.029)	(0.037)
P	0.133***	0.116***	0.066**
	(0.024)	(0.023)	(0.029)
Constant	2.531***	3.829***	4.625***
	(0.074)	(0.099)	(0.146)
Observations	21,574	21,574	21,574
R-squared	0.638	0.354	0.611
Company FE	No	Yes	Yes
Company Trends	No	No	Yes
Number of id		3,082	3,082

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

CEU eTD Collection

Table A5. Firm level variables and summary statistics by industry[9]

Variable	Apparel	Chemicals	Equipment	Food	Machinery	Metals	Minerals	Plastic
Operating Revenue	3.0	20.8	13.4	20.4	9.4	6.3	8.4	8.9
	(5.5)	(47.2)	(30.0)	(58.9)	(20.7)	(15.1)	(16.6)	(17.2)
Fixed Assets	0.8	4.8	2.4	4.6	1.9	1.5	3.1	1.8
	(1.4)	(8.7)	(5.5)	(13.7)	(3.5)	(4.2)	(7.0)	(2.8)
Current Liabilities	0.9	6.9	8.2	9.0	4.8	2.9	4.0	2.7
	(1.7)	(18.3)	(70.4)	(30.5)	(14.3)	(8.5)	(8.9)	(5.7)
Employment	79.3	94.8	94.5	109.1	73.3	57.2	69.4	48.4
	(115.5)	(144.8)	(147.2)	(166.1)	(111.6)	(78.0)	(100.3)	(48.3)
Observations	1911	1057	2282	5320	3927	2534	3038	1505

(The Amadeus database, the author's own calculations)

Table A6. Main firm level variables and summary statistics of SMEs [10]

Variable	Opposing	Supporting	Control
Operating Revenue	6.4	6.1	4.5
	(44.4)	(13.1)	(16.9)
Fixed Assets	0.8	0.8	1.1
	(1.6)	(3.5)	(4.8)
Current Liabilities	2.8	3.0	1.7
	(22.4)	(36.0)	(6.9)
Employment	44.2	44.3	47.1
	(47.0)	(57.2)	(64.9)
Observations	4410	7959	2716

(The Amadeus database, the author's own calculations)

CEU eTD Collection

[9] Means, Standard Deviations in parentheses for the 2007-2013 period. Fixed Assets, Operating Revenue and Current Liabilities are expressed in constant 2007 prices: UAH million.

[10] Means, Standard Deviations in parentheses for the 2007-2013 period. Fixed Assets, Operating Revenue and Current Liabilities are expressed in constant 2007 prices: UAH million.

Table A7. Main firm level variables and summary statistics of big firms [11]

Variable	Opposing	Control	Supporting
Operating Revenue	24.3	25.5	27.3
	(54.2)	(42.3)	(44.7)
Fixed Assets	6.5	6.0	8.0
	(11.7)	(6.7)	(15.1)
Current Liabilities	11.5	10.4	12.4
	(34.9)	(21.5)	(24.9)
Employment	158.2	188.6	165.9
	(161.1)	(197.0)	(202.1)
Observations	1911	1169	3409

(The Amadeus database, the author's own calculations)

Table A8. Productivity FE diff-in-diffs: SMEs and big firms (the samples are divided by employment size instead of fixed assets size)

	(1)	(2)
VARIABLES	SMEs	Big
k	0.123***	0.088***
	(0.016)	(0.024)
e	0.866***	0.968***
	(0.028)	(0.038)
S*P	-0.011	0.027
	(0.033)	(0.046)
O*P	-0.101***	-0.088*
	(0.036)	(0.052)
P	0.073**	-0.014
	(0.029)	(0.039)
Constant	3.880***	3.872***
	(0.108)	(0.206)
Observations	14,994	6,580
R-squared	0.301	0.490
Company FE	Yes	Yes
Company Trends	No	No
Number of id	2,142	940

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

[11] Means, Standard Deviations in parentheses for the 2007-2013 period. Fixed Assets, Operating Revenue and Current Liabilities are expressed in constant 2007 prices: UAH million.

CEU eTD Collection

Table A9. Regional retail and industrial production characteristics[12]

Variable	Opposing	Control	Supporting
Retail Turnover	9.46	8.23	22.11
	4.01	2.01	10.57
Industrial Output	19.18	29.69	90.21
	8.87	28.31	70.15
Population	1.47	1.26	2.48
	0.53	0.17	1.02
Observations	42	28	42

(The State Statistical Office of Ukraine, "Ukraine in Figures" reports, the author's own calculations)

CEU eTD Collection

[12] Means, Standard Deviations in parentheses. Retail Turnover, Industrial Output are expressed in constant 2007 prices: UAH billion. Population is expressed in millions of citizens.

Table A10. Annual productivity dynamics: SMES and big companies

VARIABLES	(1) SMEs	(1) Big
k	0.108***	0.119***
	(0.015)	(0.030)
e	0.892***	0.883***
	(0.027)	(0.039)
Y_2008	0.086***	0.043
	(0.027)	(0.036)
Y_2009	-0.101***	-0.104*
	(0.038)	(0.054)
Y_2010	0.005	-0.019
	(0.038)	(0.056)
Y_2011	0.090**	-0.024
	(0.042)	(0.066)
Y_2012	0.107**	-0.098
	(0.043)	(0.062)
Y_2013	0.081*	-0.116
	(0.045)	(0.074)
S*Y_2008	-0.040	-0.006
	(0.031)	(0.041)
O*Y_2008	-0.039	-0.022
	(0.033)	(0.044)
S*Y_2009	-0.042	-0.049
	(0.044)	(0.061)
O*Y_2009	-0.050	-0.098
	(0.046)	(0.066)
S*Y_2010	-0.036	-0.016
	(0.043)	(0.062)
O*Y_2010	-0.109**	-0.128*
	(0.046)	(0.070)
S*Y_2011	-0.029	0.061
	(0.048)	(0.074)
O*Y_2011	-0.164***	-0.119
	(0.055)	(0.080)
S*Y_2012	-0.049	0.021
	(0.049)	(0.070)
O*Y_2012	-0.162***	-0.135*
	(0.052)	(0.077)
S*Y_2013	-0.047	-0.011
	(0.051)	(0.084)
O*Y_2013	-0.106*	-0.098
	(0.055)	(0.090)
Constant	3.879***	4.184***
	(0.104)	(0.275)
Observations	15,085	6,489
Number of id	2,155	927
R-squared	0.339	0.444
Company FE	Yes	Yes
Company Trends	No	No

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

CEU eTD Collection

Bibliography

Scientific Papers

Aidt, Toke S. and Jayasri Dutta, 2008, "Policy Compromises: Corruption and Regulation in a Democracy," Economics and Politics, 20(3), pp. 335-360.

Bates, R. H., Block S. A., 2013, "Revisiting African Agriculture: Institutional Change and Productivity Growth," Journal of Politics 75(2): 372 – 384.

De Rosa, D., Gooroochurn, N. and Gorg, H., 2010, "Corruption and productivity: Firm-level evidence from the beeps survey," The World Bank Policy Research, Working Paper 5348.

Desai, R.M. and Olofsgard A., 2011, "The Costs of Political Influence: Firm-Level Evidence From Developing Countries," Quarterly Journal of Political Science, 6(2): 137-178.

De Vaal, A. and Ebben, W., 2011, "Institutions and the relation between corruption and economic growth," Review of Development Economics 15(1): 108–123.

Domadenik, Polona, Janes Prasnikar and Jan Svejnar, 2014, "Legal Corruption, Politically Connected Corporate Governance and Firm Performance," CGEG-CDEP, Working Paper #12.

Earle, J. S. and Gehlbach S., "The Productivity Consequances of Political Turnover: Firm-Level Evidence from Ukraine's Orange Revolution (September 2014)," Forthcoming, American Journal of Political Science.

Earle, J. S. and Gehlbach S., 2011, "Why Do Similar Reforms Produce Dissimilar Outcomes? Privatization Effectiveness in the Shadow of Ukraine's Orange Revolution)." ISNIE 2011 Conference Paper.

Faccio, Mara, 2006, "Politically Connected Firms," American Economic Review 96: 369- 386.

Fisman, Raymond and Jacob Svensson, 2007, "Are Corruption and Taxation Really Harmful to Growth? Firm Level Evidence." Journal of Development Economics 83(1): 63 - 75.

Huntington, S. P., 1968, "Political Order in Changing Societies." New Haven: Yale University Press.

Infante, D. and Smirnova, J., 2009, "Rent-seeking under a weak institutional environment," Economics Letters 104: 118–121.

Kaufmann, D. and Wei, S.-J., 2000, "Does "grease money" speed up the wheels of commerce?" IMF, Working Paper, WP/00/64.

CEU eTD Collection

Kochanova, A., 2012, "The Impact of Bribery on Firm Performance: Evidence from Central and Eastern European Countries." CERGE-EI, Working Papers, wp473.

Lui, F., 1985, "An equilibrium queuing model of bribery," Journal of Political Economy, 93: 760–781.

Marer, P., 2010, "The Global Economic Crises. The Impacts on Eastern Europe." Acta Oeconomica, Vol. 60 (1), pp. 3 - 33.

McArthur, J. and Teal, F., 2004, "Corruption and firm performance in Africa," Development and Comp Systems 0409015, EconWPA.

Rose-Ackerman, S., 1997, "The political economy of corruption, in Elliot (ed.), Corruption and the global economy," Washington DC: Institute for International Economics, pp. 31–60.

Shleifer, A. and R. W. Vishny., 1994, "Politicians and Firms," Quarterly Journal of Economics, 109(4): 995- 1025.

Solow, R., 1957, "Technological Change and Aggregate Production Function," The Review of Economics and Statistics, Vol. 39, No. 3, pp. 312-320.

Van Beveren, I., 2010, "Total Factor Productivity Estimation: A Practical Review," Journal of Economic Surveys, 26: 98–128.

Vial, V. and Hanoteau, J., 2010, "Corruption, manufacturing plant growth, and the Asian paradox: Indonesian evidence," World Development 38(5): 693–705.

Vorobyova, Anna, 2009, "Will the Colours Fade? The Successes and Failures after the Orange Revolution in Ukraine," Simon Fraser University, Department of Political Science, Master Thesis.

Statistical and Methodological Bulletins

The Foundation for Effective Governance, 2013, "The Ukraine Competitiveness Report 2013."

The Foundation for Effective Governance, 2012, "The Ukraine Competitiveness Report 2012."

The Foundation for Effective Governance, 2011, "The Ukraine Competitiveness Report 2011."

The Foundation for Effective Governance, 2010, "The Ukraine Competitiveness Report 2010."

The Foundation for Effective Governance, 2009, "The Ukraine Competitiveness Report 2009."

The OECD, 2001, "Measurement of Aggregate and Industry Level Productivity Growth," OECD Statstics.

CEU eTD Collection

The Property Rights Alliance, 2012, " International Property Rights Index. 2013 Report."

The Property Rights Alliance, 2011, " International Property Rights Index. 2012 Report."

The Property Rights Alliance, 2010, " International Property Rights Index. 2011 Report."

The Property Rights Alliance, 2009, " International Property Rights Index. 2010 Report."

The Property Rights Alliance, 2008, " International Property Rights Index. 2009 Report."

The Property Rights Alliance, 2007, " International Property Rights Index. 2008 Report."

The Property Rights Alliance, 2006, " International Property Rights Index. 2007 Report."

The State Statistical Service of Ukraine, 2014, "Ukraine in Figures 2013". Statistical Publication.

The State Statistical Service of Ukraine, 2013, "Ukraine in Figures 2012". Statistical Publication.

The State Statistical Service of Ukraine, 2012, "Ukraine in Figures 2011". Statistical Publication.

The State Statistical Service of Ukraine, 2011, "Ukraine in Figures 2010". Statistical Publication.

The State Statistical Service of Ukraine, 2010, "Ukraine in Figures 2009". Statistical Publication.

The State Statistical Service of Ukraine, 2009, "Ukraine in Figures 2008". Statistical Publication.

The State Statistical Service of Ukraine, 2008, "Ukraine in Figures 2007". Statistical Publication.

The World Economic Forum, 2008, "Highlights of the Ukraine Competitiveness Report 2008."

Online Statistics Databases

Amadeus Database

URL: https://amadeus.bvdinfo.com/version-2015423/Login.serv?product=amadeusneo

[Accessed on 27.05.2015]

The World Bank Group Worldwide Governance Indicators

URL: http://info.worldbank.org/governance/wgi/index.aspx#home

[Accessed on 27.05.2015]

CEU eTD Collection

The State Statistical Office of Ukraine

URL: http://www.ukrstat.gov.ua/

[Accessed on 27.05.2015]

The Central Election Commission of Ukraine

URL: http://www.cvk.gov.ua/vnd_2012_en/

[Accessed on 27.05.2015]

Online News and Other Online Sources

Adrian Karatnycky, "Ukraine's Orange Revolution," *Foreign Policy*, March 1, 2005, URL: https://goo.gl/Q9FTdn, [Accessed on 27.05.2015]

Andriy Skumin, "Does Donbass really feed the rest of Ukraine?" *Tyzhden* March 12, 2013, URL: http://goo.gl/GyFZfG, [Accessed on 27.05.2015]

Artem Zaharchenko, "Which Regions feed Ukraine?" *Delo*, January 21, 2014, URL: http://goo.gl/kYyW71, [Accessed on 27.05.2015]

Baker Tilly, "Everything you wanted to know about revenues and expenses of Ukraine." March 11, 2015, URL: http://goo.gl/isGvkJ, [Accessed on 27.05.2015]

Gerald Roland and Yuriy Gorodnichenko, "Dual-Track for Ukraine: How to Fight Corruption." March 10, 2015, URL: http://goo.gl/kMDZd7, [Accessed on 28.05.2015]

Ekonomicheskaya Pravda, "Ukraine wants to increase salaries of public employees with the help of the EU," April 17, 2015, URL: http://goo.gl/C9KFUw, [Accessed on 28.05.2015]

Ilya Tymchenko, "World in Ukraine: Dutch offer advice of how to fix Ukrainian financial sector," *KyivPost*, May 28, 2015, URL: http://goo.gl/ak1HTT, [Accessed on 28.05.2015]

Kateryna Kovalenko, "E-Ukraine: How an electronic government can change everything for the better?" *Platforma*, May 25, 2015, URL: http://goo.gl/M27Fd2, [Accessed on 28.05.2015]

Kirill Rodionov, "War is not the only grave problem for East Ukraine coal industry," *VoxUkraine*, January 9, 2015,URL: http://goo.gl/ZnzD3B, [Accessed on 27.05.2015]

Korrespondent, "The Government have increased grants to Donetsk region by UAH 5 million at a cost of subsidies to people," November 8, 2010 [URL: http://goo.gl/D018Md] [Accessed on 27.05.2015]

Maria Popova, "Ukraine's Legal Problems," *Foreign Policy*, April 15, 2014, URL: https://goo.gl/8gDOJF, [Accessed on 28.05.2015]

CEU eTD Collection

Nikolai Havronuk, "What does the State consist of?" July 6, 2012,
URL: http://goo.gl/vf6h1h, [Accessed on 27.05.2015]

Novoe Vremya "What takes 3 months in Ukraine, takes 3 hours in Georgia – ex-Minister from the Saakashvili's team," May 28, 2015, URL: http://goo.gl/y5zWU8, [Accessed on 28.05.2015]

Segodnya,. "What does a public employee's salary consist of?" November 14, 2015,
URL: http://goo.gl/JHd05H, [Accessed on 27.05.2015]

Segura, E, 2013, "Regional Differences in Doing Business in Ukraine." June 23,
The Bleyzer Foundation, URL: http://goo.gl/YfZETm, [Accessed on 27.05.2015]

The Economist, "Five Years on in Kiev," January 21, 2010,
URL: http://goo.gl/Vsu5yM, [Accessed on 27.05.2015]

TSN, "Donbass and Kyiv are the most subsidized regions," May 8, 2012,
URL: http://goo.gl/LSw3f3, [Accessed on 27.05.2015]

Vzglyad, "Kyiv wants to increase salaries of public workers with the EU help." April 17, 2015,
URL: http://goo.gl/HMm21b. [Accessed on 28.05.2015]

Zerkalo Nedeli, "Ukraine has to downsize half of policemen and three quarters of prosecutors."
February 1, 2014, URL: http://goo.gl/6pSkXD, [Accessed on 27.05.2015]

CEU eTD Collection