UNIVERSITY OF LJUBLJANA
FACULTY OF ECONOMICS

SANDRA DAMIJAN

OWNERSHIP STRUCTURE, CORRUPTION AND FIRM PERFORMANCE IN TRANSITION ECONOMIES

DOCTORAL DISSERTATION

Ljubljana, 2015

UNIVERSITY OF LJUBLJANA
FACULTY OF ECONOMICS

SANDRA DAMIJAN

OWNERSHIP STRUCTURE, CORRUPTION AND FIRM PERFORMANCE IN TRANSITION ECONOMIES

DOCTORAL DISSERTATION

Ljubljana, 2015

AUTHORSHIP STATEMENT

The undersigned Sandra Damijan, a student at the University of Ljubljana, Faculty of Economics, (hereafter: FELU), declare that I am the author of the doctoral dissertation entitled OWNERSHIP STRUCTURE, CORRUPTION AND FIRM PERFORMANCE IN TRANSITION ECONOMIES, written under supervision of Prof. Aleksandra Gregorič, Ph.D.

In accordance with the Copyright and Related Rights Act (Official Gazette of the Republic of Slovenia, Nr. 21/1995 with changes and amendments) I allow the text of my doctoral dissertation to be published on the FELU website.

I further declare

- the text of my doctoral dissertation to be based on the results of my own research;
- the text of my doctoral dissertation to be language-edited and technically in adherence with the FELU's Technical Guidelines for Written Works which means that I
  - cited and / or quoted works and opinions of other authors in my doctoral dissertation in accordance with the FELU's Technical Guidelines for Written Works and
  - obtained (and referred to in my doctoral dissertation) all the necessary permits to use the works of other authors which are entirely (in written or graphical form) used in my text;
- to be aware of the fact that plagiarism (in written or graphical form) is a criminal offence and can be prosecuted in accordance with the Criminal Code (Official Gazette of the Republic of Slovenia, Nr. 55/2008 with changes and amendments);
- to be aware of the consequences a proven plagiarism charge based on the submitted doctoral dissertation could have for my status at the FELU in accordance with the relevant FELU Rules on Doctoral Dissertation.

Date of public defense:
Committee Chair: Prof. Janez Prašnikar, Ph.D.
Supervisor: Prof. Aleksandra Gregorič, Ph.D.
Member: Prof. Katja Zajc, Ph.D.
Member: Prof. Jan Fidrmuc, Ph.D.

Ljubljana, …….. Author's signature:……..……

ACKNOWLEDGEMENTS

Primarily, I would like to thank my PhD supervisor, professor Aleksandra Gregorič, for her guidance, patience and immense support during the past four years.

I would also like to thank my Committee Chair, professor Janez Prašnikar, and Committee Members, professor Katja Zajc and professor Jan Fidrmuc, for their valuable comments and suggestions that helped me to improve my PhD thesis considerably.

Last but not least, I am very grateful to my husband and family who encouraged me to take this journey and stood by me at all times.

OWNERSHIP STRUCTURE, CORRUPTION AND FIRM PERFORMANCE IN TRANSITION ECONOMIES

SUMMARY

During the last decades extensive research has been devoted to the issue of corruption and development. Theoretical and empirical studies find that more corrupt countries are more likely to be less developed and to have more meager prospects for future growth. This thesis itself tries to reflect the occurrence of corruption and its impact both on the firm level and on the overall macroeconomic performance in transition countries. It consists of three chapters, of which the first one is devoted to overview of the corruption concept, models used to study the phenomenon and its impact on countries. The second chapter empirically investigates in what extent the quality of the institutional system, manifested in the general evidence of corruption impacts the macroeconomic performance of transition countries. The third chapter empirically explores impact of corruption on the microeconomic performance of firms in transition countries.

The **first chapter** illustrates the corruption concept from early philosophies of Plato, Aristotle, Polybius, Machiavelli and Montesquieu to the current understanding of the corruption concept. What we now refer to corruption borrows profoundly from the concepts in the past and defines it as the abuse of public office for a personal benefit. The World Bank president Wolfensohn's "cancer of corruption" speech in 1996 marked a defining moment for considering corruption as a public enemy number one and primary reason for poor economic performance of countries. Since then there has been a wave of theoretical and empirical studies on the determinants and costs of corruption. If in the past corruption was not seen as bad, today is widely accepted that it has negative effects on economic growth and society as a whole. It impedes investment, reduces growth, distorts government expenditure, strengthens the informal economy, increases poverty and income inequality, decreases trust in institutions, etc. This is especially seen as perennial problem in Central and Eastern European and former Soviet Union countries. The chapter's fundamental conclusion is that the history shows presence of corruption from early human life and most likely we will never be able to eradicate it. Perhaps our focus should be instead on building strong institutions and implementing proper policies to constrain its occurrence. This is not a simple task and the answers are often not clear-cut.

In the **second chapter**, we examine whether countries with higher levels of corruption perform worse in terms of economic growth, whereby we control for the relationship between corruption, levels of shadow economy and institutional efficiency. By using data from the Transparency International, EBRD Transition Report, Penn World Tables, World Bank, Schneider and Buehn (2011) and IMF for 28 transition economies in the period 1996-2010, we find that higher institutional quality promotes economic growth and impedes activities in shadow economy. On the other side, findings of the direct effects of

corruption on economic growth are less conclusive. Corruption is shown in some regions to affect growth through state capture activities, while in others it is shown to have long-run rather than immediate negative impact on economic growth. Both, corruption and quality of institutions, matter for economic growth reflecting the flip sides of the coin.

Finally, in the **third chapter**, we continue with examining impact of corruption but on the microeconomic performance of firms in transition economies, which we interact with the firm ownership. We use firm-level micro data collected by the Business Environment and Enterprise Performance Survey (BEEPS) for 27 transition countries for the period 2002-2009. We find somehow surprising results that private firms (domestic and foreign owned) are more involved both in informal payments as well as state capture activities. Our results also reveal that foreign owned firms that are involved in informal payments are more likely to benefit from these corruption practices. On the other side, state owned firms are more likely to experience negative effects on productivity growth due to their involvement in corruption practices.

In summation, efficient institutions are necessary for constraining corruption occurrence and promoting economic growth. They also matter and serve as a structural determinant of firm performance in countries. Corruption is generally shown to have long-run rather than immediate negative impact on economic growth. Foreign owned firm firms are likely to benefit and state owned firms are more likely to lose from corrupt practices.

It is expected that the results presented in this thesis will contribute to a better understanding of the impact of corruption in the presence of different types of firm ownership on business transparency and the impact of the lack of the latter on both firm-level and overall macroeconomic efficiency losses. Also, based on the findings, the proceedings of this research have practical implications as well. It enables to prepare a set of policy implications regarding the necessary measures/reforms related to privatization as well as regulation and anti-corruption programs. These results should also spur interest of broader research community and policy makers to continue with the studies on proper policies and efficient institutions in order to control corruption in transition countries.

Keywords: corruption concept, informal payments, state capture, costs of corruption, firm ownership, institutional quality, firm performance, economic growth.

LASTNIŠKA STRUKTURA, KORUPCIJA IN UČINKOVITOST PODJETIJ V TRANZICIJSKIH DRŽAVAH

POVZETEK

V zadnjih desetletjih so se številne raziskave posvetile vprašanju korupcije in razvoju. Teoretične in empirične študije ugotovljajo, da so države z višjo stopnjo korupcije manj razvite in da imajo slabše možnosti za prihodnjo rast. To doktorsko delo poskuša preučiti vpliv različnih pojavnih oblik korupcije na ekonomsko učinkovitost, in sicer tako na ravni podjetij kot na celotno makroekonomsko učinkovitost v tranzicijskih državah. Doktorsko delo je sestavljeno iz treh poglavij, pri čemer je prvi posvečen preučevanju koncepta korupcije, modelov, ki se uporabljajo za preučevanje fenomena in vpliv na države. Drugo poglavje empirično preučuje, v kolikšni meri kakovost institucionalnega sistema, ki se kaže v splošnem obstoju korupcije vpliva na makroekonomsko učinkovitost tranzicijskih držav. Tretje poglavje empirično proučuje, kako korupcija vpliva na mikroekonomsko učinkovitost delovanja podjetij v tranzicijskih državah.

Prvo poglavje ponazarja pojem korupcije iz zgodnjih filozofij Platona, Aristotela, Polibija, Machiavellija in Montesquieuja do sedanjega razumevanja pojma korupcije. Sedanji koncept korupcije si močno sposoja od konceptov v preteklosti in jo opredeljuje kot zlorabo javne funkcije za osebno korist. Govor o »raku korupcije« s strani predsednika Svetovne banke Wolfensohna v letu 1996 je zaznamoval odločilni trenutek razglasitve korupcije kot sovražnika številka ena in glavni razlog za slabo gospodarsko rast držav. Od takrat so bile objavljene teoretičnih in empiričnih študij o dejavnikih in stroških korupcije. Če v preteklosti korupcija ni bila povsem videti kot nekaj slabega, je danes splošno sprejeto dejstvo, da ima negativne učinke na gospodarsko rast in družbo kot celoto. Zmanjšuje naložbe, gospodarsko rast, izkrivlja javnofinančne izdatke, krepi sivo ekonomijo, povečuje revščino in dohodkovno neenakost, zmanjšuje zaupanje v institucije, itd. Korupcija je še posebej videti kot pereči problem v Srednje in Vzhodne Evrope in nekdanje Sovjetske zveze. Temeljna ugotovitev poglavja je, da zgodovina kaže prisotnost korupcije že v zgodnjem življenju ljudi in je verjetno nikoli ne bomo mogli izkoreniniti. Morda bi morali našo pozornost bolj usmeriti na izgradnjo učinkovitih institucij in politik, ki bi omejevali pojav korupcije. Seveda, to ni enostavna narejeno in odgovori pogosto niso jasni.

V drugem poglavju preverjamo, ali države z višjimi stopnjami korupcije imajo nižjo gospodarsko rast, pri čemer upoštevamo razmerje med korupcijo, ravnjo sive ekonomije in institucionalne učinkovitosti. Z uporabo podatkov Transparency International, EBRD tranzicijskega poročila, Penn World Tabels, Svetovne banke, podatkov Schneiderja in Buehna (2011) ter Mednarodnega denarnega sklada za 28 tranzicijskih držav v obdobju 1996-2010 ugotavljamo, da večja učinkovitost institucij spodbuja gospodarsko rast in zmanjšuje sivo ekonomijo. Po drugi strani, ugotovitve neposrednih učinkov korupcije na

gospodarsko rast, so manj direktne. V nekaterih državah »state capture« negativno vpliva na gospodarsko rast, v drugih pa se je izkazalo, da ima korupcija negativni učinek na dolgi rok in ne takojšen vpliv na gospodarsko rast. Korupcija in učinkovitost institucij sta pomembni za gospodarsko rast in predstavljata dve plati medalje.

V tretjem poglavju nadaljujemo s preučitvijo vpliva korupcije, ampak na mikroekonomsko uspešnost podjetij v tranzicijskih državah v povezavi z lastniško strukturo. Uporabljamo BEEPS podatke na ravni podjetij za 27 tranzicijskih držav za obdobje 2002-2009. Presentljivo ugotavljamo, da so zasebna podjetja, ki so v domači in tuji lasti, bolj vključena v neformalna plačila in ti. state capture. Rezultati študije kažejo, da tuja zasebna podjetja, ki so vključena v neformalna plačila imajo večjo korist od tovrstnih ravnanj. Na drugi strani, koruptivne prakse imajo negativni učinek na rast produktivnosti podjetij v državni lasti.

V zaključku lahko zapišemo, da so učinkovite institucije ključne za omejevanje pojava korupcije in spodbujanje gospodarske rasti. Prav tako so pomembne za učinkovotost podjetij. Korupcija negativno vpliva na gospodarsko rast na dolgi rok. Zasebna podjetja imajo večjo korist od vpletenosti v neformalna plačila v primerjavi z državnimi podjetji.

Pričakujemo, da bodo ugotovitve tega doktorskega dela prispevale k boljšemu razumevanju vpliva korupcije v prisotnosti različnih lastniških struktur na preglednost poslovanja in vpliv pomanjkanja slednjega na učinkovitost podjetij ter splošno makroekonomsko učinkovitost. Prav tako, ugotovitve te raziskave imajo tudi praktične vidike. Omogočajo pripravo vrsto predlogov glede potrebnih ukrepov oziroma reform, povezanih s privatizacijo in regulacijo dejavnosti ter protikorupcijskih programov. Rezultati bi morali spodbuditi interes širše raziskovalne skupnosti in zakonodajne oblasti, da bi nadaljevale raziskave o potrebnih politikah in učinkovitih institucijah s ciljem omejevanje pojava korupcije v tranzicijskih državah.

Ključne besede: koncept korupcije, neformalna plačila, ujetost države, stroški korupcije, lastniška struktura podjetij, učinkovitost institucij, učinkovitost podjetij, razvoj.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

INTRODUCTION

Corruption is not a new phenomenon. It has been known since ancient times and present in all societies (see Fleck and Kuzmics, 1985; Klitgaard, 1988). The concept of corruption developed from the governmental failure to maintain balance of power to immorality of political patronage and favouring of certain groups. It grew from public sphere to entangled public and private sphere, from political issue to entangled political and economic issue. What we now refer to corruption is the abuse of public office for a personal benefit (see Nye, 1967; Rose-Ackerman, 1978; Szeftel, and Clark, 1983; Klitgaard, 1988). If in the past corruption was not seen entirely as bad and also as a necessary component of every cycle of government changes (Leff, 1964; Leys, 1965), today is widely accepted that it has negative effects on economic growth and society as a whole (see overview of studies Ades and Di Tella, 1997; Porta and Vannucci, 1997; Kaufmann, 1997; Rose-Ackerman, 1999; Kaufmann and Wei, 1999; Gupta et al, 2000).

The global anti-corruption agenda became primarily an economic problem that requires liberalization, institutional reforms and strengthening of good governance. Corruption is seen as major obstacle to economic development. It became a "fight" against its causes and consequences especially in the Central and Eastern European and former Soviet Union countries. The period since 1990s marked the fall of communist states and end of the Cold War, resulting in creation of number of independent countries and market economies. Newly established countries experienced general decline in living standards, life expectancies, rise of oligarchs and disproportionality of social and economic development. It was the period of colossal movement of democratization and reforms, privatization of state owned industries, all which provide fertile ground for corruption (Boychko et al, 1996). One line of the arguments why transition countries have not achieved the level of development that of the Western European countries is because their governments are usually corrupt and have been systematically over years producing economic policies that promoted the political interests and maintained political control of their people and parties in power (Bracking, 2007).

The transformation of Central and Eastern European and former Soviet socialist economies to market economies included set of similar economic and political reforms. However, these transition countries achieved different levels of market economy and economic performance (Fidrmuc, 2003). Moreover, in their other study Fidrmuc and Gërxhani (2005) suggest this could also be attributed to the lower quality of institutions and lower generalized trust. They are trapped in a vicious circle in which reforms are undermined and where weak institutions are systematically maintained. And the quality of institutions is major determinant of economic development (see overview of studies in Mauro, 1995; Knack and Keefer, 1995; Hall and Jones, 1999; Acemoglu et al., 2000; Dreher, 2007).

In this thesis, we aim to contribute to the debate on the diverse outcomes in terms of macroeconomic performance in transition countries. We extend the research by empirically examining the impact of different types of corruption (bribery and state capture) on economic performance in transition countries. By differentiating two forms of corruption, we are able to understand more clearly the factors underlying the persistence of corruption in many transition countries. Moreover, we empirically examine the link between different forms of corruption and the shadow economy in order to contribute to debate on their substitution and complementarity and to understand whether certain forms are more likely to increase shadow economy. We also take into account institutional quality in order to explore its impact on levels of corruption and shadow economy in transition countries. Best to our knowledge, there have not been attempts to study consequences of specific types of corruption on the levels of shadow economy and compare the impact on the economic performance across transition countries.

We explore these issues by estimating two empirical models on the basis of the macro-level data. Model (1) is based on a standard macroeconomic growth model, which is typically used in convergence studies. The model is amended by factors indicating the quality of the institutional system, level of perceived corruption and level of shadow economy. In addition, we also estimate an alternative specification of model (1) by controlling for different forms of corruption. In model (2) and (2a) we explore the relationship between corruption and levels of shadow economy. We use data from Schneider and Buehn (2010) using the Multiple Indicators Multiple Causes (MIMIC) model to address shadow economy issue, EBRD Transition Report and World Bank Worldwide governance indicators to address institutional quality and advancement issue (economic and political institutions), Penn World Tables to address growth and the quality of human capital, and Transparency International Corruption Perception Index (CPI) to address level of perceived corruption. Finally, the chapter uses the three waves of firm-level micro data collected by the World Bank Business Environment and Enterprise Performance Survey (BEEPS) in order to account for different types of corrupt practices (bribery and state capture) and to examine whether there are clear and robust patterns of corruption and shadow economy relationship.

Furthermore, this thesis contributes to the debate on the relationship between corruption and development and in particular it aims to understand, how corruption (informal payments and state capture) affects the microeconomic performance of firms in transition countries. In order to analyse potential effects of informal payments and state capture on firm productivity, we proceed with the empirical methodology in three steps. First, we examine the impact of informal payments and state capture on firms' productivity growth, controlling for firm ownership. Second, we proceed with the analysis of the informal

payments and state capture on firm productivity, but controlling for country groups and conditional on the level of stability of business environment term. Finally, we examine the effect of firm's involvement in informal payments and state capture taking into account pre- and post- EU enlargement in 2004 in order to detect possible effects of EU accession requirements related to institution improvement and greater stability of business environment. For estimating the impact of corruption practices on productivity growth, we use a standard growth accounting model (1), which takes into account the impact of corrupt activities (as measured by informal payments and state capture variables at the firm level).

Studying the impact of corruption and state capture on firm performance thus far has been limited by lack of appropriate data accounting for highly sensitive information, such as managers' perceptions of corruption practices and their active involvement in such practices. In this chapter, we make use of the firm-level micro data collected by the Business Environment and Enterprise Performance Survey (BEEPS). In addition to firm characteristics, the data includes valuable survey information on corruption (as measured by informal payments and state capture variables at the firm level). We use three waves of data for each country, which enables us to account for the long lasting effects of informal payments and state capture on firm performance.

The thesis consists of three chapters, of which the first one is devoted to overview of the corruption concept, models used to study the phenomenon and its impact on countries. The second chapter empirically investigates in what extent the quality of the institutional system, manifested in the general evidence of corruption impacts the macroeconomic performance of transition countries. The third chapter empirically explores impact of corruption on the microeconomic performance of firms in transition countries.

The **first chapter** illustrates the corruption concept from early philosophies of Plato, Aristotle, Polybius, Machiavelli and Montesquieu to the current understanding of the corruption concept. Then, two major ways of modelling corruption, a principal-agent model and a resource allocation model are discussed. Studies on corruption have widely used them in order to understand the conceptual and theoretical relationship between corruption and efficiency of institutions. Next comes an overview of few major economic, political and social costs of corruption. Finally, chapter discusses why is fight against corruption seen as a way to guide "failed countries" onto the proper political virtue and concludes that strong institutions and proper policies are needed in order to constrain corruption occurrence.

The **second chapter** examines whether countries with higher levels of corruption perform worse in terms of economic growth, whereby we control for the relationship between

corruption, levels of shadow economy and institutional efficiency. First, it provides a brief overview of existing research and discussion on the impact of institutional quality, the level of shadow economy and the corruption dimension on economic performance of countries. Next, data and methodology used for studying institutional quality, shadow economy and corruption forms is presented. Finally, chapter discusses the results.

The **third chapter** examines the impact of corruption but on the microeconomic performance of firms in transition economies, which is interacted with the firm ownership. First, it provides a brief overview of existing research on the impact of corruption on economic performance in interaction with the institutional system and firm ownership. It also discusses the dimensions of corruption and its potential impact on firm performance. Next, data and methodology for studying how corruption (informal payments and state capture) affects the economic performance of firms is presented. Lastly, chapter discusses the results.

At the end, **the conclusion** is devoted to reaffirm the findings of the PhD thesis and to summarize the findings of each of the three chapters in the thesis. Their common arguments, contributions and conclusions are stressed, the aim of this thesis recapped and the contribution conveyed.

1. CORRUPTION: A REVIEW OF ISSUES

Abstract

This chapter presents an overview of the corruption concept, the existing models used for studying it and major costs that corruption brings to economies and societies as a whole. Corruption is not a new phenomenon. It has been known since ancient times and present in all societies. First, early philosophies of Plato, Aristotle, Polybius, Machiavelli and Montesquieu to the current understanding of the corruption concept are presented. Then, two major ways of modelling corruption, a principal-agent model and a resource allocation model are discussed. Studies on corruption have widely used them in order to understand the conceptual and theoretical relationship between corruption and efficiency of institutions. Next comes an overview of few major economic, political and social costs of corruption. Finally, chapter discusses why is fight against corruption seen as a way to guide "failed countries" onto the proper political virtue and concludes that strong institutions and proper policies are needed in order to constrain corruption occurrence.

Keywords: corruption concept, corruption models, costs of corruption, transition countries.

JEL classification: B00, D73, F55, K42, P37, P48

1.1. Introduction

This chapter aims to provide an overview of the corruption concept, the existing models used for studying it and major costs that corruption brings to economies and societies as a whole. Corruption is not a new phenomenon. It has been known since ancient times and present in all societies (see Fleck and Kuzmics, 1985; Klitgaard, 1988).

The concept of corruption developed from the governmental failure to maintain balance of power to immorality of political patronage and favouring of certain groups. It grew from public sphere to entangled public and private sphere, from political issue to entangled political and economic issue. What we now refer to corruption is the abuse of public office for a personal benefit (see Nye, 1967; Rose-Ackerman, 1978; Szeftel, and Clark, 1983; Klitgaard, 1988). And in connection with the corruption concept a number of other issues are associated such as breach of laws and regulations nominally in force (Andreski, 1968), bad policies and inefficient institutions (see overview of Djankov, LaPorta, Lopez-de-Silanes and Shleifer, 2003; Johnson, 2005), weak democracies (Porta and Vannucci, 1999; Heidenheimer and Johnston, 2001), unethical public sector (Doig and Theobald, 2000), etc.

If in the past corruption was not seen entirely as bad and also as a necessary component of every cycle of government changes (Leff, 1964; Leys, 1965), today is widely accepted that it has negative effects on economic growth and society as a whole (see overview of studies Ades and Di Tella, 1997; Porta and Vannucci, 1997; Kaufmann, 1997; Rose-Ackerman, 1999; Kaufmann and Wei, 1999; Gupta et al, 2000).

We look at the corruption concept from the early philosophies of Plato, Aristotle, Polybius, Machiavelli and Montesquieu to the current understanding of the phenomena. Moreover, we look at the principal models of studying corruption and the costs corruption creates to societies. This allows us to understand its beginnings, development and why is fight against corruption seen as a way to guide "failed countries", politically backward and immoral societies, onto the proper political virtue.

The chapter is structured as follows. Following Section 1.2 discusses of the corruption concept from early beginnings till the concept, as we know today. Section 1.3 describes principal models of corruption and classifies its costs. Section 1.4 discusses corruption in transition countries and why is seen as a perennial problem. Finally, Section 1.5 summarizes the chapter and concludes.

1.2. The early beginnings of the corruption concept

The concept of corruption can be traced back to ancient philosophers Plato, Aristotle and Polybius when it was referred to a process by which government without virtue and laws corrupts and degenerates into another form of a government. This cycling of governments was believed to be harmful, often accompanied by violence and turmoil. Plato and Aristotle stressed the supreme importance of the laws and necessary balance of power within governments. Corruption was thus a synonym for a failure to maintain this balance of government.

> "Where the law is subject to some other authority and has none of its own, the collapse of the state, in my view, is not far off; but if law is the master of the government and the government is its slave, then the situation is full of promise and men enjoy all the blessings that the gods shower on a state." (Plato in The Laws, 346 B.C.)

Plato believed laws and trained leaders were of utmost importance for running the state. Aristotle, moreover, believed that these laws should also uphold just principles in the common interest of all citizens and not only in the interests of a few.

> "Governments which have a regard to the common interest are constituted in accordance with strict principles of justice, and are therefore true forms; but those which regard only the interest of the rulers are all defective and perverted forms, for they are despotic." (Aristotle in The Politics, Book III, 1279a)

Polybius (200-120 B.C.) is also known for arguing for the separation of powers in government. He argued if one is to gain too much power (political, monetary or military) he should be removed from the polis. Polybius also believed that corruption was inevitable process of "constitutional revolutions" where a certain type of government evolves into another type. "It was a force beyond the individual, and so beyond individual moral or ethical behaviour."

Later centuries philosophers also perceived corruption as a synonym for the failure of the balance of power system. Machiavelli (16th century) argued that anything that disrupted the balance of power was corruption, whether it was the result of individual immoral behaviour or not. Montesquieu (18th century) believed the government needed to have efficient system of checks and balances in order to prevent one branch from becoming supreme over another. Their solution was creation of laws, which would make individuals to behave morally (Skinner, 1999). Wallis (2006) in his study points this way of thinking had an impact on the evolution of balanced constitutions as fundamental law. Any movement away from this balance was conceptualized as corruption.

It was also during this period that the concept of corruption was fully defined to include idea of "manipulation of economic privileges for securing the political power" by few (Wallis, 2006). Across Europe, only political and economic elites were allowed to form organizations, which then created economic rents (the rise of robber barons[1]). The commonwealth theorists in Great Britain, for example, believed that financial revolution was serving only the king who could then suborn the independence of others and it would again mean "rule of one man". These economic rents of the privileged few were used to influence political decisions, eroding the independence of other branches (especially the Parliament as symbol of liberty) and corrupted entire political system. However, in the 18th century the only model available for promotion of economic development was precisely the creation of public service corporations (Wallis, 2006). Creation of these corporations was especially seen in Great Britain and the United States. The widespread public sentiment was that these corporations promoted economic development as well as corruption. One of such examples was the Albany Regency that gave bank charters merely to their political supporters, who in turn gave them financial support to maintain control of state government. The general belief was that governments would become corrupt if balance of power was not protected. By mid 18th century investment boom in corporations, especially banks, led to financial crisis and depression due to privileges that benefited only the few and detrimental of the many (see Wallis, Sylla, and Grinath, 2004).

By 19th century corruption was understood as systematic process of selling corporate privileges. The widespread belief was that economics corrupted politics and not politics corrupting economics. In order to solve corruption problem antitrust laws[2] were adopted that prohibited corporate privileges and government investment in private corporations (Hurst, 1970; Wallis, 2003). The reforms took place in every aspect of the politics and economy in order to create government controlled by many (voters) and fair competition for the benefit of consumers. It was the period of populist morality and reviving trust in institutions.

1.2.1. The concept of corruption in twentieth century

By early 20th century corruption concept was referring also to behaviour of individuals and not only to a condition of polity based on the "distributions of wealth and power, relationships between leaders and followers, the source of power and the moral right of rulers to rule" (Johnston, 1996). Even though the beginnings of the new meaning of corruption were already at the times of Adam Smith in 18th century who wrote about morality and behaviour of individuals (Smith, 1759), however, this period marked the

[1] Small number of men who dominated crucial industries by influencing politicians through the use of lobbyists or bribery (Wikipedia, 2015).

[2] Most known is Sherman Anti-Trust Act in 1890.

refinement of the corruption concept to include practices of individuals (see Nye, 1989). The concept of corruption transformed into illicit payments of private agents given in exchange for government-controlled resources.

It was the period of industrial prosperity, growth of cities, factories, development of new products, transportation, paving, water, electricity, public health, etc. (Teaford, 1984). It was also the period of the reorganization of the internal structures of government and increase of government responsibilities, development of civic associations, and independent, nonpartisan press (McCormick, 1981). But it was also the period of growing corruption. The research shows that at that time United States was leading industrial power but it also had the most corrupt government in comparison to other foreign governments (see Steffens, 1957; and Teaford, 1984). Across Europe, corporations and services were in hands of governments, while in the United States corporations were predominantly private authorized by governments to provide services. The puzzling question is of course how economic development was not undermined by corruption. One of the possible explanations is that across Europe governments limited entry of corporations in order to protect the monopoly and this gave feeling corruption was not widespread as in the United States, where corporations were "competing" in levels of given illicit payments in order to obtain the license to provide services. However, the problem of this "approach" was that by 1920s political elite was largely replaced with mob bosses who took over the control of industry (Menes, 2003). Industrial disorder, policies displacement caused by corruption and weak banking regulation led to another worldwide economic crisis in 1930s, the Great Depression (Dobbin, 1993), that set the stage for the worldwide political crisis and the World War II.

After the World War II there was a decrease of interest in corruption issue. This decline may of course reflect other priorities at that time, such rebuilding countries, institutions and lives. One of such institutions established was an intergovernmental organization United Nations, among which numerous mandates was also to promote the cooperation between countries as they raised barriers to trade in an attempt to improve their failing economies after the Great Depression (Wikipedia, 2015). And it was not until the 1980s and 1990s the debates about corruption were restored due to increased frequency of scandals that involved corrupt activities.

The concept of corruption developed firstly from the governmental balance of power failure to immorality of political patronage and favouring of certain groups. It developed from public sphere to entangled public and private sphere, from political issue to entangled political and economic issue. The battle against corruption developed from maintaining necessary checks and balances, moral fights against system of privileges to a prime motive for state policies. What we now refer to corruption is the abuse of public office for a

personal benefit. And to this day fight against corruption is seen as guiding "failed countries", politically backward and immoral societies, onto the proper political virtue.

1.2.2. The concept of corruption as we know today

The concept of corruption as we know today borrows profoundly from the concepts in the past and defines it as abuse of public office for private gain (see Nye, 1967; Rose-Ackerman, 1978; Szeftel, and Clark, 1983; Klitgaard, 1988). Oliver de Sardan defines it as "nepotism, embezzlement, influence peddling, prevarication, insider trading and abuse of the public purse" (Sardan, 1999). In connection with the corruption concept a number of other issues are associated such as breach of laws and regulations nominally in force (Andreski, 1968), bad policies and inefficient institutions (see overview of Djankov, LaPorta, Lopez-de-Silanes and Shleifer, 2003; Johnson, 2005), weak democracies (Porta and Vannucci, 1999; Heidenheimer and Johnston, 2001), unethical public sector (Doig and Theobald, 2000), etc. Many of these scholars adopted the definition of "public office abuse" while at the same time they acknowledged it may not be enough to explain corruption. However, as Jain puts it "there is surprising convergence on a minimally agreed upon definition" when studying the causes and consequences (Jain, 2001).

If the post World War II period witnessed a decrease of interest in corruption issue, it again emerged as one of top issues at the end 1980s and 1990s. It was seen as a commercial and security threat, a result of weak states overtaken by rich criminals (Smale, 2001). Especially the United States and their firms perceived corruption as a threat to their security and commerce. They believed their business suffered billions of dollars due to illegal payments from competitors coming from these weak countries (Lewis, 1996). Besides, they saw it as a hidden form of protectionism as local firms had informal networks that allowed them to offer "the right bribe to the right official at the right time" (Krastev, 2000).

Their complaint was that the United States enacted the Foreign Corruption Practices Act (1977), which outlawed bribing of foreign officials, meanwhile countries across Europe and the rest of the world allowed bribes to be even a tax-deductible expense. Consequently this caused disappointing results of market reforms after the Great Depression and the World War II. Under the pressure of the United States it soon became conditionality for receiving recovery aid that regulation becomes stricter with regards to giving informal payments while at the same time unnecessary regulation of foreign direct investment needed to be removed. The result was the adoption of the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions (1998) and the United Nations Convention against Corruption (2003), which outlawed corruption worldwide.

The global anti-corruption agenda became primarily an economic problem that required liberalization, institutional reforms and strengthening of good governance. Corruption was seen as major obstacle to economic development. It became a "fight" against its causes and consequences by governments, civil society, organizations and consultants. Many tools have been developed for the fight such as Transparency International Corruption Perception Index (CPI) and other corruption indices, anti-corruption guidelines and best practice seminars, all to raise awareness about the problem. Also this period saw the upsurge of studies on corruption and its consequences. The World Bank president Wolfensohn's "cancer of corruption" speech in 1996 is considered as defining moment in corruption studies. Corruption became a public enemy number one and a primary reason for poor economic performance (see Mauro, 1995; Ades and DiTella's, 1997).

1.3. Studies on corruption determinants and its costs

Since mid 1990s there have been numerous theoretical and empirical studies on the determinants and costs of corruption. Generally, standard economic and social economic approaches are used when studying its causes. Standard economic approach involves existence of discretionary power that is associated with economic rents. Literature shows that inefficient regulation is primary cause for discretionary power and economic rents (see for example an overview of studies by Becker, 1968; Rose-Ackerman, 1978; Ades and Di Tella, 1999; Fisman and Gatti, 2002). Countries in which firms have higher economic rents tend to have higher levels of corruption and uncompetitive markets (Andes di Tella, 1997b). Also, Johnson, Kaufmann and Zoido-Lobaton (1998) argue more discretion officials have, firms have higher incentives to operate in the informal economy due to corruption. Social economic approach builds on idea that corruption is a result of social norms, culture and history. According to Treisman (2000) levels of corruption are related to the level of involvement in civil society, legal culture and religion, whereas Sosa (2000) adds that individual values are corruption deterrent. In societies where corrupt behaviour is accepted norm they will more likely experience higher levels of corruption (see overview of studies Falk et al., 2003; Aidt, 2003).

As there are two underlying determinants of corruption, there are also two major costs of corruption. Corruption is perceived to have major impact on economic growth (for example studies of Shleifer and Vishny, 1991; Mauro, 1995; Tanzi and Davodi, 1997) and equity (Gupta et al, 2002; Welsch, 2004; Pellegrini and Gerlagh, 2006a, b). Moreover, there is a difference between immediate costs of corruption (income redistribution) versus the subsequent costs (resource misallocation) (Jain, 1998). Gupta at al. (1998) finds that both costs are affected by each other. Classification of economic and social costs is explained further in the text.

1.3.1. Principal models of corruption

There are two major ways of modelling corruption, a principal-agent model and a resource allocation model. They are widely used in order to understand the theoretical and empirical relationship between corruption and efficiency of institutions.

The principal-agent model looks at costs and benefits associated with corruption between two principals (one of which is corrupting) and the agent (who is corrupted) (Rose-Ackerman 1978; Klitgaard, 1988; Groenendijk, 1997). The agent and the principal vary at times. Occasionally rulers act as the principal and the bureaucracy is the agent (Becker and Stigler, 1974). According to this model, the corruption level can be reduced through proper motivation structure of the institutional setting within which it occurs (Jain, 2001). One of the key theoretical principal-agent models is the one developed by Becker and Stigler (1974) that studied ways of increasing law enforcement efficiency and at the same time decreasing corruption within its structures. The law enforcement officers as agents benefit from corrupt activities, however, they also risk of being dismissed from their office.

This model has three important factors – the incentive (what is the benefit), the sanction (the likelihood that the corrupt activity will be detected and punished) and the cost (what the agent will lose). The principal-agent model is used in theoretical and empirical studies to examine corruption between various actors and systems, for example, elected officers and bureaucrats (Rose-Ackerman, 1978), behaviour of leaders in democratic systems (Rose-Ackerman, 1999), arms industry and the government (Naylor, 1998; Gupta, 2000b), behaviour of autocratic rulers (Jain, 1987; Klitgaard, 1991; Shleifer and Vishny, 1994; Rose-Ackerman, 1999), etc. Key issue within the principal-agent model is how to control both principals and agents, which than further depends on the efficiency of institutions (see Person and Tabellini, 2000). What the research shows is that corruption is not simply determined by calculating the expected benefits over the costs and likelihood of being caught (Pierson, 2004).

The resource allocation model looks at the cost of inputs, rent-seeking behaviour of the actors and outputs on the economy (Jain, 1998). One of the well-known rent-seeking models is the one developed by Shleifer and Vishny (1993) that studied petty bureaucratic corruption taking into account the cost function (provision of services), the demand function (number of actors that compete in rent-seeking activity) and the supply function (monopoly over service). One of the major challenges is the amount of uncertainty associated with this model, as there are no guarantees whether the transactions will occur unless the profits of corruption are shared with those who can impose costs on the corrupt official (Jain, 2001).

As the principal-agent model, this model also has three important factors – cost of rent seeking, availability of rent, and the number of actors in rent seeking activity (Paul and Wilhite, 1994). The resource allocation model is used in theoretical and empirical studies to examine corruption, for example, rent seeking behaviour of firms and resources devoted to it (Krueger, 1974), rent seeking behaviour of governments when competing for their higher budgets (Katz and Rosenberg, 1994), inputs of clients in return of favours from government officials (Mixon, F.G. Jr, Laband, D.N. and Ekelund, R.B. Jr., 1994), etc. And at the end, the question is at what equilibrium corruption will persist within a society. Bardhan (1997) in his study argues that it depends on the number of corrupt officials. More corrupt officials there are, marginal benefits of honest officials decrease and the corruption persistence within society will increase.

1.3.2. Classification of corruption costs

If in the past corruption was not seen as bad, today is widely accepted that it has negative effects on economic growth and society as a whole. The studies find that in some cases corruption can "grease the wheels" of the economy as it helps to overcome bureaucratic burdens and inefficient regulation (Leff, 1964; Leys, 1965). However, Rose-Ackerman (1999) argues this conception is false as the corrupt acts are treated as isolated events and not as systematic patterns that impact other parts of the system. Moreover Kaufmann and Wei (1999) go in line with Rose-Ackerman by saying that if corruption "greases the wheels", more informal payments given to public officials would then cause officials to be more efficient. A number of theoretical and empirical studies also support the notion that corruption is primarily a "sand-in the wheels" (see overview of studies Ades and Di Tella, 1997; Porta and Vannucci, 1997; Kaufmann, 1997; Gupta et al, 2000).

Major corruption costs can be classified as economic, political and social costs. Based on the research corruption impedes investment, reduces growth, distorts government expenditure, strengthens the informal economy, increases poverty and income inequality, decreases trust in institutions, etc. Further in the text there is an overview of few major economic, political and social costs of corruption.

Corruption reduces domestic and foreign investment as a result of its higher costs and uncertainty. Among first to study the impact of corruption on investment was Mauro (1995), who finds that corruption negatively impacts investment ratio to GDP. Because corruption has the same effect as tax, it also reduces foreign direct investment. A number of studies find similar results that countries with less corruption have higher domestic investment and foreign direct investment rates (see overview of Wheeler and Mody, 1992; Knack and Keefer, 1995; Brunetti et al., 1998; Okeahalam and Bah, 1998; Campos et al.

1999; Wei, 2000; Abed and Davoodi, 2002; Lambsdorff, 2003; Aizenman and Spiegel, 2003; Uhlenbruck et al., 2005).

Also, corruption reduces economic growth. There are number of studies that show a significant negative impact of corruption on the growth (Knack and Keefer, 1995; Mauro, 1997; Brunetti et al., 1998; Leite and Weidmann, 1999; Li et al., 2000; Tanzi and Davoodi, 2002; Pellegrini and Gerlagh, 2004; Meon and Sekkat, 2005). Most of the studies find adverse impact of corruption on growth, especially in relation to a low quality of governance.

Furthermore, corruption distorts government expenditure and decreases revenues. For example, it can lower the quality of infrastructure due to reduction of expenditure on the maintenance of roads (Tanzi and Davoodi, 1997), reduces expenditure on education and health (Mauro, 1997). Gupta et al. (2001) find that highly corrupt countries have inefficient government services and thus lower quality services (for example healthcare). As evidence they find that child mortality rates are by one-third higher in more corrupt countries. Also, due to corruption government spends less on education (Mauro, 1998; Gupta et al., 2002; Esty and Porter, 2002). A positive correlation is also found between corruption and the levels of informal economy, reducing tax revenues and total revenue relative to GDP (see overview of studies by Tanzi and Davoodi, 1997, 2001; Johnson et al., 1998; Friedman et al., 2000).

Corruption negatively impacts trade. Exporters are decreasingly willing to pay informal payments to countries and investors are becoming more sensitive to corruption (Lambsdorff, 1998, 2000; Habib and Zurawicki, 2002).

Poverty and income inequality are higher in more corrupt countries. For example, Gupta et al. (2002) find 2.5 points drop on corruption index increases Gini coefficient for 2.5 points. Moreover, inequality in education is increased by corruption, which further contributes to higher income inequality (Gupta et. al, 2002; Li et al., 2000; Gymiah-Brempong, 2002; You and Khagram, 2005). Most studies however show indirect effects of corruption on poverty through economic and governance factors. Corruption affects income inequality through biased tax system, poor selection of social programs, human capital formation, and education inequalities (Gupta at al., 2002). The ones that suffer the most from corruption are the poorest within a society.

Last but not the least, corruption decreases the level of public trust in state, its institutions and the law. A number of studies show good governance and institutions increase satisfaction and happiness of its citizens (see overview of studies by Frey and Stutzer, 2000, 2010; Helliwell, 2003, 2008; Welsch, 2008). If citizens believe that basic public

services are not provided because of corruption the government will lose its accountability, citizens will not participate in society (Bjørnskov, 2003, 2011), direct democracy (Frey and Stutzer, 2000, 2010) or they will even seek to migrate to other countries where they will have more opportunities for fair access to public services.

1.4. Corruption as a perennial problem in transition countries

As mentioned earlier in the chapter, the period after 1990s is seeing the increased interest in studying corruption, which is especially obvious for Central and Eastern European and former Soviet Union countries. The period after 1990s marked the fall of communist states and end of the Cold War, resulting in creation of number of independent countries and market economies. Newly established countries experienced general decline in living standards, life expectancies, rise of oligarchs and disproportionality of social and economic development (Wikipedia, 2015). It is the period of colossal movement of democratization and reforms, privatization of state owned industries, all which provide fertile ground for corruption (Boychko et al, 1996).

Political and economic reforms of these transitional countries vary creating the growing discomfort within the international society over the effects of corruption on their development efforts. One way of thinking about the reasons why transition countries have not achieved the level of development that of the Western European countries is because their governments are usually corrupt and have been systematically over years producing economic policies that promoted the political interests and maintained political control of their people and parties in power (Bracking, 2007). Other line of reasoning is the disequilibria in different systems these countries experience (Bayley, 1966; Nye, 1967). They argue corruption in these countries results from political institutions differing from traditional cultures, as well as from slower legal development in comparison to economic development.

About the same time, the international community changed their policies recognizing that corruption was slowing down the economic growth. Indeed, the problem of corruption is not limited to transition countries as also developed countries witnessed a number of corruption scandals. However, corruption is seen as perennial problem in transition countries (Bracking, 2007). Earlier in the text, we mentioned that international community made zero tolerance to corruption as conditionality for receiving development aid. Furthermore, the European Commission required ratification of anti-corruption conventions (also mentioned earlier, the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions (1998) and the United Nations Convention against Corruption (2003)) by all countries applying for EU membership, taking high moral standing in relation to their development.

There is no doubt that reduced levels of corruption is beneficial. Good intents of anti-corruption activities are also not questionable. However, obsession with corruption and policies targeting only fight against it in transition countries can be at times counterproductive. First, what we see happening is political discussion degenerates from principal policy issues into accusations of corruption between political options within countries (Ivanov, 2007). Next, hasty anti-corruption rhetoric can cause people in transition countries to unreasonably resent and perceive all successful business and private wealth as illegally gained due to lack of their trust and social participation. Finally, Ivanov (2007) argues that focusing only on fight against corruption creates illusions that removing corrupt elites from their offices will immediately cause progress in development. Much more has to be done and the challenge is for policymakers how to build respectable governments and efficient institutions. Building them is a more multifaceted, long-term project.

1.5. Conclusion

In this chapter, we illustrated the corruption concept, the models used for studying it and major costs that it brings to economies and societies as a whole.

Corruption is not a new concept. It has been known since ancient times and present in all societies. Early philosophers like Plato, Aristotle and Polybius believed corruption was necessary component of every cycle of government changes. In order to control this process a balance of power was necessary. Failure to maintain this balance was a synonym for corruption. Later centuries philosophers like Machiavelli and Montesquieu also perceived corruption as a synonym for the failure of the balance of power system. Solution was creation of laws, which would impose on individuals' moral behaviour.

Eighteen century saw refinement of the concept to include the idea of "manipulation of economic privileges for securing the political power" by few. These economic rents of the privileged few were used to influence political decisions, eroding the independence of other governmental branches and corrupted entire political system. By nineteen century corruption was understood as systematic process of selling corporate privileges. The widespread belief was that economics corrupted politics and not politics corrupting economics. The period marked adoption of antitrust laws and numerous reforms in every aspect of the politics and economy. By twentieth century corruption concept was referring also to behaviour of individuals and not only to a condition of polity. What we now refer to corruption borrows profoundly from the concepts in the past and defines it as the abuse of public office for a personal benefit. And to this day fight against corruption is seen as

guiding “failed countries”, politically backward and immoral societies, onto the proper political virtue.

The World Bank president Wolfensohn’s “cancer of corruption” speech in 1996 marked a defining moment for considering corruption as a public enemy number one and primary reason for poor economic performance of countries. Since then there has been a wave of theoretical and empirical studies on the determinants and costs of corruption. If in the past corruption was not seen as bad, today is widely accepted that it has negative effects on economic growth and society as a whole. It impedes investment, reduces growth, distorts government expenditure, strengthens the informal economy, increases poverty and income inequality, decreases trust in institutions, etc. This is especially seen as perennial problem in Central and Eastern European and former Soviet Union countries even though the problem of corruption is not limited to these countries as also western countries witnessed a number of corruption scandals. Of course, these transition countries face different problems, even without the worldwide anti-corruption movement. The good intentions of anti-corruption activities are not questioned, however, other fundamental policies and reforms are needed for their progress in development. Without improving institutions and respectable governments, it is unlikely that corruption can be reduced. Fighting corruption is, hence, intimately linked with other reforms. Much more needs to be done in this respect.

The chapter’s fundamental conclusion is that the history shows presence of corruption from early human life and most likely we will never be able to eradicate it. Perhaps our focus should be instead on building strong institutions and implement proper policies to constrain it occurrence. This is not a simple task and the answers are often not clear-cut.

2. IMPACT OF CORRUPTION ON OVERALL MACROECONOMIC PERFORMANCE IN TRANSITION COUNTRIES

Abstract

This chapter investigates in what extent the quality of the institutional system, manifested in the general evidence of corruption, impacts the macroeconomic performance of transition countries. In particular, we examine whether countries with higher levels of corruption perform worse in terms of economic growth, whereby we control for the relationship between corruption, levels of shadow economy and institutional efficiency. By using data from the Transparency International, EBRD Transition Report, Penn World Tables, World Bank, Schneider and Buehn (2011) and IMF for 28 transition economies in the period 1996-2010, we find that higher institutional quality promotes economic growth and impedes activities in shadow economy. On the other side, findings of the direct effects of corruption on economic growth are less conclusive. Corruption is shown in some regions to affect growth through state capture activities, while in others it is shown to have long-run rather than immediate negative impact on economic growth. Both, corruption and quality of institutions, matter for economic growth reflecting the flip sides of the coin.

Keywords: institutional quality, corruption, shadow economy, bribery, state capture, economic growth.

JEL classification: E02, E6, D73, H10, K42, O17, P37

2.1. Introduction

Corruption is an old phenomenon, however, in recent years it is particularly being observed as an acute problem in transition economies. Many studies have tried to explain its occurrence. And the transformation of Central and Eastern European and former Soviet socialist economies to market economies was one of the main reasons for increased interest in studying corruption since the latter surfaced as major obstacle to reforms (Abed and Gupta, 2002).

Today we are more knowledgeable about the causes and consequences of corruption. Early theoretical research shows that corruption occurs where rent exists and public officials have discretion to allocate them (see overview of studies by Krueger, 1974; Rose-Ackerman, 1978; and Bhagwati, 1982). General understanding is that corruption undermines economic growth and development of countries. Yet, in the past there were different views and some arguments were even in favour of corruption. Leff (1964) and Huntington (1968) explore that corruption can enhance growth by removing government rigidities that interfere with otherwise effective economic decisions. Some even argue that corruption promotes efficiency as the most efficient firms can afford it (Beck and Maher, 1986; and Lien, 1986). While it may improve the allocation of resources in some instances, this diversion has higher costs and it reduces growth of countries (Klitgaard, 1988; Baumol, 1990; Shleifer and Vishny, 1993; Lui, 1996; Bardhan, 1997; Tanzi, 1998; Rose-Ackerman, 1999; Kaufmann and Wei, 1999; Jain, 2001; and Aidt, 2003). In recent years, a number of studies have empirically examined these various established theoretical assumptions by using cross-country data.

Corruption damaging consequences can vary as it can mean different things in different forms. Most common form of corruption is bribery – informal payments given to influence the implementation of rules and those intended to influence the content of laws and rules, i.e. state capture. In transition economies state capture is increasingly being recognized as most detrimental form of corruption that undermines much needed reforms at a significant social cost (Hellman and Kaufmann, 2001). They argue this form of corruption is not only a symptom of poor governance and weak institutions but a fundamental cause for it. Transition countries are trapped in a vicious circle in which reforms are undermined and where weak institutions are systematically maintained. And the quality of institutions is major determinant of economic development (see overview of studies in Mauro, 1995; Knack and Keefer, 1995; Hall and Jones, 1999; Acemoglu et al., 2000; Dreher, 2007).

Although mentioned studies have drawn consistent evidence of the relationship between corruption, institutions and development, their common drawback is that they neglect shadow economy (Dreher, 2007). Many studies examine corruption and shadow economy

separately even though the indirect cost of corruption is also evident through the impact on the number of entities preferring to operate in shadow economy. Some are in better position to deal with corruption and manage, therefore, to either pay less or to capture the state. Obviously, they decide themselves in which economy they prefer to operate in. However, the question is do firms or individuals go underground to avoid corrupt officials or go underground by bribing officials? Or is the official economy a sanctuary from corruption? Theoretically, corruption and shadow economy can be either substitutes (Rose-Ackerman, 1997 and Dreher et al., 2005) or complements (Johnson et al., 1997, 1998; and Friedman et al., 2000). The precise relationship between the two is thus unsettled (Schneider and Enste, 2002). Yet, empirical studies show that too often corruption and inefficient institutions increase shadow economy (Johnson et al., 1998). Large shadow economy can furthermore undermine the efficiency of institutions and slowdown economic growth and development, again creating vicious circle.

The transformation of Central and Eastern European and former Soviet socialist economies to market economies included set of similar economic and political reforms. However, these transition countries achieved different levels of market economy and economic performance (Fidrmuc, 2003). Moreover, in their other study Fidrmuc and Gërxhani (2005) suggest this could also be attributed to the lower quality of institutions and lower generalized trust.

In this chapter, we aim to contribute to the debate on the diverse outcomes in terms of macroeconomic performance in transition countries. We extend the research by empirically examining the impact of different types of corruption (bribery and state capture) on economic performance in transition countries. By differentiating different two forms of corruption, we will also be able to understand more clearly the determinants fundamental for the persistence of corruption in various transition countries. Moreover, we empirically examine the link between different forms of corruption and the shadow economy in order to contribute to debate on their substitution and complementarity and to understand whether certain forms are more likely to increase shadow economy. We also take into account institutional quality in order to explore its impact on levels of corruption and shadow economy in transition countries. Best to our knowledge, there have not been attempts to study consequences of specific types of corruption on the levels of shadow economy and compare the impact on the economic performance across transition countries.

Based on the overview of studies, we expect for transition countries to have slower economic growth due to higher levels of corruption. Consequences of their performance also differ due to different kinds of corrupt practices and tend to be associated with increased levels of shadow economy. Finally, we anticipate that efficient institutions are

the most important determinant of less corrupt activities and lower levels of the shadow economy.

The chapter makes use of data from World Bank Worldwide governance indicators, Schneider and Buehn (2010), Transparency International Corruption Perception Index (CPI) and World Bank Business Environment and Enterprise Performance Survey (BEEPS) in order to account for key variables of interest (institutional quality, levels of shadow economy and corrupt practices). The data is collected for 28 countries for a period between 1996 and 2010.

Our findings confirm that higher institutional quality promotes economic growth and seems to decrease activities in shadow economy. On the other side, results obtained using the annual data do not conclusively show significant impact of corruption on economic growth. The heterogeneity of countries seems to be important here. The evidence shows that in countries of former Soviet Union corruption impacts economic growth through state capture, while in Balkan countries it is shown to affect long-run rather than short-run growth. This is in line with our premise that economic performances of transition countries also differ due to different kinds of corrupt practices.

The remainder of the chapter is organized as follows. Section 2.2 provides an overview of related literature on institutional quality and improvement, corruption, shadow economy and their effects on economic performance. Section 2.3 describes the data chapter uses, as well as it presents some descriptive statistics. Section 2.4 describes the methodology and empirical models. Section 2.5 presents the results on effects of bribery and state capture on macroeconomic efficiency losses in Central and Eastern European and former Soviet economies. Final Section concludes.

2.2. Why countries fail or succeed economically?

This Section provides a brief overview of existing research and discussion on the impact of institutional quality, the level of shadow economy and the corruption dimension on economic performance of countries.

2.2.1. Institutional structures, corruption and growth

Institutions are devised as formal rules and informal restraints that perpetuate order and safety within a market or society (North, 1990). Moreover, these rules are classified also based on the type of interactions. Joskow (2008) in his study classifies interactions and divide them as legal, political, economic and social institutions. Kunčič (2013) adds another category of organizational institutions within firms. Legal institutions ensure

property rights and effective enforcement of legislation. Political institutions symbolize polity, voters, electoral rules, political parties, and rules of government. Furthermore, economic institutions secure a properly working market. And finally, social institutions are beliefs, norms, and values of a country.

Their efficiencies vary as they are subject to various circumstances such as governments' coercive forces, organization of state, presence of strong religious beliefs, etc. The question we deal with in this chapter is why some countries have inefficient institutions and how this impacts their levels of corruption and economic growth. As Acemoglu (2006) nicely puts it:

> "Inefficient institutions will emerge and persist, in turn, when groups that prefer the inefficient (non-growth enhancing) policies that these institutions generate are sufficiently powerful, and when other social arrangements that compensate these powerful groups, while reaching more efficient allocations, cannot be found." (Acemoglu, 2006, p.342)

Inefficient institutions are associated with lower GDP per capita growth. At the same time the overall corruption impact on economic growth highly dependens on the institutional structures of a country. Moreover, inefficient institutions encourage corruption (see overview of empirical studies in Mauro, 1995; Knack and Keefer, 1995; Hall and Jones, 1999; Acemoglu et al., 2000; Dreher and Schneider, 2010; and Elgin and Oztunali, 2012). Moreover, Mo (2001) shows that political instability is more likely to happen in countries with more corruption.

Jonson and his colleagues (1998) argue those countries that have strong institutions and efficient regulation have also smaller levels of shadow economy. Furthermore, they argue this depends whether countries are in good or bad equilibrium. More developed countries have efficient institutions and quality regulation with fairly low tax and regulation burden, they are able to control corruption and level of shadow economy, thus they are in good equilibrium. By contrast, countries are in bad equilibrium if institutions are weak, have inefficient regulation, and tax burden is high, all leading to higher possibilities for corrupt behaviour and activities in shadow economy.

We can expect that corruption and insecure property rights impact the levels of shadow economy, i.e. efficient institutions might improve tax performance, while on the other hand, poor tax performance might minimize the opportunities to establish or maintain well functioning institutions.

Also strong institutions provide greater incentives for legal behaviour causing illegal behaviour to be more costly due to higher moral costs (Elgin and Oztunal, 2012). Similarly, Torgler and Schneider (2009) find taxpayers are more likely to stay in official sector and comply with tax obligations if their interests are properly represented in political institutions and government actions are accountable. Furthermore, if taxpayers feel cheated, corruption is widespread and institutions are unstable, they are more likely to get involved in informal sector (Schaltegger and Torgler, 2007). In such countries the obligation of not paying taxes is not accepted social norm.

Transition countries often find themselves in bad equilibrium, as they are more likely to experience higher levels of corruption due to not fully functioning open market system and economic institutions. Transition represents a fertile ground for discretionary behaviour of corrupt elites to misallocate resources or select inadequate production decision instead of implementing price liberalization and efficient competition policy. Acemoglu and his colleagues (2012) argue those countries with extractive political institutions promote extractive economic institutions and are less likely to prosper. There are examples of countries where inclusive economic institutions emerged out of extractive political institutions allowing them to experience rapid economic growth in a short run, however, in the long run such countries cannot survive (Acemoglu et al, 2012). Thus, those transition countries with weak institutions will less likely transform themselves into full open market economy, even more, rather than catching up with developed market economies they will fall back. Keefer and Knack (1998) in their study found institutional deficiencies reduce investments and ability to technologically develop, so less developed countries continue to fall behind even more.

2.2.2. Surviving in legal economy or fleeing to shadows

Despite of extensive research, the definition of informal economy and its size across countries is still controversial. Informal economy has neither commonly accepted term and its definition, nor commonly accepted estimation procedures. Literature uses terms like grey, black, underground, shadow, illegal, and hidden among others. Defining the concept of informal economy is also problematic, some defining it through unreported income legal activities while others argue that illegal activities should also be included. Lippert and Walker (1997) in their study divide what they call underground economy as is presented in Table 2.1.

Table 2.1: Types of Underground Economic Activities

Type of Activity	Monetary Transactions		Nonmonetary Transactions	
ILLEGAL ACTIVITIES	Trade in stolen goods; drug dealing and manufacturing; prostitution; gambling; smuggling; fraud.		Barter of drugs, stolen, or smuggled goods. Producing or growing drugs for own use. Theft for own use.	
	Tax Evasion	**Tax Avoidance**	**Tax Evasion**	**Tax Avoidance**
LEGAL ACTIVITIES	Unreported income from self-employment. Wages, salaries, and assets from unreported work related to legal services and goods	Employee discounts, fringe benefits.	Barter of legal services and goods.	All do-it-yourself work and neighbour help.

Structure of table from Lippert and Walker, *The Underground Economy: Global Evidence of its Size and Impact*. Vancouver, B.C., The Frazer Institute, 1997.

However, one of the leading economists in this field, Schneider (2005, 2006), for example uses the term shadow economy and defines it as unreported income from production of legal goods and services that involve monetary transactions and are not based on barter. The author excludes illegal informal activities such are drug dealing, prostitution, money laundering, gambling, etc.

Cultural, institutional and economical factors are important for understanding causes of informal economy (see Johnson et. al 1997, 1998; Friedman et al., 2000; Torgler and Schneider, 2009; Elgin, 2010; and Elgin and Solis-Garcia, 2011). As shadow economy involves production of goods and services that are intentionally hidden in order to avoid paying taxes among others (for example, other purposes are to avoid payment of social security contributions, to avoid compliance with specific legal labour market standards, and to avoid complying with certain administrative procedures (Schneider 2005)), cross cultural studies on tax compliance are important for understanding cultural differences in taxpayer ethics and thus level of shadow economy. Concept of tax morale is closely associated with the concept of *taxpayer ethics* that is defined as ‘‘the norms of behaviour governing citizens as taxpayers in their relationship with the government’’ (Song and Yarbrough, 1978).

Early research in 1960s (Schmölders, 1970; Strümpel, 1969) shows tax morale as essential attitude related to tax non-compliance. Moreover, Schmölders (1960) finds self-employed

European taxpayers have lower tax morale than taxpayers that work for other entities. Various other studies have been conducted to account for cultural differences in tax compliance behaviour (see overview of Alm et al. (1995) where they explore the role of social norms in Spain and the United States; Cummings and his colleagues (2004) who investigate cultural differences between United States, Botswana, and South Africa). Their findings suggest that countries differ in tax compliance behaviour depending on perception of government accountability and tax administration fairness. Thus, reciprocity of trust between government and taxpayers induces tax compliance by improving taxpayer ethics (according to Smith and Stalans, 1991; Smith, 1992; Feld and Frey, 2002).

Furthermore, Alm and Torgler (2006) when comparing United States to 14 European countries by using the World Values Survey data for period between 1990 and 2000 find the United States have the highest tax morale across all countries owing to taxpayers' identification and loyalty to the state, based on inclusive democratic institutions. As noted earlier, inclusive institutions provide for more efficient regulation. This gives greater incentives for legal behaviour as taxpayers' interests are properly represented and they do not feel cheated. Thus, this provides for smaller levels of informal economy. And this has the effects on the level of informal (or shadow) economy as argued by Alm, Martinez-Vazquez, and Schneider (2004). Lower taxpayers' ethics is, more likely shadow economy will flourish.

Economic reasoning for informal economy is mostly attributed to the high compulsory levies and certain tax measures. With higher tax rates, firms are more likely to underreport their earnings, as they want to keep higher profits for themselves. But reasoning also points to existence of social security burdens, as well as excessive regulation. Firms and taxpayers may find it more lucrative for both sides to liaise outside the official economy due to unprofitable difference between high employee costs and the salary employee receives. In this case, both sides are more likely to avoid paying income tax or value added tax. Similarly, overly burdensome regulation also causes expansion of informal economy and, moreover, illegal underground economy. For example, heavy regulation may result in unnecessary increases of the product process in legal market, which are then offered in informal or black market at lower process.

According to the theoretical literature taxation, excessive regulations, bureaucracy and corruption are the main causes of informal economy. Yet, there are opposing views whether informal economy hinders or intensifies performance of the official economy. One stream of researchers argue informal economy decreases government ability to collect taxes and it erodes tax base having negative impact on economic growth and this is why countries fail (see overview of Tanzi and Davoodi, 1998; and Friedman et al., 2000). Other researchers argue the income earned in informal economy supports official economy as it

is immediately spent in the latter (Schneider and Enste, 2002). Choi and Thum (2005) go even further in explaining that new firms are more likely to enter into informal economy since they cannot compete against strong incumbent firms. This, in turn, also causes bureaucrats to demand smaller bribery from them, suggesting these new firms actually support growth of the official economy.

2.2.3. Corruption levels, forms and its measurement

Corruption is considered to be major obstacle to development as it generates poverty traps (Andvig and Moene, 1990; Blackburn et al., 2006). Shleifer and Vishny (1993, 1998) developed a concept of 'grabbing hand' describing how corruption arises as government officials are able to extract rents due to weak institutions. There are examples where corruption and strong economic performance can coexist. Leff (1964) argues that corruption enables trade that would not take place otherwise by allowing individuals correct "pre-existing government failures and regulatory restrictions". Egger and Winner (2005) find by that corruption stimulates FDI in both, developed and less developed countries. More recently, research by various authors find corruption could potentially be important in 'greasing the wheels' of an economy (see overview of Méon and Sekkat (2005); Méon and Weill (2008); Vial and Hanoteau (2010) who find evidence in Indonesian firms). Moreover, Dreher and Gassebner (2013) in line with the 'grease the wheels' argument find that corruption reduces the negative impact of regulations on new firms entering the market.

The problem with these reasoning is that it takes into account only the short-term efficiency, i.e. corruption can help in situations where certain aspects of institutional governance are deficient or economic policy is inefficient. This is on the level of isolated instances of corruption, not systemic level. However, in the long run, corruption becomes rule of the game rather than exception, and the results are likely to be more costly in terms of economic efficiency and overall fairness and institutional legitimacy. Campos et al. (2010) prove this point by finding that the majority of cross-country studies find that corruption sands the wheels of the economy.

Corruption is a complex phenomenon difficult to measure. To understand its effect more comprehensively, it helps to unbundle the concept by identifying different forms of corrupt activities. General understanding of corruption is "the abuse of public office for private gain" (the World Bank, 2013). In order to corrupt different forms can be used on different levels. In Table 2.2 we group them and describe each activity for easier understanding.

Table 2.2: Corruption Levels and Forms

	FORM OF ACTIVITY	**Gifts**	**Favors**	
PETTY	Small favors between a small number of people. Occurs irregularly and it does not threaten the mechanisms of control nor the economy.	The exchange of small improper gifts to obtain favors.	Use of personal connections to obtain favors such as partiality.	
		Bribery	**Embezzlement, Theft, Fraud**	**Extortion, Blackmail**
GRAND	Occurring at the highest levels of government. Significant subversion of the political, legal and economic systems.	Giving of informal payments, favors or gifts to speed up or otherwise alter the process of doing business.	Illegal taking of control of assets or deception of the owner of funds or assets to give them up to an unauthorized party.	Threat of violence or false imprisonment in order to receive payments for corrupt aim.
		State capture		
SYSTEMIC	Weaknesses of an organization or process. Corruption becomes the rule rather than the exception.	Giving of informal payments to significantly influence a state's decision-making processes.		

Own structure of table. Information based on definitions by the World Bank, Transparency International and Wikipedia.

In our study we focus on bribes at the grand and systemic level, thus informal payments given to influence the implementation of rules and those intended to influence the content of laws and rules, i.e. state capture.

The causes of corruption are many and complex. The legitimate question is why officials in some countries misuse their power for their advantages more often than officials in other countries? Obviously, the determining elements are probability of being caught, the benefits of corrupt activity or costs of not doing so. This, of course, largely depends on countries' legal, political, economic and social systems. Fair and efficient legal system protects those being harmed and punishes those who harm (Treisman, 2007), thus most likely that there would be less incentives for corrupting. Regulatory burden and economic freedom are also important (Chafuen and Guzmàn, 1999). Furthermore, in democratic systems, political stability is greater and officials have longer in-office time span, chances for fair advancement, efficient checks and balances (see overview of Sung (2004);

Chowdhury (2004) and Bohara et al. (2004)). Besides, civil society and media are more active in monitoring corrupt activities, so exposure of corrupt officials is more likely to happen. Economic development increases the spread of education and literacy decreasing the likelihood of corruption (Lipset, 1960). Moreover, richer countries have more resources to fight against corruption and afford efficient institutions. Likewise, in a country where norms and expectations are high integrity levels, those who corrupt are more likely to face social stigma if exposed. However, even though social pressure could increase compliance with the law, strong efforts need to be invested in improving efficiency of formal institutions (Gregorič at al, 2007).

In essence, corruption can be explained by the quality of the institutions of a country (as reflected also by the level of economic development of a country) and at the same time the overall impact of corruption on economic growth is greatly dependent on the institutional structures within a certain country. In particular, as Mendez and Sepulveda (2006) and Aidt et al. (2008) find in their studies, in countries with better governance, the effect of corruption on growth is negative. In following sections of the chapter we attempt to further contribute to the existing research on nature, dynamics and impact of corruption on economic growth based on cross country comparisons.

2.3. Data and descriptive statistics

This section provides an overview of data this chapter uses for institutional quality, shadow economy and corruption forms in Central and Eastern European and Former Soviet Union countries.

2.3.1. Data coverage

To study how institutional system reforms impact the macroeconomic performance of these countries and whether different forms and higher levels of corruption increase levels of shadow economy, we employ data from Schneider and Buehn (2010) using the Multiple Indicators Multiple Causes (MIMIC) model to address shadow economy issue, EBRD Transition Report and World Bank Worldwide governance indicators to address institutional quality and advancement issue (economic and political institutions), Penn World Tables to address growth and the quality of human capital, and Transparency International Corruption Perception Index (CPI) to address level of perceived corruption. Finally, the chapter uses the three waves of firm-level micro data collected by the World Bank Business Environment and Enterprise Performance Survey (BEEPS) in order to account for different types of corrupt practices (bribery and state capture) and to examine whether there are clear and robust patterns of corruption and shadow economy

relationship. The data is collected for a period between 1996 and 2010. Year 2009 was not included due to recession effect.

2.3.2. Variables investigated

The important issue when discussing institutions is how to measure the quality of their efficiency. In recent years there was expansion of various institutional indicators of quality, such as Index of Economic Freedom: property rights by the Heritage Foundation, EWF Indexes by the Fraser Institute, Rule of Law by the World Bank World Governance Indicators (all measures legal institutions); the International Country Risk Guide (ICRG) by the PRS group, Transparency International Corruption Perception Index (CPI), just to name few political institutions measures; and for measuring economic institutions Global competitiveness Index by the World Economic Forum, EFW Index by the Fraser Institute, and others.

Thus, there are different classifications of institutions and frameworks used to examine their potential impact on growth (Kunčič, 2013). In terms of our empirical study, we use six World Bank Governance Indicators, including *government effectiveness*[3], *regulatory quality*[4], *rule of law*[5], *control of corruption*[6], *voice and accountability*[7], *political stability and absence of violence*[8].

With political developments and economic transitions after 1990s, a number of countries that are subject of our study experienced a unidirectional move along the continuum to formalize political, judicial and economic rules and contracts that facilitate transition to efficient democracy and open market economy. They inherited very similar and weak institutions. In many aspects they had to build institutions from scratch. Rules were either absent, existent but poorly enforced, or counterproductive by being overregulated. During transition, some countries were more successful than others in building their institutions. This divergence can be accounted for differences in terms of the type of institutional governance and firm ownership.

[3] Examines the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies (World Bank, 2013).

[4] Examines the ability of the government to formulate and implement efficient policies and regulations that permit and promote private sector development (World Bank, 2013).

[5] Examines the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence (World Bank, 2013).

[6] Examines the extent to which public power is exercised for private gain, as well as state capture (World Bank, 2013).

[7] Examines the extent to which a citizen participation in elections, freedom of expression, freedom of association, and a free media (World Bank, 2013).

[8] Examines the likelihood that the government will be destabilized or overthrown (World Bank, 2013).

Furthermore, obtaining accurate estimations of how spread corruption is across countries is rather impossible task. In recent years we evidence blooming of different corruption measures on the level of corruption, yet the consensus about its level has not been reached so far. Most estimates of corruption level are based on perception, as they are less costly and time consuming than direct measures. The most known such measures are Transparency International's Annual Corruption Perception Index (CPI) and the World Bank's Control of Corruption Index. They are used since early studies on economics and corruption (see overview of Mauro (1995); Kaufmann et al. (1999); Arndt and Oman (2006)) and they continue to be used by other authors. The challenge with these types of measures is they may not measure corruption accurately. There are at least two reasons. Firstly, over time awareness of corruption grew, there is less tolerance, more initiatives to prevent it and there is much more media coverage of corruption allegations. Thus, perception could actually increase even though in reality the level of corruption fell. And secondly, as surveyed need to make inference about the corruption, education plays an important role in understanding the concept itself, as Olken (2009) argues in his study as well. More educated interviewees will better predict corruption levels.

Thus, there are initiatives in using other, more direct measures such as comparison on public works in Italy by Golden and Picci (2005), expenditure on infrastructure corruption by Olken (2006), bribes paid in Ugandan firms by Svensson (2003) and various other similar studies. One such initiative is the World Business Environment Efficiency Survey (the BEEPS) that measures how much firms pay bribes to governments. Even though BEEPS is based on survey in which managers of firms are requested to answer different questions in order to effectively measure corruption level, this model is more useful than perception based polls. Also for both reasons mentioned earlier. Managers of firms are more likely to have similar higher levels of education and they are asked to narrow their responses to actual experience with bribes.

In this chapter, we make use of both, perception-pool based survey (CPI) and more direct BEEPS survey of firms in order to understand levels of corruption across countries we study. Of course, the best way to measure corruption would be to observe it directly, but needles to say that would be much more costly, time consuming and difficult. Such studies exist (see overview of McMillan and Zoido (2004), Olken and Barron (2009); Sequiera and Djankov (2010)), just to name few.

Additionally, we divide and examine two forms of corruption (*bribery and state capture*) at grand and systemic levels of corruption. The classification and description of corruption levels and forms is presented in Table 2.2. As explained in the Table 2.2, bribery refers to giving informal payments, favors or gifts to speed up or otherwise alter the process of

doing business, which occur at the highest levels of government significantly subverting political, legal and economic systems. State capture refers to giving informal payments to significantly influence a state's decision-making processes, where corruption becomes the rule rather than the exception.

Finally, estimation procedures of the levels of shadow economy also differ. In most cases, four estimation methods are used such are surveys, combination of estimates and assumptions, monetary and/or electricity method, and the MIMIC method. Most widely used method is MIMIC, a specific structural equation model that treats the size of shadow economy as unobserved latent variable. The method applies two-step approach. In the first step, the causes and indicators of shadow economy are determined. In second step, the coefficients of the causes and indicators of shadow economy are estimated. Some critiques say that this method is subject to statistical errors and it does not rest on any micro-foundations (Breusch, 2005). Nevertheless, it is widely used in studies and applied in practice for cross-country comparison of shadow economy levels.

In this chapter, we also go in line with Schneider data and examine levels of unreported income from the production of legal goods and services, excluding informal household economy and all illegal underground economic activities. Table 2.1 shows all types of unregistered economic activities that contribute to the estimation of the Gross National Product. The reason we exclude illegal economic activities is due to lack of data, especially related to gambling and money laundering.

2.3.3. Descriptive statistics

In this section we provide some main descriptive statistics of the countries included in our sample separately for institutional quality, corruption and also for shadow economy.

Table 2.3: Breakdown of countries by region

Regions		
NMS	*Balkan*	*Ex-Soviet*
Romania	Serbia	Georgia
Estonia	Bosnia	Tajikistan
Czech Republic	Macedonia	Ukraine
Hungary	Croatia	Uzbekistan
Latvia	Montenegro	Russia
Lithuania	Turkey	Kazakhstan
Slovakia		Moldova
Slovenia		Azerbaijan
Bulgaria		Armenia
		Kyrgyz

Notes: First column indicates new EU member

states. Croatia was at time not considered EU member state. Second column indicates Balkan countries and in third column former Soviet Union countries, which are not in the EU.
Source: EBRD Transition, BEEPS.

Table 2.3 presents breakdown of countries we use in this chapter. We divide countries in three regions: new EU member states region[9], Balkan region and former Soviet Union region.

Table 2.4: Summary statistics for countries by corruption, shadow economy and transition progress level

Countries	**Averages over period 1996 to 2010**	
	mean	sd
EU NMS		
Corruption	4.60	1.00
Shadow economy	26.10	6.50
Transition progress	2.90	0.80
Balkan		
Corruption	3.20	0.70
Shadow economy	34.50	4.50
Transition progress	2.20	0.70
ex-Soviet		
Corruption	2.50	0.60
Shadow economy	44.40	11.70
Transition progress	2.20	0.70
Total		
Corruption	**3.50**	**1.20**
Shadow economy	**34.60**	**11.90**
Transition progress	**2.50**	**0.80**

Notes: Corruption - calculated by using CPI annual ranking of countries by their perceived levels of corruption, on a scale from 10 (very clean) to 0 (highly corrupt); *Shadow economy* - calculation of the size and development is done with the MIMIC (Multiple Indicators and Multiple Courses) estimation procedure

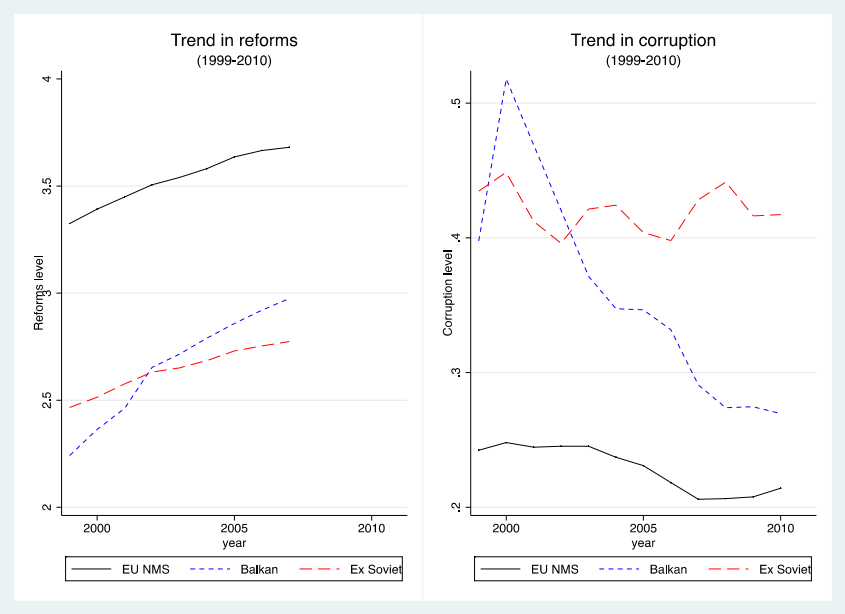
[9] New EU member states are considered to be those countries that entered EU in 2004 and 2007.

(expressed in % of official GDP); *Transition progress* - EBRD transition progress indicators (Large scale privatization, Small scale privatization, Governance and enterprise restructuring, Price liberalization, Trade and foreign exchange system, Competition policy), where the indicators range from 1 to 4+, 1 representing little or no change from a rigid centrally planned economy and 4+ representing the standards of an industrialized market economy.
Source: Schneider 2010, EBRD, TI.

Table 2.4 shows how these 28 countries progressed from year 1996 to 2010. In order to measure countries on how corrupt their public sectors are seen to be, the data from Transparency International is used. Countries are ranked on scale from 10 (very clean) to 0 (highly corrupt). To measure shadow economy we use data from Schneider, higher percentage levels indicate higher levels of shadow economy in a country. We were also interested in transition progress of countries that is measured against the standards of industrialized market economies. We use EBRD transition indicators, where 1 represents little or no change from a rigid centrally planned economy and 4+ represents the standards of a developed market economy. The data reveals ex-Soviet countries continue to have the highest levels of corruption (index 2.5) and shadow economy (44.4 %), while transition in all three regions from centrally planned to market economy continues to be modest.

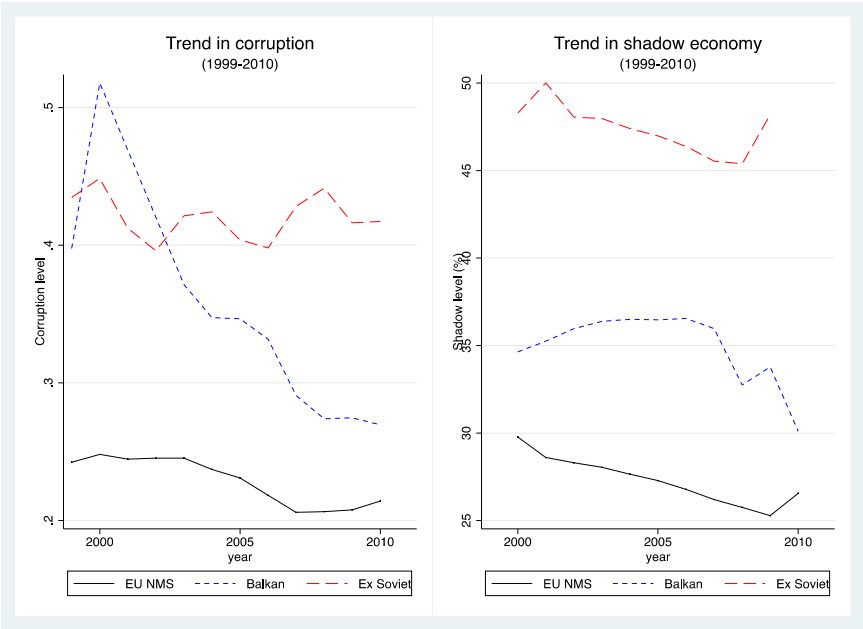
Figures 2.1 and 2.2 show trends in transition, corruption and shadow economy levels for all three regions. New EU member states have progressed from centrally planned to market economy the most from three regions, have lower levels of both corruption and shadow economy. Figures show that levels of corruption and shadow economy were decreasing in new EU member states until late 2000s, when both show slight upward trends. Meanwhile, it appears that in ex-Soviet countries average level of corruption remained the same throughout this period, while shadow economy was decreasing. But only up to 2008 when shadow economy sharply picked up again. Finally, in Balkan countries corruption shows a sharp downward trend throughout the period, while levels of shadow economy were slightly increasing up to 2006, and then sharply decreased.

Figure 2.1: Trends in reforms and corruption



Sources: EBRD, Transparency International, own calculations.

Figure 2.2: Trends in corruption and shadow economy

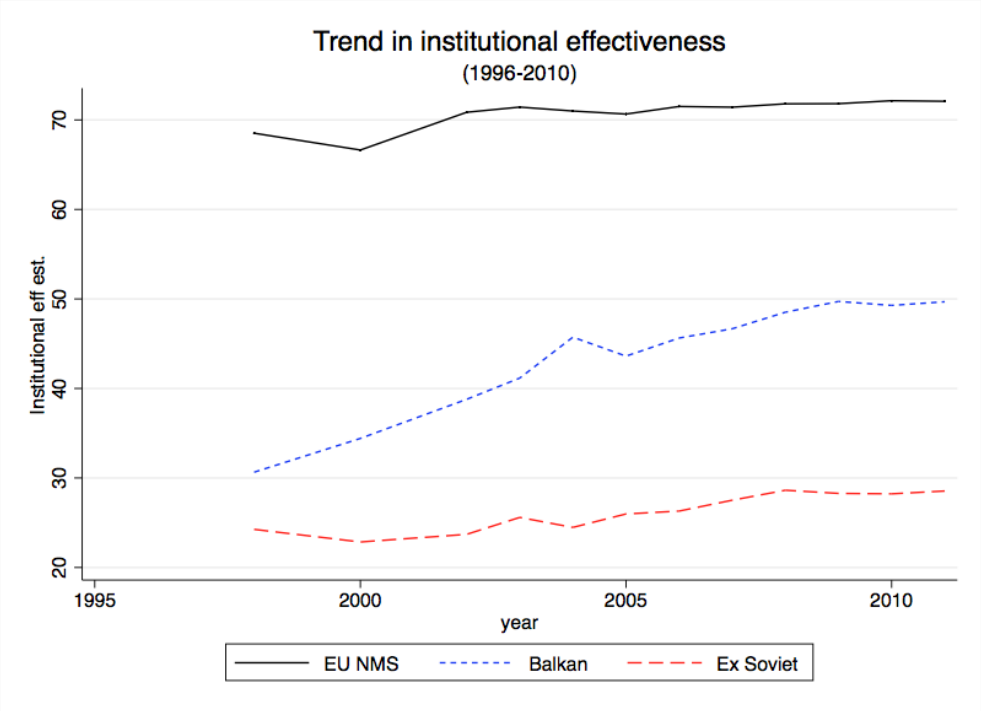


Sources: TI, Schneider 2010, own calculations.

This gives us mixed results regarding the relationship between corruption and shadow economy, which we will attempt to explain later in the results section by offering insights on complementarity or substitution between the two by taking account of different types of corruption predominant in certain regions.

In order to understand the quality of institutions in countries under examination, we also looked at the trends of institutional development by using World Bank Governance Indicators. Figure 2.3 shows slow upward trends of perceived lower institutional efficiency in all three regions, which however, slowed down after year 2006. Nevertheless, the figure reveals that efficiency of institutions is comparatively high and stable in new EU member states (at about 70 per cent). Balkan countries have made a quick and steady progress in terms of institutional advancement over the period, though their quality of institutions remains comparatively low to the new EU member states. While ex-Soviet countries have shown some progress in institutional quality, their advancement was fairly slow and the level of efficiency of institutions remains very low in comparison to other two groups of countries.

Figure 2.3: Trends in institutional effectiveness



Source: World Bank Governance indicators, indicating the stage of developed institutions, own calculations.

These results suggest that there may be no forthright explanation and causal relationship between levels of corruption, shadow economy and economic growth in the transition economies under investigation.

In what follows, we test empirically whether different forms of corruption and as well as institutional efficiency affect the macroeconomic performance of countries and levels of shadow economy and how the latter bounce back on economic performance.

2.4. Methodology and empirical models

The effect of shadow economy and corruption on economic growth seems to be ambiguous. As discussed above, recent studies are inconclusive in regard to whether the extent of corruption and shadow economy are complements or substitutes. Thus, our aim is to contribute to debate by further exploring the relationship between corruption and shadow economy for transition countries (1996-2010) in order to account for differences in the impact of corruption between countries. We employ different measures of corruption and a variety of standard econometric methods. Moreover, we link the institutional efficiency with the occurrence and effects of corruption and shadow economy on countries' economic performance.

In order to analyse potential effects of corruption on performance of Central and Eastern European as well as former Soviet Union economies, we proceed with the empirical methodology in three steps. First, we examine the relationship between the levels of shadow economy and different forms of corruption across countries, conditional on the level of development, level of institutional quality and geographic location. Second, we examine the impact of corruption on macroeconomic performance of countries (defined as economic growth), controlling for the usual production factors, quality of the institutional system, level of shadow economy and geographic location. Finally, we proceed with the above analysis by taking into account the impact of different forms of corruption (bribery and state capture) on economic growth.,

We explore these issues by estimating two empirical models on the basis of the macro-level data.

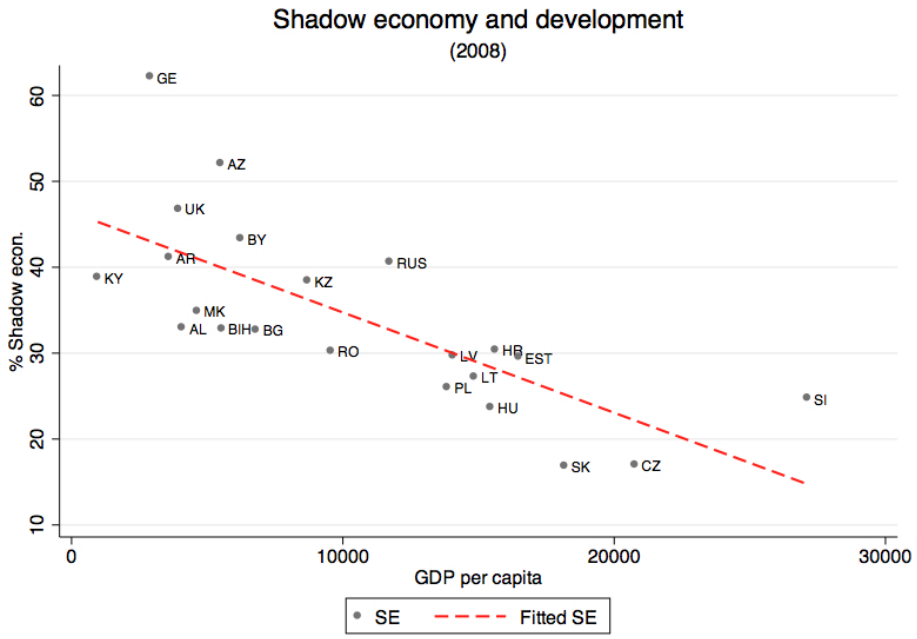
In model (1) we first explore the relationship between perception of corruption and levels of shadow economy. We take into account that corruption and shadow economy are correlated or might even be jointly determined. We do this by estimating them as a system of equations. In model (1) we estimate the relationship between the corruption perception index (CPI) and share of shadow economy in GDP (SE):

$$\begin{aligned} SE_{it} &= a + b_1 Y_{it-1} + b_2 Inst_{it-1} * L + b_3 CPI_{it-1} * L + T + u_i + e_{it} \\ CPI_{it} &= a + b_1 Y_{it-1} + b_2 Inst_{it-1} * L + b_3 SE_{it-1} * L + T + u_i + e_{it}, \end{aligned} \tag{1}$$

where SE_{it} denotes a log share of shadow economy in GDP according to the measures of shadow economy as provided by Buehn, Montenegro and Schneider (2011). Y_{it-1} is log level of GDP per capita lagged by one year. Some studies show that there is possible a non-linear relationship between the level of development and size of shadow economy.

Walker and Unger (2009) find a J-curve relationship. However, by investigating the data we find a clear monotonic negative relationship between the two variables (see Figure 2.4). We therefore do not include a square term of income variable to our model.

Figure 2.4: Shadow economy and level of development



Notes: Figure depicts a clear monotonic negative relationship between the per capita GDP and size of shadow economy. Source: Schneider, World Bank, own calculations.

CPI_{it-1} denotes a log of inverse of corruption perception index. $Inst_{it-1}$ denotes institutional quality. To avoid the problem of potential endogeneity between other right-hand-side variables with the measures of shadow economy and corruption, we use a one-year lag for all four RHS variables. The models include also interaction terms with geographic location (L) to control for potential differential effects of these factors on shadow economy between new EU member states, the Balkan economies and countries from the region of former Soviet Union. The rest of the models includes year and country fixed effects and the usual error terms.

We estimate the systems of equations by employing the seemingly unrelated regression (SUR) estimator with country fixed effects. SUR estimator allows us to account for the fact that due to potential joint determination of corruption and shadow economy the error terms can be correlated across the equations.

In model (2) we estimate the impact of corruption on economic growth. The model (2) is based on a standard macroeconomic growth model, which is typically used in convergence studies. The model is amended by factors indicating the quality of the institutional system, level of perceived corruption and level of shadow economy. Again, as corruption and

shadow economy might be correlated, we account for this by using two different approaches.

In the first approach we estimate model (2) as a system of three equations describing economic growth, level of corruption and share of shadow economy:

$$\begin{aligned} y_{it} &= a + b_1 k_{it} + b_2 l_{it} + b_3 Sec_{it} + b_4 Inst_{it} * L + b_5 CPI_{it} * L + b_6 SE_{it} * L + T + u_i + e_{it}, \\ SE_{it} &= a + b_1 Y_{it-1} + b_2 Inst_{it-1} * L + b_3 CPI_{it-1} * L + T + u_i + e_{it} \\ CPI_{it} &= a + b_1 Y_{it-1} + b_2 Inst_{it-1} * L + b_3 SE_{it-1} * L + T + u_i + e_{it}, \end{aligned} \quad (2)$$

whereby y_{it}, k_{it} and l_{it} are annual growth rates of GDP, investment rate (measured by growth rate of gross fixed capital formation) and employment growth, respectively (note that indexes i and t denote country and time). Variable Sec_{it} denotes the share of pupils inscribed in the secondary education levels, which serves to control for the abundance and quality of human capital in a country. $Inst_{it}$ is an index of institutional quality taken from the World Bank Governance indicators indicating the stage of developed institutions. CPI_{it} denotes the inverse of the corruption perception index as measured by Transparency International. SE_{it} is a share of shadow economy in GDP as provided by Buehn, Montenegro and Schneider (2010). Note that all three variables (institutional advancement, perception of corruption and share of shadow economy) are interacted with the geographic location variable L. By doing this, we intend to control for differential effects of these factors on growth between new EU member states, the Balkan economies and countries from the region of former Soviet Union.[10]

The model also includes year-fixed effects T (to control for common external shocks) and controls for unobserved country-fixed effects u_i. e_{it} is the usual i.i.d. error term.

We estimate the system of equations (2) by employing the seemingly unrelated regression (SUR) estimator with country fixed effects. We reasonably assume the initial level of development is captured by the country fixed effects. While GDP, capital investment and labour are defined in terms of annual growth rates, all other variables (secondary school enrolment, institutional advancement, perception of corruption and share of shadow economy) are in logarithmic form.

[10] These country groups are new EU member states (Poland, Romania, Estonia, Czech Republic, Hungary, Latvia, Lithuania, Slovakia, Slovenia), Balkan countries (Albania, Serbia, Bosnia, Macedonia, Croatia, Montenegro, Turkey) and former Soviet countries (Belarus, Georgia, Tajikistan, Ukraine, Uzbekistan, Russia, Kazakhstan, Moldova, Azerbaijan, Armenia, Kyrgyz).

In addition, we also estimate an alternative specification of model (2) by controlling for different forms of corruption. There are two reasons for this. First, one can argue that corruption perception index may be correlated with other explanatory variables, most notably with the level of shadow economy. Though the trends presented in Figures 2.1, 2.2 and 2.3 do not necessarily reveal such correlations, we nevertheless try to instrument for the corruption perception variable. One way of doing this is to use the instrumental variable approach and taking instruments that are correlated with corruption variables but not with other right-hand-side variables. A more natural approach, however, is to do a robustness check by using variables on corruption from a different data source and check whether this alters the results in any way.

Second reason is a substantial one. Notably, one can argue that different forms of corruption may have a different impact on economic growth. This is in line with findings of Blagojević and Damijan (2013), who find that bribery and state capture activities impact productivity growth differently across different country groups, where some benefit and others experience negative effects.

In line with this reasoning, we substitute the corruption perception index in model (2) with two separate measures of corruption – with a measure of informal payments (bribery, *B*) and a measure of state capture (*Cap*) as provided by BEEPS.[11] Alternative specification of model (2) can be hence written as:

$$y_{it} = a + b_1 k_{it} + b_2 l_{it} + b_3 Sec_{it} + b_4 Inst_{it} * L + b_5 B_{it} * L + b_6 Cap_{it} * L + b_7 SE_{it} * L + dT + u_i + e_{it}, \quad (2a)$$

We expect that high levels of corruption will slow down economic growth and at the same time impose a pressure on higher informal activities. On the other side, higher institutional quality will promote economic growth through better government efficiency, rule of law and business regulation, thus provide fewer incentives to engage in the shadow economy and as such impacting macro performance of countries. Both groups of effects can differ significantly across three country groups due to informal institutions not captured by either the level of development or the measures of institutional quality. In the next section we discuss this issues in more detail when presenting the results.

2.5. Results and discussion

In this section we report the results obtained by estimating our models. We first present the results on the relationship between the levels of shadow economy and corruption across countries, conditional on the level of development, level of institutional quality and

[11] Note that these two measures have been calculated as mean values of firm-level measures, calculated separately for each country in our data set.

geographic location. We then proceed to the analysis of the impact of corruption on macroeconomic performance of Central and Eastern European as well as former Soviet Union economies, controlling for the usual production factors, quality of the institutional system, level of shadow economy and geographic location. We also provide a number of robustness checks by controlling for potential simultaneity between corruption and shadow economy and for different forms of corruption (bribery and state capture).

2.5.1. Relationship between corruption and levels of shadow economy

In Table 2.5 we report the results on the relationship between corruption and levels of shadow economy obtained by jointly estimating the equations in model (1) applying the SUR estimator.

The first finding is fairly obvious, but nevertheless revealing: in line with our expectations, high per capita GDP and higher quality of institutions are found to impede the development of informal economy. Though the latter is valid only for the new EU member states, while in Balkan countries and former Soviet Union countries the effects are slightly positive, indicating weak institutional framework to fight informal activities. [12]

When examining the pooled sample of countries in columns 1 and 2, results show that lagged corruption has a significant impact on the size of shadow economy, while lagged shadow economy is also correlated with contemporaneous perceived corruption. However, heterogeneity of countries variation seems again to be important, causing a differential effect of corruption on levels of shadow economy (see column 3). After controlling for level of development and institutional advancement, we find that positive impact of corruption on the extent of shadow economy is mostly due to the Balkan countries, indicating a complementarity between the two. On the contrary, the impact of lagged perceived corruption on shadow economy in new EU member states and in former Soviet Union countries is found to be negative (though only slightly negative in case of the latter), indicating that they seem to be substitutes as higher perceived existence of corruption seem to cause fewer activities in the shadow economy.

[12] Note that one should add the coefficints obtained for Balkan countries and former Soviet union countries, respectively, to the coefficient for new EU member states to obtain the coefficients for the latter two groups of countries.

Table 2.5: Relationship between corruption (CPI) and shadow economy, period 1996-2008

Dependent variable	(1) **Shadow economy**	(2) **Corruption (CPI)**	(3) **Shadow economy**	(4) **Corruption (CPI)**
GDPpc	-0.161***	-0.002	-0.046**	-0.012**
	[-7.26]	[-0.38]	[-2.09]	[-2.44]
Institutional quality	-0.036	-0.116***		
	[-0.79]	[-14.85]		
Inst_NMS			-1.072***	0.523
			[-5.42]	[0.39]
Inst_Balkan			1.113***	-0.137***
			[5.42]	[-8.11]
Inst_Ex-Soviet			1.211***	-0.063***
			[6.04]	[-5.43]
CPI	0.823***			
	[3.88]			
CPI_NMS			-2.079***	
			[-2.98]	
CPI_Balkan			2.485***	
			[3.29]	
CPI_Ex-Soviet			1.923**	
			[2.55]	
Shadow economy		0.044***		
		[4.35]		
Shadow_NMS				0.049***
				[2.91]
Shadow_Balkan				-0.014
				[-0.17]
Shadow_Ex-Soviet				-0.043*
				[-1.92]
Constant	4.825***	0.565***	8.700***	0.155*
	[22.03]	[9.07]	[9.48]	[1.81]
Observations	317	317	317	317
R-squared	0.512	0.733	0.666	0.723

Notes: Results of estimating model (1) applying the seemingly unrelated regression (SUR) estimator. Dependent variable in (1) and (3) is log of share of shadow economy, while in (2) and (4) it is log of inverse CPI. All explanatory variables are in logs and lagged by 1 year. The models include year and country fixed effects. Robust *z*-statistics in brackets. *** p<0.01, ** p<0.05, * p<0.1

Our results are in line with findings of Johnson et al. (1998a, 1998b) and Friedman et al. (2000) who find a significant positive relationship between corruption, bribery and levels of shadow economy for the same set of countries. Though our results indicate that in new EU member states efficient institutions seem to impede the evolution of informal activities and corruption, whereby the latter discourages unofficial sector activities. On the other side, it seems that in Balkan countries and former Soviet Union countries where corruption is an integral part of a system weak institutions fail to impede informal activities.

This seems to suggest that corruption may imply higher levels of shadow economy, but apparently the differences in the quality of institutions again play a decisive role here. Sure, legal, political and economic institutions are better integrated within the EU-imposed institutional framework in new EU member states in comparison to Balkan countries and the former Soviet countries. However, important role here play also social institutions. According to North (1990), informal rules, "*a part of the heritage that we call culture*", are more important in explaining transition of countries and their development than formal institutions. Formal institutions (economic, political and legal) take less time to evolve than informal institutions. Changing of culture needs time, thus when given opportunity, more likely that firms and taxpayers will perform in shadow economy where beliefs, norms and values of a country are lower. In countries where corruption is systemic and that are subject to higher institutional instability, citizens feel frustrated and lack willingness to be active in the formal economy.

In any case, as corruption and shadow economy are correlated, one needs to take account for this in further empirical specifications when estimating the impact of corruption on economic growth.

2.5.2. Impact of corruption on macroeconomic performance

Below we present base results and robustness checks.

2.5.2.1. Base results

Table 2.6 shows the correlations between the explanatory variables we use in our regression model. According to expectations, institutions are negatively correlated to both, corruption and shadow economy.

On the other hand, when exploring the pooled data for all countries, corruption and shadow economy are both found to be positively correlated with the economic growth. This, however, may be a consequence of the notable heterogeneity of countries in our sample. Indeed, when we separate countries into three groups and calculate separate correlation coefficients, institutions remain negatively correlated to corruption in all three country groups, while correlation with shadow economy changes. Institutions remain negatively correlated to shadow economy in new EU member states, while they are positively correlated in ex-Soviet Union countries and insignificantly, but positively, correlated in Balkan countries.

Table 2.6: Correlation matrix for variables in the models

All groups of countries

	Δrgdp	**inst**	**Δgfcf**	**Δempl**	**sec**	**icpi**	**shad**
Δrgdp	1						
inst	-0.1498	1					
Δgfcf	0.5138*	-0.1143*	1				
Δempl	0.5348*	-0.06	0.2209*	1			
sec	-0.0099	0.3019*	-0.073	-0.0887*	1		
icpi	0.0944*	-0.8051*	0.1495*	-0.0555	-0.3048*	1	
shad	0.1265*	-0.5471*	0.0996*	0.0041	-0.2161*	0.4426*	1

New EU member states

	Δrgdp	**inst**	**Δgfcf**	**Δempl**	**sec**	**icpi**	**shad**
Δrgdp	1						
inst	0.1256	1					
Δgfcf	0.7649*	-0.0708	1				
Δempl	0.6147*	0.2126*	0.4675*	1			
sec	0.1257*	0.5598*	-0.0757	0.1482*	1		
icpi	-0.0222	-0.8399*	0.1282	-0.2246*	-0.5660*	1	
shad	-0.0104	-0.3707*	0.0734	-0.0838	0.0913	0.2237*	1

Balkan countries

	Δrgdp	**inst**	**Δgfcf**	**Δempl**	**sec**	**icpi**	**shad**
Δrgdp	1						
inst	-0.074	1					
Δgfcf	0.2723*	-0.2874*	1				
Δempl	0.6447*	-0.0013	0.1573	1			
sec	-0.0079	0.1546	0.075	-0.1413	1		
icpi	-0.0139	-0.6404*	0.3897*	-0.1228	-0.0046	1	
shad	0.2124*	-0.0326	-0.0004	0.0669	0.062	-0.0823	1

Ex-Soviet union countries

	Δrgdp	**inst**	**Δgfcf**	**Δempl**	**sec**	**icpi**	**shad**
Δrgdp	1						
inst	-0.1275	1					
Δgfcf	0.5418*	-0.1147	1				
Δempl	0.3749*	-0.2314*	0.1337	1			
sec	-0.0997	-0.1384*	-0.0365	0.0416	1		
icpi	0.0402	-0.4646*	-0.0016	-0.0502	0.0426	1	
shad	0.2646*	0.2259*	0.1996*	0.0098	-0.1489*	0.2632*	1

Note: * indicates coefficients significantly different from zero at 10 per cent. Variables used in presented in this table are annual GDP growth (Δrgdp), institutions development (inst), fixed capital growth rate (Δgfcf), growth of employment (Δempl), enrolment in secondary school (sec), inverse of corruption perception index (icpi) and share of shadow economy in GDP (shad).

Furthermore, in the pooled sample of countries economic growth is surprisingly found to be negatively correlated to institutional quality and positively to corruption and shadow economy. This, again, is purely a consequence of the composition effects. Once heterogeneity of countries is taken into account, correlation between institutional advancement and economic growth becomes insignificant in all three country groups (but positive in new EU member states and negative in Balkan and ex-Soviet countries). Similarly, corruption is no longer significantly correlated with economic growth in any of the country groups, while shadow economy is shown to be positively correlated with growth in Balkan and ex-Soviet countries, but not in new EU member states. This suggests that, when estimating our models, it is of utmost importance to take into account heterogeneity of the countries in the three geographic locations. By neglecting these difference across countries my lead to a distorted picture of true relationships between the variables under investigation.

Turning to our results, Table 2.7 shows that institutional quality does not significantly impact economic growth when studying pooled sample of countries (see column 1). However, after taking into account heterogeneity of the three country groups (see column 4), higher institutional quality is shown to (significantly) promote economic growth in new EU member states through better government efficiency, rule of law and regulatory quality, political stability, accountability and absence of violence. In the other two groups of countries, the impact of institution institutional quality on growth is significantly lower. Interestingly, shadow economy seems to positively affect economic growth. One possible explanation for this is that the proceeds of informal activities can be used in consumption or for investments in the official activities and hence boost the aggregate demand. Accounting for heterogeneity of the three country groups (see column 4), however, does not reveal in which countries this is the case. Possibly, low number of observations per individual country group may result in high standard errors and hence in insignificant coefficients.

Table 2.6: Base results: Impact of corruption on economic growth, period 1996-2008

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable	**Δ GDP**	**Shadow economy**	**CPI**	**Δ GDP**	**Shadow economy**	**CPI**
Δ Fixed capital	0.111***			0.122***		
	[6.55]			[7.34]		
Δ Employment	0.373***			0.340***		
	[6.16]			[5.77]		
Sec. school enroll.	-7.783**			-12.730***		
	[-2.46]			[-3.47]		
GDPpc		-0.149***	-0.008		-0.044*	0.001
		[-6.43]	[-1.64]		[-1.90]	[0.21]
Institutional quality	0.402	-0.100**	-0.114***			
	[0.50]	[-2.09]	[-14.25]			
Inst_NMS				8.530*	-1.118***	-0.237***
				[1.95]	[-5.47]	[-8.52]
Inst_Balkan				-7.536	1.091***	0.079***
				[-1.61]	[5.05]	[2.63]
Inst_Ex-Soviet				-7.730*	1.216***	0.174***
				[-1.70]	[5.84]	[6.04]
Corruption (CPI)	-0.314	0.529**				
	[-0.07]	[2.23]				
CPI_NMS				14.148	-2.510***	
				[0.93]	[-3.48]	
CPI_Balkan				-27.638	2.486***	
				[-1.57]	[3.02]	
CPI_Ex-Soviet				-7.165	2.098***	
				[-0.43]	[2.69]	
Shadow economy	2.673***		0.030***			
	[3.02]		[2.96]			
Shadow_NMS				1.575		-0.023
				[1.00]		[-1.41]
Shadow_Balkan				7.203		0.029
				[0.94]		[0.36]
Shadow_Ex-Soviet				0.706		0.006
				[0.35]		[0.30]
Constant	30.056**	5.090***	0.000	0.000	8.954***	1.276***
	[1.96]	[20.79]	[.]	[.]	[9.47]	[9.25]
Observations	289	289	289	289	289	289
R-squared	0.520	0.519	0.745	0.562	0.654	0.784

Notes: Results of estimating model (2) applying the seemingly unrelated regression (SUR) estimator. Dependent variable is indicated in the second row. All explanatory variables are in logs and lagged by 1 year unless indicated differently. The models include year and country fixed effects. Robust z-statistics in brackets. *** p<0.01, ** p<0.05, * p<0.1.

2.5.1.2. Robustness checks

In what follows we provide several robustness checks of the above results. In Table 2.8, we check the robustness of above results by estimating model (2a), where we examine the impact of different forms of active corruption, such as bribery and state capture, on economic growth. Results show that institutional quality remains to positively impact

economic growth in new EU member states, while state capture and informal payments (bribery) do not seem to have an impact. On the other hand, state capture is found to negatively impact growth in former Soviet Union countries (see column 2). When controlling for shadow economy in column 4, state capture remains to have a negative impact on economic growth in former Soviet Union countries, while the coefficient for the quality of institutions turn to positive. Hence, for both new EU member states and former Soviet Union countries institutional quality promotes economic growth, while in Balkan countries low quality of institutions remains to negatively impact economic growth.

Table 2.7: Robustness check 1: Impact of different forms of corruption (bribery and state capture) on economic growth, period 1996-2008

	(1)	(2)	(3)	(4)
Δ Fixed capital	0.107***	0.098***	0.114***	0.108***
	[3.60]	[3.15]	[3.62]	[3.27]
Δ Employment	0.662***	0.670***	0.656***	0.659***
	[3.18]	[3.18]	[3.24]	[3.25]
Second. school enroll.	-13.097*	-12.999*	-12.765*	-10.253
	[-1.86]	[-1.81]	[-1.82]	[-1.39]
Institutional quality	2.314		2.622	
	[1.04]		[1.16]	
Inst_NMS		12.839**		12.710**
		[2.14]		[2.06]
Inst_Balkan		-10.794		-14.765*
		[-1.49]		[-1.96]
Inst_Ex-Soviet		-12.897*		-11.811*
		[-1.87]		[-1.66]
State capture	1.397		0.016	
	[0.31]		[0.00]	
Capture_NMS		4.794		5.334
		[0.73]		[0.84]
Capture_Balkan		13.678		8.234
		[0.90]		[0.58]
Capture_Ex-Soviet		-21.754**		-19.998**
		[-2.33]		[-2.16]
Bribery	-5.604		-3.455	
	[-0.97]		[-0.61]	
Bribery_NMS		-1.501		-2.650
		[-0.14]		[-0.25]
Bribery_Balkan		-12.406		-10.335
		[-0.85]		[-0.75]
Bribery_Ex-Soviet		9.473		10.090
		[1.04]		[1.16]

(table continues)

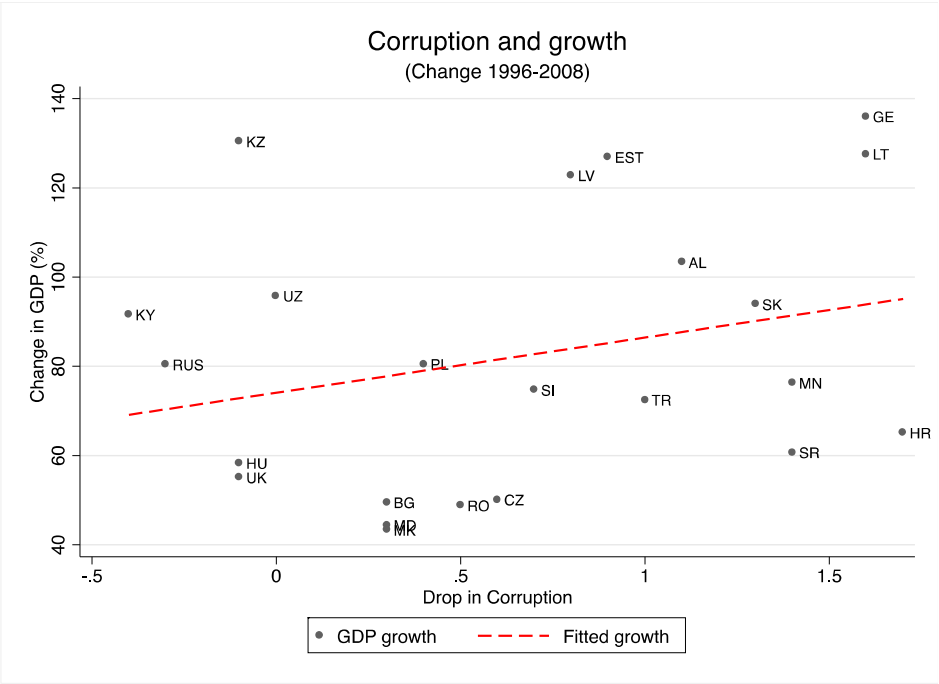
(continued)

	(1)	(2)	(3)	(4)
Shadow economy			2.458	
			[1.23]	
Shadow_NMS				2.030
				[0.75]
Shadow_Balkan				26.643
				[1.54]
Shadow_Ex-Soviet				-0.177
				[-0.07]
Constant	53.060	40.169	45.299	7.001
	[1.56]	[1.18]	[1.34]	[0.19]
Observations	309	309	304	304
R-squared	0.635	0.647	0.641	0.654

Notes: Estimations obtained estimating model (2a) using fixed effects estimator. Dependent variable is annual GDP growth. Robust t-statistics in brackets, *** p<0.01, ** p<0.05, * p<0.1

Even though results obtained using the annual data do not conclusively show significant impact of corruption on economic growth, Figure 2.5 indicates that, when applying long-differences (1996-2008), in the long run countries reducing overall corruption tend to grow faster. A formal verification of this is done in the next subsection.

Figure 2.5: Corruption and economic growth

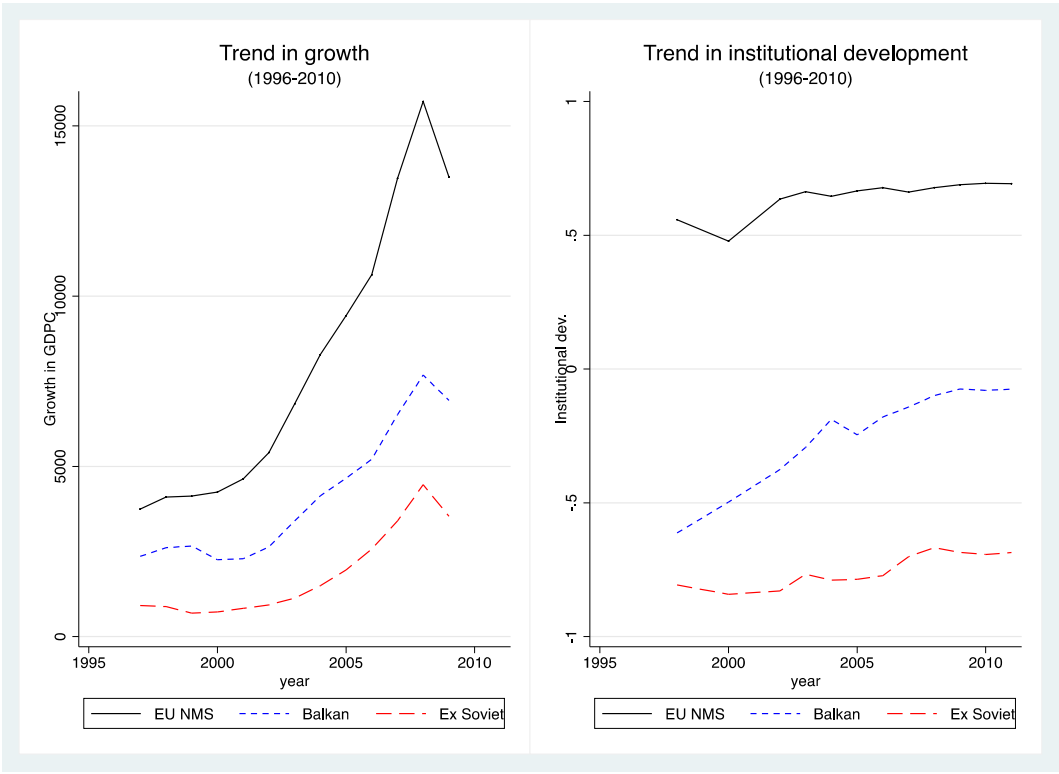


Notes: Figure depicts on relationship between corruption and annual GDP growth by applying long-differences for period 1996-2008. Sources: Transparency International, World Bank, own calculations.

Over the period, these countries experienced different transition paths from centrally planned to open market economies. When transition began after 1990s, they had to formalize their political, judicial and economic institutions in order to become democracy. And some countries were more successful than others in building their institutions and having efficient economies, which is also in line with findings in study by Fidrmuc (2003).

This seems to suggest that this divergence in their macroeconomic performances can be mainly accounted for differences in building their institutions and type of institutional governance. Overall higher institutional quality is shown to promote economic growth, while perception of corruption (not taking into account different forms) and shadow economy separately seem not to have such an impact. Intuitively, when institutions are functioning and efficient, corruption and shadow economy are perceived not as problematic as there are fewer opportunities for their expansion. The Figure 2.6 also seems to confirm this explanation as it implies similar trends. Meanwhile, corruption and shadow economy trends are not necessarily correlated with economic growth as their trends show substantial fluctuations over the period as is shown in Figure 2.2.

Figure 2.6: Economic growth and institutions



Notes: Trends in annual GDP growth and institutional development for three country groups (new EU member states, Balkan and ex-Soviet countries), period from 1996 to 2010. Sources: World Bank, World Bank Governance indicators, own calculations.

Quality of institutions is found to have a significant impact on economic growth (positive impact in new EU member states and Ex-Soviet countries, but negative impact in the Balkan countries), while on the other side it is correlated with the measures of corruption and shadow economy. Institutions hence may pick some of the effects of the latter variables on economic growth.

Table 2.8: Robustness check 2: Impact of different forms of corruption (bribery and state capture) on economic growth, period 1996-2008 (without institutions)

	(1)	(2)	(3)	(4)
Δ Fixed capital	0.097***	0.090***	0.103***	0.105***
	[3.14]	[2.88]	[3.20]	[3.16]
Δ Employment	0.583***	0.601***	0.579***	0.597***
	[2.77]	[2.83]	[2.82]	[2.91]
Second. school enroll.	-16.334**	-17.828**	-16.039**	-15.587**
	[-2.19]	[-2.28]	[-2.15]	[-2.07]
State capture	-4.138		-5.570	
	[-0.72]		[-0.96]	
Capture_NMS		6.901		5.192
		[1.04]		[0.80]
Capture_Balkan		-19.481		-28.773
		[-1.16]		[-1.62]
Capture_Ex-Soviet		-21.023**		-19.493**
		[-2.29]		[-2.15]
Bribery	-2.753		-0.482	
	[-0.45]		[-0.08]	
Bribery_NMS		-8.472		-7.489
		[-0.82]		[-0.73]
Bribery_Balkan		12.119		19.882
		[0.85]		[1.34]
Bribery_Ex-Soviet		13.603		13.525
		[1.50]		[1.53]
Shadow economy			2.040	
			[0.98]	
Shadow_NMS				1.873
				[0.67]
Shadow_Balkan				23.583*
				[1.95]
Shadow_Ex-Soviet				-0.325
				[-0.15]
Constant	81.877**	90.269**	73.926**	59.177*
	[2.32]	[2.47]	[2.20]	[1.72]
Observations	316	316	311	311
R-squared	0.603	0.612	0.609	0.624

Notes: Estimations obtained estimating model using fixed effects estimator, but without institutional variable. Dependent variable is annual GDP growth. Robust t-statistics in

brackets, *** p<0.01, ** p<0.05, * p<0.1

As an another robustness check, we therefore, estimate model (2a), which includes bribery and state capture as different forms of corruption, without including institutional variables. By doing this, we want to check whether different forms of corruption and shadow economy have an impact on economic growth if we do not control for the quality of institutions in individual countries.

Results, presented in Table 2.9, confirm that the quality of institutions may play an important role in mitigating the effects in particular of the shadow economy on economic growth in some of the countries. In contrast to the previous results that controlled for institutions (see Table 2.8), results without these controls reveal that the coefficient of shadow economy now becomes significant for the group of Balkan countries (see column 4). This implies that good institutions may prevent firms to engage in informal activities. On the other side, state capture continues to negatively impact economic growth in former Soviet Union countries also once institutions are not controlled for. This indicates that state capture might be integrated into the institutions in this group of countries having a robust negative effect on economic growth. Bribery as another form of corruption, however, continues not to have an impact on economic growth across all three groups of countries.

In summary, the results are in line with our expectations as our empirical analysis suggest that inefficient institutions and state capture as a type of corruption that is integrated within institutions itself seem to impede economic growth in some of the countries, most notably in the group of Ex-Soviet countries. On the other side, efficient institutions can play an important role in mitigating the effects of informal economy in the group of Balkan countries. Once institutions are not controlled for, activities within informal sector play a much bigger role in these countries.

Additionally, we do a robustness check by estimating model (1) by applying long-differences (1996-2008). Results in Table 2.10 confirm the importance of institutional quality for long-run economic growth (see column 1). This is mainly due to the effect of new EU member states (column 2), where the coefficient is positive but insignificant due to a small number of observations. When controlling for the shadow economy (column 3), the importance of institutions is still positive but becomes marginally insignificant (high standard errors due to small number of observations). However, long-run trends now reveal that corruption exhibits a negative impact on long-run growth in Balkan countries and that shadow economy impedes long-run growth in the new EU member states (see column 4). Informal activities, though, may contribute to economic growth in ex-Soviet countries (but the coefficient is marginally insignificant).

Table 2.9: Robustness check 3: Impact of corruption on economic growth, long-differences over period 1996-2008

	(1)	(2)	(3)	(4)
Fixed capital	0.219***	0.204***	0.258***	0.232***
	[6.24]	[3.95]	[6.72]	[4.40]
Employment	1.463***	1.451***	0.853***	1.278***
	[6.11]	[11.32]	[7.54]	[11.34]
Second.school	26.259*	13.105	27.108*	29.168***
	[1.97]	[1.27]	[1.83]	[3.17]
Institutional quality	5.078*		6.009	
	[1.92]		[1.63]	
Inst_NMS		23.690		5.253
		[1.40]		[0.39]
Inst_Balkan		-17.169		-19.787
		[-0.94]		[-1.11]
Inst_Ex-Soviet		-16.608		-5.403
		[-0.97]		[-0.03]
CPI	-2.699		-3.942	
	[-0.96]		[-1.19]	
CPI_NMS		42.560		-22.472
		[0.59]		[-0.34]
CPI_Balkan		-65.761		-18.992*
		[-0.63]		[-2.01]
CPI_Ex-Soviet		-13.155		52.069
		[-0.16]		[0.63]
Shadow economy			-4.522	
			[-1.04]	
Shadow_NMS				-1.121**
				[-2.60]
Shadow_Balkan				-10.540
				[-1.51]
Shadow_Ex-Soviet				12.204
				[1.70]
Constant	-14.822	-20.955	42.153	-11.319
	[-1.14]	[-1.42]	[0.36]	[-0.59]
Observations	26	26	25	25
R-squared	0.891	0.829	0.963	0.865

Notes: Estimations obtained estimating model (2a) in long-differences using OLS estimator. Dependent variable is annual GDP growth. Robust t-statistics in brackets,*** p<0.01, ** p<0.05, * p<0.1.

These results indicate that when studying these issues short-run fluctuations may blur the picture. True relationships between economic growth, corruption and shadow economy may only become visible over the long run when persistent short-run changes accumulate.

2.6. Conclusions

In this chapter we examine potential effects of corruption on performance of Central and Eastern European as well as former Soviet Union economies. We are starting with the premise that high levels of corruption will slow down economic growth and at the same time impose a pressure on higher informal activities. On the other side, we hypothesize that higher institutional quality promotes economic growth and thus provides fewer incentives to engage in the shadow economy. We emphasize the view that different types of corruption, such as bribes to alter rules and regulations or state capture (embedded corruption within rules and regulations) will have different economic consequences. Because some corrupt practices tend to be more common in some countries than others and due to informal institutions not captured by either the level of development or the measures of institutional quality, this will most likely lead to their different implications for macroeconomic performance in the three country groups.

To analyse these issues, we first examine the impact of corruption on economic growth of countries, controlling for the usual production factors, quality of the institutional system, level of shadow economy and geographic location. Then, we analyse the impact of different forms of corruption (bribery and state capture) on economic growth. And finally, we examine the relationship between the levels of shadow economy and different forms of corruption across countries, conditional on the level of development, level of institutional quality and geographic location.

The empirical findings are more or less in line with our expectations. In summary, there is overwhelming evidence that higher institutional quality promotes economic growth and impedes activities in shadow economy. Countries reducing overall corruption also tend to grow faster. Our results, however, show that there is huge heterogeneity between countries in the three country groups that affects the relationship between corruption, shadow economy and economic performance.

The divergence in performance of new EU member states, Balkan countries and former Soviet Union economies can be mainly accounted for differences in building their institutions and type of institutional governance. Social institutions or culture appears to be highly important when taking into account whether firms or taxpayers will decide to be active in the official or shadow economy. But there is an important division between formal and informal institutions. Some countries may have implemented reforms and have faster integrated formal institutions in line with the EU requirements, however, changing culture and building sound informal institutions takes time, which is also in line with the study by Prašnikar J., Pahor, M., and Vidmar Svetlik, J. (2008). In countries where corruption is systemic and institutional system subject to frequent changes, it will be

harder to obtain citizens trust and change the norms, values and beliefs of how business is done in country. These changes will be evident with younger generations and interaction of different cultures in more open business environment (Prašnikar et al., 2008).

There are various possibilities for future research in this field. First, it is interesting to examine how relationship between different types of corruption (bribery and state capture) and social institutions evolve over time. Also, it would be useful to extend the concept of shadow economy to all illegal activities as two thirds of money earned in illegal economy is later spent in official economy, which could give more insight on the mechanism of how illegal activities affect officially measured economic growth.

3. IMPACT OF CORRUPTION AND FIRM OWNERSHIP ON PERFORMANCE OF FIRMS IN TRANSITION COUNTRIES[13]

Abstract

The chapter investigates how efficiency of business environment and corruption (informal payments and state capture) affect the microeconomic performance of firms. The novelty of the chapter is to look at these effects in the interaction with the firm ownership. We use firm-level micro data collected by the Business Environment and Enterprise Performance Survey (BEEPS) for 27 transition countries for the period 2002-2009. Among other data, BEEPS collects also information on different corruption activities at the firm-level and firm ownership. We find somehow surprising results that private firms (domestic and foreign owned) are more involved both into informal payments as well as state capture activities. Our results also reveal that foreign owned firms that are involved in informal payments are likely to benefit from these corruption practices. On the other side, state owned firms are more likely to experience negative effects of involvements in corruption practices on productivity growth. After 2004, involvement of firms in corrupt practices diminished, and that their negative impact on firm performance dissipates indicating an improvement in the stability of business environment and law enforcement.

Keywords: corruption, informal payments, state capture, institutional stability, firm ownership, firm performance.

JEL classification: D04, D73, H10, K42, O17, P37

[13] Blagojević, S., and Damijan, J. P. (2013). The impact of corruption and ownership on the performance of firms in Central and Eastern Europe. *Post-Communist Economies*, 25(2), 133-158. The PhD candidate was leading author of the chapter. A signature from co-author that documents the relative contributions of the co-authors is available on request.

3.1. Introduction

As explained in the previous chapters, corruption 'as the abuse of public office for private gain' has been a consistent feature of all human societies. However, the levels of corruption at one point in time comparing to other time could vary, depending on the political and economic transitions (Paldam, 2002). Nowdays, corruption is seen as major obstacle to economic development making political and economic transitions problematic (see Andvig and Moene, 1990; Murphy, 1993; Mauro, 1995; Bardhan, 1997; Mo, 2001; Dreher and Herzfeld, 2005). Dreher and Herzfeld (2005) find that an increase of corruption by about one index point reduces GDP growth by 0.13 percentage points and GDP per capita by 425 US$.

Besides, corruption is linked to the lack of political accountability and insecure property rights, both being obstacles to economic growth especially for countries in transition from planned to a market economy (Knack and Keefer, 1995; Mauro, 1995; Svensson, 1998; Acemoglu et al., 2001; Aidt, 2009). Of course, at times when policies and governments are inefficient, corruption can have positive effects. One of the examples is when it helps to overcome burdensome regulatory requirements lowering the red tape for firms (Lui, 1985). As an isolated event it helps firms, however, if this was systematic and there would be more of such regulation, it would hamper firm growth (Fisman and Svensson, 2007; Aidt and Dutta, 2008). Whereas it can "grease the wheels" at times, the general view is that corruption rather creates inefficiencies (Rose-Ackerman, 1999). Shleifer and Vishny (1998) in their theoretical study define the term "grabbing hand" implying the increase of corruption due to rent seeking behavior of government officials when they can, matter to the restrictions set by economic, legal and political institutions. Perhaps, one way of reducing the levels of corruption would be implementation of policies that increase market competition, which would in turn limit the resources available for corrupt activities. According to Ades and di Tella (1999), corruption is more likely to persist in countries where domestic firms are protected form foreign competition.

Thus, empirical and theoretical studies suggest that the relationship between corruption, firm performance and, consequently, economic development is not forthright but, rather, it depends on the quality of the institutional structures and a complex relations between government organizations, legal system, informal institutions and economic agents. Frye and Shleifer (1997), Shleifer and Vishny (1998) and Shleifer (1998) theoretically predict three different outcomes from the interaction between the institutional system and entrepreneurs (firms) in the course of economic development. Under the invisible-hand model, the government is generally non-corrupt, well organized and provides basic public goods, such as law enforcement. While there is some regulation, government leaves most allocative decisions to the private sector. The state as the owner of the corporations is

deemed to be inefficient and unable to direct managerial decision towards the maximization of firm value. In the alternative helping-hand model, the government uses its power to help business. There is aggressive regulation, which is abused to promote some businesses and kill off others. Bureaucrats are corrupt, but corruption is limited and organized. Finally, in the grabbing-hand model, government uses its power only to extract rents. The legal system does not work and mafia replaces government as a contract enforcer. There is excessive, predatory regulation and corruption is widespread and disorganized. In the latter model, the State ownership of the corporations can be viewed simply as a channel for the extraction of resources from the firms. This extraction can take place either because of the government pursuing a "social role" or because the government affiliated managers are corrupt and consists of a large number of independent bureaucrats pursuing their own interests, such as taking bribes, with no regard for the impact of their actions on private sector activity.

Building on the theoretical arguments presented above, this chapter aims to provide new evidence on the impact of corruption, i.e. informal payments and state capture, on the microeconomic performance of the firms in transition countries. The chapter asks several essential questions. Does corruption (informal payments and state capture) negatively influence firm performance, in line with the invisible-hand model? Or, alternatively, do some firms benefit from bribing government officials, as predicted by the helping-hand-model? Are some types of firms more inclined to involve in these practices? Are informal payments and state capture more significant for incumbent (partially) state-owned firms than for private (domestic and foreign owned) firms? Are these benefits limited to state-owned firms or also other (private firms)? According to some studies, e.g. Ades and di Tella (1999), corruption is more likely to persist in countries where domestic firms are protected form foreign competition. Furthermore, different firms have different outside options because of their ownership. This could imply that toleration of corruption also would vary across firms. For example, foreign firms would tolerate less corruption than domestic ones because they can move more easily to a different country

Apart from distinguishing between the various ownership types of firms, we furthermore investigate whether the effects discussed above vary across selected groups of countries characterized by different level of institutional (macroeconomic) development. Méon and Sekkat (2005), based on sample of 71 countries between 1970 and 1998 also find that corruption is most harmful to economic development where governance and institutional system [14] is weak. The quality of institutional system and corruption affect general economic development through microeconomic performance, i.e. through entry and exit

[14] In this chapter, we define the institutional system through the stability of business system (corruption, inefficiency of legal enforcement, political instability and court's impartiality, fairness and non-corruption to the operations and growth of the firm business.

dynamics of firms and their individual performance. These effects are aggravated when institutional system is interacted with different ownership structure of firms.

Studying the impact of corruption and state capture on firm performance thus far has been limited by lack of appropriate data accounting for highly sensitive information, such as managers' perceptions of corruption practices and their active involvement in such practices. In this chapter, we make use of the firm-level micro data collected by the Business Environment and Enterprise Performance Survey (BEEPS) for 27 transition countries for the period 2002-2009. In addition to firm characteristics, the data includes valuable survey information on corruption (as measured by informal payments and state capture variables at the firm level). In order to address the issues listed above we estimate the impact of informal payments and state capture both on firm productivity growth, whereby we control for firm ownership. We use three waves of data for each country, which enables us to account for the effects of informal payments and state capture on firm performance over longer periods (i.e. over consecutive three-year periods). Another benefit of using panel structure of the data is to control for unobserved firm specific effects.

We find somehow surprising results that private firms (domestic and foreign owned) are more involved both in informal payments as well as state capture activities. Perhaps as the state owned firms do not have to involve in giving informal payments as they have other channels to get what they want. Our results also reveal that foreign owned firms that are involved in informal payments and state capture are likely to benefit from these corruption practices more than domestic privately owned firms. On the other side, involving in corruption practices seems to be detrimental for the productivity growth in the state owned firms. When controlling for country groups, we find that inefficient law enforcement has positive impact on productivity growth for foreign owned firms in new EU countries. At the same time, we also find that mostly foreign owned firms in new EU member states experience productivity growth when involved in informal payments. This result suggests that informal payments might represent a way through which foreign investors circumvent the weaker contract enforcement that they face when investing in transition countries. This effect, however, disappears after 2004.

The remainder of the chapter is organized as follows. Section 3.2 provides an overview of related literature on corruption and its effects on economic performance. Section 3.3 describes the BEEPS panel 2002-2009 data as well as it presents some descriptive statistics. Section 3.4 describes the methodology and empirical models. Section 3.5 presents the results on effects of informal payments and state capture on firm productivity. Final Section concludes.

3.2. Corruption and economic performance

This Section provides a brief overview of existing research on the impact of corruption on economic performance in interaction with the institutional system and firm ownership. It also discusses the dimensions of corruption and its potential impact on firm performance.

3.2.1. Corruption and institutional system

Institutions play an important role in the process of transition, which is characterized by restructuring of firms and ownership transformation (Shleifer, 1998) and the occurrence of corruption. The literature shows that the economic outcomes of transformation may differ widely across countries though the countries have pursued similar reforms and with a similar speed, and that these differences can be in part attributed to corruption. Frye and Shleifer (1997) document the role of different institutional systems in Poland and Russia in the 1990s for the outcome of their economic transformation. Though both countries have implemented similar packages of reforms, including price and trade liberalization and privatization, within a similarly long time period, they have led to different economic outcomes. In Poland, the government has played more neutral role in terms of general law enforcement and regulations leading to a larger dynamics of small businesses. In contrast, Russian institutional system was characterized by a weak government, aggressive regulation and widespread corruption, which have oppressed businesses from arising and expanding their activities. A good indication of negative outcomes of this divergence of institutional systems is that in 1995 in Poland there were 2 million new private businesses, while Russia had only 1 million firms with a population almost four times larger. Similarly, Knack and Keefer (1995) and Rodrik, Subrimanian and Trebbi (2002) find the primacy of institutions over the macroeconomic programs, geography and economic integration for economic development.

Adversely, according to the helping-hand framework, poor institutional environment and widespread corruption may be beneficial for certain types of firms, i.e. politically well-connected private shareholders in publicly listed firms' benefit from close ties to governments. There are several studies that can be classified into this framework. Fisman (2001) finds in his study that those Indonesian firms that had close ties to Suharto had a value decrease at the moment when Suharto's illness became public. Leuz and Oberholzer-Gee (2003) find that these firms are also less likely to issue foreign securities. Johnson and Mitton (2003) find that Malaysian firms with political connections increased in value after the imposition of capital controls. These benefits, however, are not restricted to developing countries. For example, Roberts (1990) argues in his study that those firms linked to departing U.S. Senator Henry Jackson had a negative excess returns, while firms linked to incoming Senator Nunn had positive excess returns. Similarly, Ziobrowski (2003) and Cheng, Boyd and Ziobrowski (2004) find that U.S. Senators make stock investments that

outperform the market.

There is also evidence of borrowing from state-owned banks at preferential terms. Sapienza (2004) finds that Italian state-owned banks charge lower interest rates in comparison to privately owned banks after controlling for the borrower's credit-worthiness and other firm characteristics. They lend to larger firms and to firms located in economically depressed areas. Moreover, banks tend to lend to the political party associated with the bank's top management. Similarly, Dinc (2004) finds in a sample of 36 emerging and developed countries that banks controlled by the government increase their lending during election years relative to private banks.

In corrupt environment, private firms become part of the corruption cycle. They fear that they cannot win project only on the merits of their bids alone and thus engage in corruption. The situation becomes more complex when allowing for state owned incumbent firms, which are well connected and dominate the markets. Based on Stigler (1971) seminal work on the capture theory, Hellman, Jones, and Kaufmann (2000) study how firms influence the state, in particular the way they utilize their influence on and interact with public officials in order to obtain benefits for themselves. Some firms have been more than others successful in shaping the rules of the game for their own benefit but creating a "capture economy" and other social costs.

Furthermore, Fries, Lysenko and Polanec (2003) show that capture economy leads to significant efficiency losses in transition countries. Using the 2002 BEEPS data, they demonstrate that those firms engaged in state capture have investment rates about 10 per cent higher and real revenue growth rates about 15 per cent higher than do other firms. At the same time, those firms that report being affected by state capture have slightly lower rates of productivity and sales growth than do other firms. This finding suggests that state capture is associated with benefits by those firms that engage in it, but is associated with unexpected reductions in real revenue growth and productivity of other firms.

General opinion is that those firms that are able to shape the rules of the game to their advantage would include domestic private and state owned firms due to easier access to the government and closer ties with the politicians. Also, most foreign firms are subject to additional legal constraints, i.e. the OECD Convention on Combating Bribery of Foreign Officials in International Business Transactions that is in force since 1999 (Hellman, J. S., Jones, G., and Kaufmann, D., 2000). In addition, foreign firms are under more pressure to maintain their reputation on the market, they have adapted anti-corruption measures, etc.

Nonetheless, since the institutions are generally more efficient in EU countries, this may imply that the effects of corruption on firm performance differ also on the wider country

characteristics (De Rosa, Gooroochurn and Görg, 2010). The dimensions and types of corruption activity are likely to vary across countries and firms within a country. Gray, Hellman and Ryterman (2004) use BEEPS 2002 data to compare administrative corruption across different countries and firms and find informal payments given to courts are higher obstacle than those informal payments given for various other licenses.

Thus, the literature shows that the economic outcomes and pursued policies in transition countries achieved different levels, which can be in part attributed to inefficient institutional environment and corruption. Some countries were more and some less efficient. In less successful transition countries, some firms have been able to shape the rules of the game to their own advantage creating a "capture economy" in a country. Those firms benefited but at considerable social and economic cost. Our aim is to contribute to these findings by studying type of firms (whether domestic private or state owned, or foreign) benefited in transition countries through different corrupt activities.

3.2.2. Corruption dimensions and forms

Various different definitions of corruption are used in the academic literature and among professionals. Most definitions are broad and often vague. Transparency International defines corruption as 'the misuse of entrusted power for private gain'. Also, corruption can be disaggregated along several dimensions and can take many forms, narrower and broader. Furthermore, corruption can mean different purposes of the improper actions. For example, informal payments may be intended to influence the content of laws and rules, i.e. *state capture*, or alternatively to influence their implementation or to get things done with regard to customs, taxes, licenses, regulations, services, and the like, i.e. *administrative corruption* (World Bank, 2012).

Thus, the most common form is *bribery*, whereby an official demands informal payments to perform an official task or to influence the legislation (legal or illegal forms of lobbying). Other forms of exchange of favours other than monetary bribes include *political patronage*, *nepotism* and *cronyism*, whether or not they involve monetary kickbacks, may also be included in a broad definition of corruption (De Rosa, Gooroochurn and Görg, 2010).

Actors that are involved in corrupt transactions can also be distinguished. For example, informal payments can be given by either firms, public officials or even households. They can be then either small, big, private, or state owned firms, high public officials or lower level, etc. Finally, corruption can be disaggregated by the type of institution or services involved, i.e. customs, licenses, inspections, utility connections, courts, etc. BEEPS survey includes in his data these various distinctions.

Studies so far do not show conclusively what dimensions of corrupt activites are most detrimental to economic growth. What weight should be given to either form of corruption depends on the purpose of the research, policy or activity to be implemented (Knack 2007). Sometimes, it is better to use broader concept of corruption, i.e. when analysing whether more women in parliament means lower levels of corruption (Swamy et al., 2001), or just a general understanding on how corruption impacts economic growth (Mauro, 1995). However, this does not tell us what corruption form is present.

The design of effective anti-corruption policies and other institutional reforms requires that narrow measures be used in order to identify specific problem areas and track progress over time. Unbundling the typology of corruption also allows for setting up the priorities and necessary reforms for the particular nature of the problems in this area. The BEEPS survey panel data from 2002 to 2009 we are using contains multiple questions pertaining to narrower aspects of corruption thus allowing us to investigate dimensions, forms and actors involved in corrupt activities across 27 transition countries.

3.3. Data and descriptive statistics

3.3.1. Data coverage

To study how corruption (informal payments and state capture) affect the economic performance of firms, we employ the Business Environment and Enterprise Performance Survey (BEEPS) firm-level panel data for transition and advanced countries. BEEPS is an initiative of the EBRD and the World Bank to investigate the extent to which government policies and practices facilitate or impede business activity and investment in Central and Eastern Europe and the former Soviet Union. We use three waves of BEEPS data (2002, 2005, 2009) for large samples of firms (BEEPS covers 4,104 firms in 1999, 6,153 firms in 2002, 9,665 firms in 2005, and 11,909 firms in 2009) in 27 countries of Central and Eastern Europe, and the former Soviet Union. First wave in 1999 was not possible to include due to limited overlap between firms covered in the 1999 survey and firms that were interviewed in latter years.

BEEPS survey is conducted uniformly in all covered countries. Firms interviewed per country range from 200 to 1,150, and are heterogeneous in terms of size, origin, location, sector, and ownership type. For this study, it is important that BEEPS provides information on firms characteristics, such as number of employees, sales, value added, exports, sector, location as well as information on firm ownership (10 ownership types including the percentage of ownership shares by certain ownership type; information whether a firm is a private start up or has been privatized, is the primary owner is a foreign national resident in

the country, it is still a foreign owned firm, whether owners are females, etc.). On the other side, BEEPS also covers extensively five corruption aspects as perceived by firms' managers, i.e. corruption as an obstacle to business, frequency of informal payments, size of the "bribe tax" (broken down by type of public service), manager's perception of the impact of state capture on the firm, and extent of the firm's direct participation in state capture.

Perception bias in BEEPS survey is possible due to cultural values and political freedom throughout different countries that in turn can influence selection of ratings or even whether interviewees (in this case business people) are open enough to criticize government and the institutions (De Rosa, Gooroochurn and Görg, 2010). Fries et al. (2003) in their study did not find such perception bias when analysing countries in BEEPS 2002 data and by comparing the aggregation of survey responses to associated objective measures. Moreover, it is important to mention that BEEPS surveys place greater emphasis on experience, and less on perceptions by interviewing managers of business firms who are viewed as 'well-informed persons'. Nevertheless, as a further control, we make use of sector and country level fixed effects in our investigation. In some countries corruption is perceived differently than others due to above mentioned different cultural norms.

3.3.2. Variables investigated

For our purposes, and to delimit the field of investigation, we divide and examine three dimensions of corruption: stability of business environment, sector specific informal payments and state capture impact. The classification and description of corruption dimensions and variables is presented in Table 3.1.

Table 3.1: Corruption dimensions and variables used from BEEPS 2002 to 2009 panel data

Corruption dimension	Variables					
I. Stability of environment	*Can you tell me how problematic are these different factors for the operation and growth of your business?*					
	Corruption is obstacle. (CORR OBSTACLE)	Courts are fair, impartial and uncorrupt. (CORR COURTS)	Enforcement of legal contracts and decisions. (LEGAL ENF)	Political instability is obstacle. (POLIT INSTABILITY)		
II. Sector specific informal payments	*Thinking now of unofficial payments/gifts that a firm like yours would make in a given year, could you please tell me how often would they make payments/gifts for the following purposes.* *What percent of the amount value would be typically paid?*					
	To get connected to and maintain public services (UTILITIES)	To obtain business licenses and permits. (PERMITS)	To obtain government contracts (GOVNT. CONTRACTS)	To deal with environmental inspections. (ENVIRONMENT)	To deal with taxes and tax collection. (TAX COLLECT)	To deal with customs. (CUSTOMS)
III. State capture	*It is often said that firms make unofficial payments/gifts, private payments or other benefits to public officials to gain advantages in the drafting of laws, decrees, regulations, and other binding government decisions. How often would you make payments/gifts for the following purposes?*					
	How often would you pay for these purposes? (CAPT FREQ)	Parliamentarians to affect their vote. (PARL VOTE)	Govnt officials to affect govnt decrees. (GOVNT CAPT)	Courts to affect decisions. (JUDICIARY CAPT)		

Notes: *Stability of business environment* - Firms were asked to rank how problematic are corruption, inefficiency of legal enforcement and political instability to the operations and growth of the firm business. When ranking courts' corruption, firms were asked to evaluate court's impartiality, fairness and uncorruption. *Sector specific informal payments* - firms were asked to rank whether it is common to have to pay some irregular additional payment or gifts to get things done. *State capture impact* - firms were asked to rank whether it is common to have to pay some irregular unofficial payments/gifts, private payments or other benefits to public officials to gain advantages in the drafting of laws, decrees, regulations, and other binding government decisions. Source: BEEPS 2002 to 2009 panel data.

Table 3.1 reports the corruption variables included in the BEEPS panel data we use in our analysis. Note that questions are phrased in terms of unofficial payments or gifts typically paid 'by firms like yours', to elicit more honest responses than if respondents were asked directly about informal payments their own firm had paid.

3.3.3. Descriptive statistics

In this section we provide some main descriptive statistics of the firms included in our sample separately for firm ownership[15], industry type and also for the country group.

Table 3.2: Number of firms by country, 2002-2009

	Firm ownership		
Country	*Domestic*	*Foreign*	*State*
Albania	318	45	37
Belarus	616	93	117
Georgia	601	68	56
Tajikistan	598	47	65
Ukraine	1,562	183	141
Uzbekistan	698	97	101
Russia	1,708	162	143
Poland	1,555	165	135
Romania	1,063	162	78
Serbia	665	112	84
Kazakhstan	1,182	110	82
Moldova	698	93	55
Bosnia	546	69	53
Azerbaijan	722	97	79
Macedonia	623	83	24
Armenia	765	71	52
Kyrgyz	468	78	53
Estonia	501	102	44
Czech Rep.	669	105	66
Hungary	897	181	42
Latvia	435	91	55
Lithuania	514	71	58
Slovakia	487	79	55
Slovenia	541	71	40
Bulgaria	669	99	68
Croatia	405	62	58
Montenegro	133	7	5
Total	**19,639**	**2,603**	**1,846**

Source: BEEPS 2002-2009 panel.

[15] It would be very interesting to examine firms with mixed ownership (e.g. a firm with roughly equal shares held by private domestic owners and foreign investors), or firms that have a significant minority stake by an owner of different type (e.g. privately held firm with a minority foreign share). However, BEEPS includes only categorization of firms*: Private domestic individuals, companies or organizations; Private foreign individuals, companies or organizations; Government/State.*

Table 3.2 presents a breakdown of firms by countries and type of ownership. As shown in also in the Table 3.2, the coverage of the data varies across countries, thus firms sample size and type of firm ownership varies across countries. In terms of representativeness of the datasets, the average number of firms with private domestic ownership represented in 27 countries is 727 firms per country, data for latter increasing from 2002 to 2009. The average number of firms with private foreign ownership and state ownership in the same set of countries equal to 96 and 68, respectively. In total, we have data for 19,639 domestic firms, 2,603 foreign owned firms and 1,846 state owned firms for the period between 2002 and 2009 for 27 countries. Based on this data coverage[16], we can argue that results obtained below may be fairly representative of the frequencies of informal payments and involvement in state capture in firms of the transition countries being studied.

Table 3.3: Breakdown of firms included in sample by country region, industry and type of ownership, 2002-2009

	EU			**Balkan**			**ex Soviet**		
Industry	dom.	for.	state	dom.	for.	state	dom.	for.	state
Food	738	167	65	337	45	41	1,504	256	157
Textiles	68	21	1	26	2	4	134	22	3
Garments	355	44	1	51	12	5	476	35	8
Chemicals	39	17	1	34	4	1	153	28	11
Plastics & rubber	74	22	1	33	3		69	13	2
Non metallic mineral products	71	16	2	27	11	1	163	14	8
Basic metals	29	6	2	11	4	2	58	8	11
Fabricate metal products	490	57	8	78	10	7	280	21	11
Other manufacturing	427	87	22	221	25	26	594	75	70
Machinery and equipment	279	48	17	34	3	12	364	40	31
Electronics	28	11		13	2	1	52	2	1
Construction	839	53	58	302	9	16	1,067	55	135
Other services	760	126	229	236	33	66	943	91	167
Wholesale	928	187	46	475	118	7	1,132	200	75
Retail	1,260	120	24	456	38	9	1,706	88	62

(table continues)

[16] The sampling methodology of the BEEPS data generates sample sizes appropriate to achieve two main objectives: first, to benchmark the investment climate of individual economies across the world and, second, to conduct firm performance analyses focusing mainly on how investment climate constraints affect productivity and job creation in selected sectors. It generates large enough sample sizes for selected industries to conduct statistically robust analyses with levels of precision at a minimum 7.5% precision for 90% confidence intervals.

(continued)

Industry	EU dom.	EU for.	EU state	Balkan dom.	Balkan for.	Balkan state	ex Soviet dom.	ex Soviet for.	ex Soviet state
Hotel and restaurants	408	56	28	164	21	22	390	57	43
Transportation	458	67	132	171	31	39	466	80	141
IT	75	17	2	18	6		64	9	6
Total	**7,326**	**1,122**	**639**	**2,687**	**377**	**259**	**9,615**	**1,094**	**942**

Notes: dom – domestic private owned firms, for – foreign private firm, state – domestic state owned firm. Year used for the EU classification of countries that are full EU members is 2009. EU countries hence include three ex-Soviet Union countries that accessed to EU in 2004, namely Estonia, Latvia and Lithuania, as well as Bulgaria and Romania that joined the EU in 2007. Balkan countries are considered Albania, Serbia, Bosnia, Macedonia, Croatia and Montenegro. Ex Soviet countries the remaining 11 independent states that seceded from the Union of Soviet Socialist Republics in its dissolution in December 1991, except those three that succeeded to EU and Turkmenistan for which we did not have data. Source: BEEPS 2002-2009 panel.

Table 3.3 provides information on firms included in the sample from various industries within the three country groups. Domestic privately owned firms dominate the survey in all three country groups, mostly being represented in retail sector in new EU and ex Soviet countries, and in wholesale sector in Balkan region. Foreign owned firms are most numerous in the wholesale sector in the EU and Balkan country group, and in the food industry in the ex-Soviet country group. State owned firms dominate the other services sectors in all three-country groups.

3.3.4. Corruption dimensions and firms participation in corruption activities

The aim of this research is to investigate the extent to which firms involvement in informal payments and state capture impact their productivity growth. At the micro level, it is expected that corrupt activities have negative consequences for the productivity efficiency. This effect is linked to the efficiency of the institutional system as discussed in previous Section.

Table 3.4: Summary statistics for firms by informal payments, state capture and percent of contract values given for bribery (mean values and standard deviations), 2002-2009

Ownership	EU mean	EU sd	Balkan mean	Balkan sd	ex Soviet mean	ex Soviet sd
Domestic firms						
Informal payments	0.3	0.4	0.4	0.5	0.5	0.5
State capture	2.0	1.3	2.2	1.5	2.6	1.6
% Contract value in inf.pay	1.1	2.7	1.4	3.9	2.4	4.6
Foreign firms						
Informal payments	0.2	0.4	0.3	0.5	0.5	0.5

(table continues)

(continued)

Ownership	**EU**		**Balkan**		**ex Soviet**	
	mean	sd	mean	sd	mean	sd
State capture	1.9	1.3	2.3	1.4	2.6	1.6
% Contract val. in inf.pay	0.9	2.2	1.1	2.9	1.5	2.9
State firms						
Informal payments	0.2	0.4	0.4	0.5	0.4	0.5
State capture	1.7	1.1	2.1	1.4	2.1	1.4
% Contract val. in inf.pay	0.4	1.8	0.5	1.6	1.0	3.2
Total						
Informal payments	**0.2**	0.4	**0.4**	0.5	**0.5**	0.5
State capture	**1.9**	1.3	**2.2**	1.5	**2.5**	1.6
% Contract value in inf.pay	**1.0**	2.6	**1.3**	3.6	**2.1**	4.3

Notes: *Informal payments* - firms were asked to rank whether it is common to have to pay some irregular additional payment or gifts to get things done on a scale from 1 (never) to 6 (always). *State capture* - firms were asked to rank whether it is common to have to pay some irregular unofficial payments/gifts, private payments or other benefits to public officials to gain advantages in the drafting of laws, decrees, regulations, and other binding government decisions on a scale from 1 (never) to 6 (always). *% of contract value in informal payments* - firms were asked to estimate the percent of the amount value typically paid in informal payments to get things done.
Source: BEEPS 2002-2009 panel.

Table 3.4 presents firms involvements in informal payments, state capture and percent of contract values they give for bribing. In order to measure *Informal payments* firms were asked to rank whether it is common to have to pay some irregular additional payment or gifts to get things done on a scale from 1 (never) to 6 (always). To measure *State capture* firms were asked to rank whether it is common to have to pay some irregular unofficial payments/gifts, private payments or other benefits to public officials to gain advantages in the drafting of laws, decrees, regulations, and other binding government decisions on a scale from 1 (never) to 6 (always). Lastly, to measure *Percent of contract value in informal payments* firms were asked to estimate the percent of the amount value typically paid in informal payments to get things done. The data reveals that firms in ex-Soviet countries are more likely to be involved in the corrupt activities and pay highest percent of the contract values for bribery.

Table 3.5: Average informal payments change from 2002 to 2009 (average across firms)

Year of survey	EU			Balkan			ex Soviet		
	Domestic	*Foreign*	*State*	*Domestic*	*Foreign*	*State*	*Domestic*	*Foreign*	*State*
2002	0.3	0.3	0.2	0.6	0.4	0.3	0.6	0.6	0.4
2005	0.3	0.3	0.2	0.5	0.4	0.4	0.6	0.6	0.4
2009	0.1	0.1	0.1	0.1	0.1	0.0	0.3	0.3	0.4
Total change	**-0.2**	**-0.2**	**-0.1**	**-0.5**	**-0.3**	**-0.3**	**-0.3**	**-0.3**	**0.0**

Notes: *Informal payments* - firms were asked to rank whether it is common to have to pay some irregular additional payment or gifts to get things done on a scale from 1 (never) to 6 (always). Source: BEEPS 2002-2009 panel; own calculations

Further, Table 3.5 provides information on frequency distribution of informal payments by country group and type of firm ownership for 2002-2009. Highest levels of informal payments as reported by the firms are recorded for the countries of former Soviet Union, followed by Balkan countries and the Central and Eastern European countries, which report the lowest levels of informal payments. Table 3.5 also reveals that frequency of informal payments is larger in private owned firms than in state owned firms. The frequency of informal payments is diminishing over time. For the new EU member countries, the index of informal payments for private domestic and foreign firms on average decreased by 0.2 index points, while for state owned firms it decreased by 0.1. In the Balkan region, private domestic and foreign firms decreased average informal payments by 0.5 and 0.3 index points, respectively. State owned firms also decreased average informal payments by 0.3 index points. Lastly, in former Soviet countries, domestic and foreign owned private firms have decreased informal payments by 0.3 index points, while state owned firms continue with providing the same amount of informal payments to 'get things done'. The levels of informal payments, however, remain remarkably higher in private domestic and foreign owned firms relative to the state owned firms. Kuncoro (2006) finds a similar result for Indonesian firms, where firms with some degree of foreign ownership are about 10 per cent more likely to make informal payments to government officials than purely domestically owned firms. Similar results were found by Gaviria (2000) that used perception-based data at the firm level in 20 Latin American countries.

Similarly, Table 3.6 shows that private (domestic and foreign) firms are on average more engaged in state capture than state owned firms. The involvement in state capture, however, is decreasing over time, with the largest reduction in domestically owned and foreign owned private firms. Again, the highest levels of informal payments are reported by the firms from the countries of former Soviet Union, followed by Balkan countries and the Central and Eastern European countries.

Table 3.6: Average state capture change from 2002 to 2009 (average across firms)

Year of survey	EU			Balkan			ex Soviet		
	Domestic	*Foreign*	*State*	*Domestic*	*Foreign*	*State*	*Domestic*	*Foreign*	*State*
2002	2.5	2.4	1.9	2.6	2.4	2.0	3.0	2.9	2.1
2005	2.1	2.0	1.5	2.7	2.6	2.4	2.7	2.7	2.1
2009	1.5	1.4	1.4	1.8	2.0	1.6	2.3	2.2	2.2
Total change	**-1.0**	**-1.0**	**-0.5**	**-0.8**	**-0.4**	**-0.4**	**-0.7**	**-0.7**	**0.1**

Notes: *State capture* - firms were asked to rank whether it is common to have to pay some irregular unofficial payments/gifts, private payments or other benefits to public officials to gain advantages in the drafting of laws, decrees, regulations, and other binding government decisions on a scale from 1 (never) to 6 (always). Source: BEEPS 2002-2009 panel; own calculations

Breaking down the sample into three corruption dimensions and regardless of the firm category, the data in Table 3.7 show that stability of business environment has decreased between 2002 and 2009 for all three-country groups. During this period corruption remains the greatest obstacle in former Soviet countries. The perception that courts are not corrupt and fair has experienced the greatest decline in new EU member states, the same holds true for the efficiency of legal enforcement. Political instability is increasing in all three-country groups. Furthermore, corrupt activities within specific sectors have decreased in all country groups, however, to get connected to and maintain public, as well as to obtain business licenses and permits remain problematic in all country groups, especially in Balkan region. State capture has generally decreased, except for the former Soviet Union countries where it still remains frequent activity.

Table 3.7: Average corruption dimension change from 2002 to 2009 (average across firms)

Corruption dimension	EU	Balkan	ex Soviet
I Stability of environment			
ΔCorruption obstacle	0.20	0.00	0.60
ΔUncorrupt courts	-1.00	-0.80	-0.70
ΔLegal enforcement	-0.60	-0.50	-0.50
ΔPolitical instability	1.80	1.80	1.80
II Sector specific inf.pay.			
ΔUtilities	0.00	0.20	0.03
ΔLicences and permits	0.10	0.30	0.10
ΔGovnt contracts	-2.00	-2.30	-1.80
ΔInspections	-0.13	0.10	-0.03
ΔTaxes	-0.30	-1.00	-0.50
ΔCustoms/imports	-0.60	-2.30	-1.80

(table continues)

(continued)

Corruption dimension	EU	Balkan	ex Soviet
III State capture impact			
ΔState capture frequency	-0.20	-0.60	0.10
ΔParliament vote	-0.30	-0.60	-0.30
ΔGovnt capture	-0.40	-0.60	-0.30
ΔJudiciary capture	-1.40	-1.60	-1.30

Notes: *Stability of business environment* - Firms were asked to rank how problematic are corruption, inefficiency of legal enforcement and political instability to the operations and growth of the firm business on a scale from a 0 (no obstacle) to 4 (very severe obstacle). When ranking courts' corruption, firms were asked to evaluate court's impartiality, fairness and uncorruption on a scale from 1 (strongly disagree) to 4 (strongly agree). The results show decline in perception on courts impartiality, fairness and absence of corruption. *Sector specific informal payments* - firms were asked to rank whether it is common to have to pay some irregular additional payment or gifts to get things done on a scale from 1 (never) to 6 (always). *State capture impact* - firms were asked to rank whether it is common to have to pay some irregular unofficial payments/gifts, private payments or other benefits to public officials to gain advantages in the drafting of laws, decrees, regulations, and other binding government decisions on a scale from 1 (never) to 6 (always). Source: BEEPS 2002-2009 panel; own calculations.

However, when taking into account also the firm ownership in three country groups, the data shows slight variations among them. During this period corruption remains the greatest obstacle for domestic firms in Balkan and former Soviet countries. The perception that courts are not corrupt and fair has experienced is seen primarily within domestic firms in all three country groups in new EU member states, the same holds true for the efficiency of legal enforcement. All firms in the three-country groups see an increase of political instability. Obtaining business licenses and permits is seen as problematic by firms in all country groups. State capture has generally decreased, except for the state owned firms in all country groups former where it still seen as a frequent activity. In general, firms' perception is that they operate in relatively unstable environment. Table 3.8 shows that the corruption and political instability are becoming obstacle to business in all country groups. Moreover, firms perceive courts becoming more corrupt and increasing inefficiency of legal enforcement. Next, the most common informal payments are made for utilities and licenses and other permits. Also, the state capture involvement of firms is slowly decreasing, but the extent of it still remains problematic for all country groups.

Table 3.8: Average corruption dimension change from 2002 to 2009 (average across firms)

	EU			Balkan			ex Soviet		
Corruption dimension	Domestic	Foreign	State	Domestic	Foreign	State	Domestic	Foreign	State
I Stability of environment									
ΔCorruption obstacle	0.20	0.00	0.50	0.10	0.00	0.60	0.60	0.10	0.30
ΔUncorrupt courts	-0.90	-0.70	-0.60	-0.90	-0.90	-0.80	-0.90	-1.10	-0.60
ΔLegal enforcement	-0.60	-0.50	-0.50	-0.50	-0.70	-0.50	-1.20	-0.50	-0.20
ΔPolitical instability	1.80	1.80	1.80	1.70	2.10	1.70	2.30	1.60	1.30
II Sector specific inf.pay.									
ΔUtilities	0.66	0.77	0.60	0.56	0.70	0.53	0.40	0.80	0.63
ΔLicenses and permits	0.20	0.30	0.10	0.10	0.40	0.00	0.20	0.30	-0.10
ΔGovn't contracts	-2.00	-2.30	-1.90	-1.90	-2.00	-1.70	-1.60	-1.90	-1.50
ΔInspections	0.00	-0.10	0.03	0.00	0.23	0.00	-0.33	-0.23	-0.16
ΔTaxes	-0.40	-1.00	-0.60	-0.30	-0.70	-0.40	-0.30	-0.80	0.10
ΔCustoms/imports	-0.60	-1.10	-0.40	-0.80	-0.90	-0.50	-0.20	-0.80	0.10
III State capture impact									
ΔState capture frequency	-0.20	-0.60	0.00	-0.30	-0.20	0.00	-0.30	-0.70	0.20
ΔParliament vote	-0.30	-0.60	-0.30	-0.30	-0.50	-0.30	-0.30	-0.40	-0.20
ΔGovn't capture	-0.40	-0.60	-0.30	-0.40	-0.60	-0.30	-0.40	-0.50	-0.20
ΔJudiciary capture	-1.40	-1.60	-1.40	-1.40	-1.60	-1.40	-1.40	-1.60	-1.20

Notes: *Stability of business environment* - Firms were asked to rank how problematic are corruption, corrupt courts, inefficiency of legal enforcement and political instability to the operations and growth of the firm business on a scale from a 0 (no obstacle) to 4 (very severe obstacle). When ranking courts' corruption, firms were asked to evaluate court's impartiality, fairness and uncorruption on a scale from 1 (strongly disagree) to 4 (strongly agree). The results show decline in perception on courts impartiality, fairness and absence of corruption. *Sector specific informal payments* - firms were asked to rank whether it is common to have to pay some irregular additional payment or gifts to get things done on a scale from 1 (never) to 6 (always). *State capture impact* - firms were asked to rank whether it is common to have to pay some irregular unofficial payments/gifts, private payments or other benefits to public officials to gain advantages in the drafting of laws, decrees, regulations, and other binding government decisions on a scale from 1 (never) to 6 (always). Source: BEEPS 2002-2009 panel; own calculations

These results suggest that while the perception of firms of corrupt activities is low and the period from 2002 to 2009 experienced slight decrease in informal payments and state capture, such practices have been internalized by firms and have been commonly accepted. In what follows, we test empirically whether state capture as well as informal payments affect the microeconomic performance of firms and how these effects vary with the ownership structure of the firm and the overall institutional (business) environment in which the firms operate.

3.4. Methodology and empirical models

The aim of our research is to estimate the impact levels of state capture and frequency of informal payments on productivity growth of firms in 27 transition countries. We employ different measures of productivity of firms and a variety of standard econometric methods.

Moreover, we link the stability of business environment[17] with the occurrence and effects of firms corrupt behaviour.

In order to analyse potential effects of informal payments and state capture on firm productivity, we proceed with the empirical methodology in three steps. First, we examine the impact of informal payments and state capture on firms' productivity growth, controlling for firm ownership. Second, we proceed with the analysis of the informal payments and state capture on firm productivity, but controlling for country groups and conditional on the level of stability of business environment term. According to descriptive statistics, across the three country groups, corruption is seen as obstacle most in former Soviet Union countries, inefficient legal enforcement and unfair courts are seen as problematic in new EU member states, while all three country groups observe decrease in political stability. Finally, we examine the effect of firm's involvement in informal payments and state capture examined taking into account pre- and post- EU enlargement in 2004 in order to detect possible effects of EU accession requirements related to institution advancement and greater stability of business environment. This effect could also be estimated by a diff-in-diff analysis using the firms in other (most similar) countries as a control group. As we do not have data for old EU members, we use dummy variables for country groups as an alternative method.

For estimating the impact of corruption practices on productivity growth, we use a standard growth accounting model (1), which takes into account the impact of corrupt activities (as measured by informal payments and state capture variables at the firm level) on firm productivity growth (y_{ijt}):

$$y_{ijt} = a + b_1 l_{ijt} + b_2 k_{ijt} + b_3 b_{ijt} * Own_{ijt} + b_4 ca_{ijt} * Own_{ijt} + Y_t + S_i + u_{ij} + e_{ijt}, \quad (1)$$

where y_{ijt}, k_{ijt} and l_{ijt} are growth rates of labour productivity (or TFP), capital and labour of firm i in country j and year t, respectively. The growth rates are calculated as differences of logarithmic values of the variables between the first and the last year in each survey wave. Namely, in each survey firms were asked to indicate their characteristics such as employments, sales, fixed assets etc. for the current year and the period of 3 years ago.

In terms of productivity measures in our regressions, we use both measures, labour productivity and total factor productivity (TFP). As BEEPS data is lacking the complete

[17] *Stability of business environment* - Firms were asked to rank how problematic are corruption, corrupt courts, inefficiency of legal enforcement and political instability to the operations and growth of the firm business on a scale from a 0 (no obstacle) to 4 (very severe obstacle). When ranking courts' corruption, firms were asked to evaluate court's impartiality, fairness and uncorruption on a scale from 1 (strongly disagree) to 4 (strongly agree).

set of information on value added by all firms included, we define labour productivity as value of total sales over number of employees. Alternatively, we also use a measure of TFP for firms for which the data on value added is provided. For the purposes, TFP is estimated as a residual in a standard Cobb-Douglas production function with industry-, year-, and firm- fixed effects. This allows us for robustness check of the reported results using the labour productivity. However, due to much larger set of observations the main empirical results rely on using the firm labour productivity as a measure of productivity.

Variable b_{ijt} denotes *administrative corruption*, which is computed as a non-weighted average index consisting of informal payments/gifts that individual firm would make in a given year to influence implementation of laws and rules or to get things done with regard to connection and maintenance of public services (UTILITIES), obtaining business licenses/permits (PERMITS) and government contracts (GOVNT CONTRACTS), to deal with environmental inspections (ENVIRONMENT), tax collection (TAX COLLECT) and customs (CUSTOMS). Variable ca_{ijt} denotes *state capture*, it is computed as a non-weighted average index consisting of informal payments/gifts, private payments or other benefits to parliamentarians to affect their vote (PARL VOTE), government officials to affect government decrees (GOVNT CAPT), and courts to affect decisions (JUDICIARY CAPT), as well as other ways of influencing the content of laws and rules. Both variables are interacted with the ownership type (*Own*) to control for different effects across firms with different ownership structure. Finally, we include year-, sector- and country-fixed effects.

Due to the panel structure of the data, we estimate the model by using the fixed effects estimator. We perform several robustness checks to control for the endogeneity of corruption, i.e. state capture and informal payments variables. To serve this purpose, we use the instrumental variables (IV) approach. In the first step, we regress our particular choice variable (i.e. business environment, informal payments and state capture) on a number of firm specific variables, such as size, legal status, share of state, private domestic and foreign ownership, country group (new EU member, Balkan or ex-Soviet) as well as the variable indicating whether in a previous year a firm has been involved in at least one contract granted by the government. The latter serves as an indication of potential corruptiveness in the sense that firms dealing with government contracts have to maintain contacts with the government officials. This may indicate that firm's managers might be more exposed to potential bribing or state capture activities in order to get the contracts.[18] In the second stage, we use the predicted values of selected measures of firm business

[18] A similar, but somehow more indirect approch in instrumenting for potential corruptiveness has been used by Görg et al (2013), who use an indicator »*whether a firm submitted an application for the electricity connection over the last two years*« as an indicator of contacts between a firm and the government. Our measure, however, is a more direct indicator of potential corruptiveness.

environment, informal payments and state capture from the first step when estimating the model (1). In the first regression below on the impact of informal payments and state capture on firm productivity growth we show both results with original and instrumented variables, while later we only report the final results from the IV fixed-effects regressions.

3.5. Results and discussion

In this subsection we report the results obtained by estimating the model (1). We first present overall results for pooled data for 27 transition countries. We then proceed to the analysis for three distinct country groups and by accounting for the impact of ownership type. Then we provide results for two separate time periods, i.e. before and after EU accession of Central and Eastern European countries in 2004. Finally, we also provide a robustness check using the TFP as a measure of productivity. It would be better to use other performance measures such as EBITDA/total assets; however, the data set does not include this information.

3.5.1. Impact of informal payments and state capture on firm productivity growth

Table 3.9 shows the correlations between the explanatory variables we use in our regression model. According to expectations, stable business environment[19] is positively correlated to both measures of productivity, while informal payments and state capture negatively affect productivity. On the other side, percent of contract value paid as bribery is positively correlated with the labour productivity, but this seems to be the effect of domestically owned firms only while the correlation with foreign and state ownership is negative.

[19] *Stability of business environment* - Firms were asked to rank how problematic are corruption, corrupt courts, inefficiency of legal enforcement and political instability to the operations and growth of the firm business.

Table 3.9: Correlation coefficients and significance levels (p-values)

	ΔLab. prod.	ΔTFP	Domestic	Foreign	State	Stable env.	Inf. pay.	State cap.	% Contr. value
ΔLab. prod.	1								
ΔTFP	0.7102*	1							
Domestic	0.0141	0.0750*	1						
Foreign	0.0208*	-0.0079	-0.6122*	1					
State	-0.0422*	-0.0802*	-0.5500*	-0.0950*	1				
Stable env.	0.0196*	0.0195	0.0526*	-0.0087	-0.0570*	1			
Inf. pay.	-0.0784*	-0.0976*	0.0206*	0.0069	-0.0416*	0.0093	1		
State cap.	-0.0501*	-0.0737*	0.0354*	-0.0004	-0.0531*	0.0569*	0.4677*	1	
% Contr. val	0.0717*	-0.0082	0.0841*	-0.0398*	-0.0788*	0.0679*	0.2252*	0.3586*	1

Note: * p<0.01

Results for the estimated productivity growth from empirical model (1) with and without fixed firms effects for firms with different ownership are reported in Tables 3.10 and 3.11. Table 3.10 reports results with original explanatory variables on business environment, informal payments and state capture, while Table 3.11 reports results with instrumented variables. Results are qualitatively very similar in terms of signs and the size of the coefficients.

Table 3.10: Impact of informal payments and state capture on firm productivity for three country groups (dep.variable: labour productivity). Results with original variables.

	(1)	(2)	(3)	(4)	(5)
VARIABLES	**All**	**All**	**new EU**	**Balkan**	**ex Soviet**
foreign	0.080***	0.333	0.748	1.846	0.705
	[3.64]	[0.66]	[1.00]	[1.17]	[0.58]
state	0.056	-0.093	-0.917	0.873	-0.444
	[1.47]	[-0.21]	[-0.85]	[0.52]	[-0.44]
exporter	0.056***	0.056***	0.054**	0.072	0.075*
	[3.55]	[3.57]	[2.04]	[1.53]	[1.90]
unstable_env	-0.018***	-0.018***	-0.024***	0.006	-0.198*
	[-3.66]	[-3.43]	[-2.77]	[0.34]	[-1.62]
unstable_env * for		-0.004	-0.014	-0.038	-0.015
		[-0.33]	[-0.87]	[-1.11]	[-0.59]
unstable_env * state		0.005	0.025	-0.023	0.011
		[0.42]	[0.93]	[-0.64]	[0.49]
inform. pay.	-0.013***	-0.013***	-0.013*	-0.007	-0.008
	[-5.16]	[-4.95]	[-1.60]	[-0.05]	[-0.88]
inform. pay * for		-0.002	-0.007**	0.000	0.000
		[-1.40]	[-2.53]	[0.01]	[-0.07]
inform. pay * state		-0.001	-0.001	0.006	0.001
		[-0.38]	[-0.16]	[0.80]	[0.26]

(table continues)

(continued)

	(1)	(2)	(3)	(4)	(5)
VARIABLES	**All**	**All**	**new EU**	**Balkan**	**ex Soviet**
state capture	-0.013**	-0.012*	-0.005	-0.019	-0.006
	[-2.27]	[-1.89]	[-0.47]	[-1.37]	[-0.56]
capture * for		-0.004	0.063*	0.007	-0.020
		[-0.23]	[1.83]	[0.15]	[-0.56]
capture * state		-0.012	0.006	0.004	-0.039
		[-0.56]	[0.14]	[0.08]	[-0.91]
Constant	0.124	0.115	0.170	-0.370	0.737
	[0.46]	[0.41]	[0.21]	[-0.28]	[0.71]
Observations	9,585	9,585	6,109	1,825	6,644
R-squared	0.331	0.331	0.249	0.236	0.175

Notes: Reported are IV – fixed effects results including time, industry and firm fixed effects. Table presents major results of interest only. Robust t-statistics in parentheses, *** p<0.01, ** p<0.05, * p<0.1.

Table 3.11: Impact of informal payments and state capture on firm productivity for three country groups (dep.variable: labour productivity). Results with instrumented variables.

	(1)	**(2)**	**(3)**	**(4)**	**(5)**
VARIABLES	**All**	**All**	**new EU**	**Balkan**	**ex Soviet**
foreign	0.060***	0.030	-0.101*	0.179	0.009
	[3.46]	[0.65]	[-1.65]	[1.23]	[0.11]
state	0.006	0.001	-0.035	0.226*	-0.048
	[0.36]	[0.03]	[-0.56]	[1.67]	[-0.64]
exporter	0.076***	0.075***	0.090***	-0.003	0.093***
	[6.08]	[6.01]	[5.77]	[-0.09]	[3.64]
unstable_env	-0.064***	-0.072***	-0.070**	-0.088	-0.128***
	[-2.92]	[-2.92]	[-2.16]	[-1.15]	[-3.02]
unstable_env * for		0.114	0.237**	0.192	0.154
		[1.53]	[2.35]	[0.85]	[1.24]
unstable_env * state		-0.047	0.1	-0.247	-0.008
		[-0.62]	[0.78]	[-1.16]	[-0.06]
inform. pay.	-0.024**	-0.025*	-0.036**	0.046	-0.034
	[-2.04]	[-1.96]	[-2.13]	[1.14]	[-1.42]
inform. pay * for		-0.025	0.118**	-0.175*	-0.097
		[-0.65]	[2.34]	[-1.70]	[-1.32]
inform. pay * state		0.045	-0.017	-0.084	0.06
		[1.13]	[-0.28]	[-0.62]	[0.87]
state capture	-0.007***	-0.005***	-0.007**	-0.022***	-0.004
	[-3.55]	[-2.80]	[-2.43]	[-5.58]	[-1.48]
capture * for		-0.006	-0.014	-0.01	0.004
		[-0.83]	[-1.33]	[-0.47]	[0.38]
capture * state		-0.012	0.003	0.026	-0.005
		[-1.48]	[0.18]	[0.47]	[-0.56]

(table continues)

(continued)

VARIABLES	(1) All	(2) All	(3) new EU	(4) Balkan	(5) ex Soviet
Constant	0.066**	0.069**	0.092**	0.133	0.130**
	[2.24]	[2.28]	[2.06]	[1.64]	[2.45]
Observations	8,533	8,533	3565	888	4080
R-squared	0.397	0.397	0.498	0.434	0.354

Notes: Reported are IV – fixed effects results including time, industry and firm fixed effects. Table presents major results of interest only. Robust t-statistics in parentheses, *** p<0.01, ** p<0.05, * p<0.1.

Below, the Hausman test results are reported. The results confirm that the fixed effects model is superior to the random effects model (see Table 3.12).

Table 3.12: The Hausman test results

	Hausman test1	Hausman test 2	Hausman test 3
χ^2	143.27	158.90	60.17
Prob > χ^2	0.0000	0.0000	0.0051

Note: The Hausman test results are reported for model specifications with different control variables. The First model controls for informal payments and state capture, second model differentiate for firm ownership, and the third model controls for country groups.

For pooled data, the results show an overall significant negative impact of weak business environment, informal payments and state capture on productivity growth (column 1). These effects seem to hold irrespective of the ownership type. When interacting the variables on firm corrupt behaviour with firm ownership (column 2), none of the interactions turned out to be significant. This implies that on average all firms, whatever the differences in their ownership structure, suffer substantial efficiency losses due to undertaken corrupt behaviour.

How robust are these results to country- and region – specific business environment? We investigate whether there are variations in firms' productivity growth across different country groups (new EU member states, Balkan and ex Soviet countries). By doing this we account for potential differences in the regional business environment and, consequently, its effect on the interaction between firm involvement in corrupt activities and their productivity growth.

When accounting for differences in regional business environment by estimating the model separately for each region, the overall results show some variation in estimated effects of

corrupt firm behaviour. In former Soviet countries informal payments and state capture do not have any impact on firm productivity, while in Balkan countries perceived contract enforcement and engagement in informal payments do not seem to matter for firm performance. In the latter group, involvement in informal payments significantly negatively affects productivity growth of foreign firms only. For a set of new EU member states, the overall landscape of generally harmful effects of firm corrupt behaviour remain intact. The striking findings for this country group, however, is that weaker enforcement of courts decisions and contracts as perceived by the firms and firms' involvement informal payments positively impacts at productivity growth of foreign firms. Foreign firms seem to benefit from informal payments, but not from state capture activities. General understanding is that foreign firms are subject to additional legal constraints, under more pressure to maintain their reputation on the market, they have adapted anti-corruption measures, etc. Thus they would tend to avoid corrupt practices. However, it is unrealistic to suppose that even this type of firms will not try to influence the business environment within which they operate through a variety of channels. Possible explanation for our findings is then that foreign owned firms feel to be a priori at a competitive disadvantage vis-à-vis domestically (private or state) owned firms and they might easier engage in informal payments as they might deem not too close to politicians to be able to capture.

3.5.2. Impact of informal payments and state capture pre- and post - EU enlargement in 2004

Finally, we investigate the effect of firm's involvement in informal payments and state capture pre- and post- EU enlargement in 2004 in order to detect possible effects of EU accession requirements related to institutions' improvement and greater stability of business environment. Empirical results reported in Table 3.13 below show not only differences between the country groups but also some significant differences before and after year 2004. In line with findings of De Rosa *et al.* (2010) weaker judiciary enforcement and stability of business environment have overall negative effect in all country groups before and after 2004 (but statistically significant only in the new EU member countries before 2004 and in former Soviet countries after 2004). Interestingly though, while after 2004 the negative effects of the weaker contract enforcement on average disappeared, they seem now to benefit foreign and state owned firms in the new EU member states.

Involvement in informal payments had a significant negative effect on productivity growth of firms that involve in such corrupt activity before 2004 in all country groups. These overall effects, however, hide a lot of variation, which shows up when accounting for differences in firm ownership structure. Though on average negative, impact of informal payments turn out positive for foreign owned firms in new EU member countries and for

state owned firms in former Soviet countries, implying that these two groups of firms benefited from involvement in corrupt practices. After 2004, these – negative or positive – effects disappear completely in all country groups indicating the improvements in the business environment.

There is much less variation among countries and different ownership types in terms the effects of state capture on firm productivity. Before 2004 the effects were generally negative, while after 2004 the impacts remain overly negative only in the Balkan countries and for state owned firms in new EU member states.

Table 3.13: Impact of informal payments and state capture on firm productivity pre- and post- EU enlargement in 2004 (dep.variable: labour productivity)

	Before 2004			**After 2004**		
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
VARIABLES	**new EU**	**Balkan**	**ex Soviet**	**new EU**	**Balkan**	**ex Soviet**
foreign	-0.073	0.185	-0.042	-0.128	0.204	0.034
	[-0.76]	[1.11]	[-0.41]	[-1.57]	[0.80]	[0.26]
state	0.032	0.582***	-0.118	-0.223**	0.098	0.023
	[0.33]	[3.16]	[-1.39]	[-2.37]	[0.50]	[0.19]
exporter	0.086***	0.008	0.111***	0.078***	-0.024	0.074*
	[3.28]	[0.16]	[3.58]	[3.95]	[-0.47]	[1.94]
unstable_env	-0.127**	-0.046	-0.046	-0.043	-0.100	-0.181***
	[-2.21]	[-0.41]	[-0.86]	[-1.10]	[-0.98]	[-2.92]
unstable_env * for	0.184	0.160	0.184	0.301**	0.208	0.155
	[1.23]	[0.57]	[1.12]	[2.12]	[0.57]	[0.88]
unstable_env * state	0.051	-1.214***	-0.026	0.304*	-0.064	-0.013
	[0.27]	[-3.00]	[-0.19]	[1.65]	[-0.24]	[-0.06]
inform. pay.	-0.057*	0.063	-0.077**	-0.024	0.036	-0.003
	[-1.91]	[1.16]	[-2.45]	[-1.16]	[0.64]	[-0.10]
inf. pay * for	0.213***	-0.201	-0.043	0.038	-0.162	-0.130
	[2.78]	[-1.54]	[-0.48]	[0.56]	[-1.07]	[-1.19]
inf. pay * state	-0.014	-0.371**	0.185**	-0.060	0.112	-0.078
	[-0.15]	[-2.10]	[2.46]	[-0.71]	[0.57]	[-0.67]
state capture	-0.013***	-0.016*	-0.008**	-0.003	-0.023***	-0.001
	[-2.65]	[-1.70]	[-2.45]	[-0.82]	[-4.85]	[-0.29]
capture * for	-0.010	-0.008	0.005	-0.017	-0.021	0.005
	[-0.70]	[-0.36]	[0.32]	[-1.11]	[-0.43]	[0.31]
capture * state	0.021	0.006	-0.016	-0.057**	0.007	-0.005
	[1.06]	[0.05]	[-1.13]	[-2.17]	[0.10]	[-0.44]
Constant	0.051	0.057	0.128	0.519***	0.046	0.765***
	[0.40]	[0.28]	[1.21]	[7.54]	[0.51]	[10.03]
Observations	1,363	335	1,687	2,202	553	2,393
R-squared	0.449	0.573	0.411	0.540	0.387	0.335

***Notes*:** Reported are IV – fixed effects results. Table presents major results of interest only. Full results are available from the authors upon request. *** p<0.01, ** p<0.05, * p<0.1; t statistics in brackets.

3.5.3. Robustness checks

As a robustness check we employ TFP as a measure of productivity in the empirical model (1) with fixed effects for firms with different ownership. Both sets of results, however, are not directly comparable, due to the differences in compositions of firm samples. Namely, due to missing data, for the TFP measure we can use only about 40 per cent of observations that is available for the labour productivity. Nevertheless, the results for TFP specification, reported in Table 3.14, in general resemble the results obtained using the labour productivity.

Table 3.14: Impact of informal payments and state capture on firm productivity for three country groups (dep.variable: TFP)

	(1)	(2)	(3)	(4)	(5)
VARIABLES	**All**	**All**	**new EU**	**Balkan**	**ex Soviet**
foreign	-0.007	-0.097	-0.249**	0.130	-0.034
	[-0.25]	[-1.26]	[-2.47]	[0.56]	[-0.25]
state	-0.041	-0.166**	-0.253**	0.013	-0.131
	[-1.44]	[-2.11]	[-2.26]	[0.06]	[-0.91]
exporter	0.002	-0.000	-0.002	0.000	-0.010
	[0.10]	[-0.01]	[-0.07]	[0.00]	[-0.26]
unstable_env	0.029	-0.002	0.033	-0.150	-0.033
	[0.76]	[-0.05]	[0.63]	[-1.35]	[-0.41]
unstable_env * for		0.224*	0.312*	-0.022	0.241
		[1.73]	[1.77]	[-0.07]	[1.15]
unstable_env * state		0.139	0.392*	0.054	-0.035
		[0.85]	[1.71]	[0.12]	[-0.12]
inform. payments	-0.074***	-0.081***	-0.076***	-0.080	-0.069
	[-3.94]	[-3.83]	[-2.86]	[-1.43]	[-1.63]
inform. pay * for		-0.011	0.091	0.153	-0.248**
		[-0.17]	[1.11]	[1.01]	[-2.10]
inform. pay * state		0.052	0.059	0.010	0.012
		[0.78]	[0.60]	[0.06]	[0.09]
state capture	-0.008**	-0.009***	-0.009	-0.017	-0.004
	[-2.53]	[-2.61]	[-1.60]	[-1.54]	[-0.70]
capture * for		0.014	0.020	0.011	0.014
		[1.01]	[1.01]	[0.35]	[0.63]
capture * state		0.006	-0.022	0.051	0.006
		[0.39]	[-0.81]	[0.57]	[0.34]
Constant	-0.586**	-0.569**	-1.577***	-0.377	1.568***
	[-2.02]	[-1.96]	[-9.14]	[-1.06]	[2.65]
Observations	3617	3617	2028	490	1367
R-squared	0.611	0.612	0.503	0.845	0.537

***Notes*:** Reported are IV – fixed effects results. Table presents major results of interest only. Full results are available from the authors upon request.

*** p<0.01, ** p<0.05, * p<0.1; t statistics in brackets.

For pooled data, overall results confirm a negative impact of informal payments and state capture on productivity growth, but not of the weak business environment (column 1). Weak business environment is again shown to have a positive impact on foreign firms' productivity growth in the new EU member countries, while (though similar in size) the coefficients for informal payments is not significant at 10 per cent anymore. State capture continues to have a general negative impact on all firms, in particular for firms in the new EU member countries and no effect on firms in former Soviet countries.

Lastly, the pre- and post-EU enlargement effects of firm's involvement in informal payments and state capture on productivity growth by using the TFP measure remain qualitatively similar to the use of TFP measure (see Table 3.14). Effects of weak business environment, that remains to have some impact after 2004 with the labour productivity measure, however, disappear completely with the TFP measure.

Table 3.15 Impact of informal payments and state capture on firm productivity pre- and post- EU enlargement in 2004 (dep.variable: TFP)

	Before 2004			**After 2004**		
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
VARIABLES	**new EU**	**Balkan**	**ex Soviet**	**new EU**	**Balkan**	**ex Soviet**
foreign	-0.330**	0.453	0.039	-0.228*	-0.260	-0.139
	[-2.06]	[1.28]	[0.21]	[-1.73]	[-0.74]	[-0.70]
state	-0.472***	0.260	-0.127	-0.222	-0.093	-0.043
	[-2.60]	[0.46]	[-0.74]	[-1.44]	[-0.34]	[-0.17]
exporter	-0.014	-0.024	0.005	-0.018	0.019	-0.017
	[-0.30]	[-0.29]	[0.10]	[-0.60]	[0.30]	[-0.27]
unstable_env	-0.143	-0.050	0.111	0.093	-0.198	-0.187
	[-1.34]	[-0.25]	[1.04]	[1.57]	[-1.52]	[-1.61]
unstable_env * for	0.400	-0.098	0.224	0.329	0.280	0.286
	[1.43]	[-0.19]	[0.77]	[1.42]	[0.56]	[0.94]
unstable_env * state	1.017***	-0.329	-0.141	0.111	0.133	-0.004
	[2.67]	[-0.24]	[-0.41]	[0.37]	[0.27]	[-0.01]
inform. payments	-0.118**	-0.074	-0.089	-0.056*	-0.099	-0.032
	[-2.29]	[-0.74]	[-1.48]	[-1.82]	[-1.44]	[-0.52]
inform. pay * for	0.269**	0.121	-0.267*	-0.043	0.176	-0.211
	[2.10]	[0.49]	[-1.70]	[-0.40]	[0.91]	[-1.17]
inform. pay * state	0.165	-0.207	0.058	-0.068	0.21	-0.052
	[0.99]	[-0.68]	[0.40]	[-0.54]	[0.83]	[-0.21]
state capture	-0.033***	-0.039***	-0.012**	0.005	0.024	0.015
	[-3.44]	[-2.66]	[-2.01]	[0.80]	[1.37]	[1.52]
capture * for	0.031	0.089*	0.004	0.026	0.009	0.016
	[1.16]	[1.93]	[0.14]	[0.79]	[0.13]	[0.46]
capture * state	-0.010	0.057	-0.036	-0.055	0.018	-0.011
	[-0.24]	[0.30]	[-0.60]	[-1.35]	[0.18]	[-0.48]

(table continues)

(continued)

	Before 2004			After 2004		
	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	**new EU**	**Balkan**	**ex Soviet**	**new EU**	**Balkan**	**ex Soviet**
Constant	0.420***	-0.323	0.173	-0.302	0.090	1.747***
	[4.26]	[-1.46]	[1.49]	[-0.63]	[0.23]	[2.80]
Observations	625	211	696	1,403	279	671
R-squared	0.191	0.191	0.087	0.582	0.92	0.676

***Notes*:** Reported are IV – fixed effects results. Table presents major results of interest only. Full results are available from the authors upon request. *** p<0.01, ** p<0.05, * p<0.1; t statistics in brackets.

To conclude, our results confirm a robust overall negative impact of informal payments and state capture on firm productivity growth. The striking issue is that in particular foreign owned firms in the new EU member countries seem to benefit both from weak business environment and from being involved in informal payments. The latter seem to indicate how these firms overcome the weaknesses of law enforcement. Though, after 2004, this effect disappears.

3.6. Conclusion

The main aim of this chapter is to investigate the impact of stability of business environment and corruption on microeconomic performance of firms. We investigate this relationship at the micro level by analysing the impact of informal payments and state capture on firm productivity growth, whereby we control for firm ownership and country groups. We use firm-level micro data collected by the Business Environment and Enterprise Performance Survey (BEEPS) for 27 transition countries for the period 2002-2009.

Our results of testing impact of corruption (informal payments and state capture) on firm productivity show mixed results. Overall, the results are in line with the previous research findings (Frye and Schleifer, 1997; Knack and Keefer, 1995; Rodrik, Subrimanian and Trebbi, 2002; Gray, Hellman and Ryterman, 2004; De Rosa, Gooroochurn and Görg, 2010) that corrupt activities negatively affect firms' productivity and the effects are even more negative with less efficient institutional environment. Our results, however, show that there is more variation than previously inferred. First, we show that there are groups of firms that do benefit from engaging in corrupt activities to either circumvent weaker contract enforcement or by engaging in informal payments. These involve mainly foreign owned firms in the new EU member countries and state owned firms in former Soviet countries. And second, most of these effects dissipate after 2004, indicating the general improvements in the business environment.

These somehow surprising findings need some further discussion. First, the results suggest

that foreign owned firms are somewhat more likely to engage in informal payments. Possible explanation is that foreign owned firms feel to be a priori at a competitive disadvantage vis-à-vis domestically (private or state) owned firms. Hence, this might be due to foreign firms' perception on what are the unspoken rules of doing business in a country they set up a base or perhaps they feel domestic firm owners are more politically connected and have easier access to doing business. As the foreign owned firms fear they would ultimately lose business to domestic or state owned firms they strategically chose to engage in informal payments. Likewise, there are practical considerations owing to where giving informal payments are outlawed in most countries; meanwhile they are allowed in certain countries and hitherto defined as the in-kind payments or facilitation payments. Consequently, the foreign owned firms engage in well-intentioned business activity because they think that is actually legal. On the other hand, they might intentionally engage in informal payments as they might deem the law enforcement weak or penalties not being severe in comparison to the benefits.

Second, whether in the developed or in transition countries, big firms have an intimate relation with governments. Firms lobby for fewer regulations, lighter taxes, governmental subsidies and access to natural resources. Firms also depend on government bodies, such as law enforcement agencies, court systems, permit offices, and transportation networks. Hence, when a foreign owned firm sets up a base in a foreign country, its interaction with government creates possibility for unpleasant situations. Some governments may support them and some may be unfriendly to the firms' interests. In these cases, foreign owned firms might be tempted to oppose or even undermine that government. Between these two extremes, there is the normal course of doing business in transition countries, which involves the normal lobbying efforts that some developed countries have. This involves at least attempting to influence governments of transition countries, where this is not common practice or is still not defined by the lobbying regulation. Thus they are more likely to be involved in state capture as suggested by our results.

Third, unstable or weak business environment has a significant negative impact on firm performance, while some groups of firms seem to overcome this by involving in informal payments. These findings suggest that stricter law and contract enforcement are must, which may make firms' involvement in informal payments obsolete.

Thus, in terms of policy implications according to what our results show, institutions that promote transparent business environment, reliability of law enforcement and measures that align anti-corruption policies and lobbying regulation may help reduce firms' involvement in corrupt activities, such as informal payments and state capture. This, in turn, may decrease the likelihood of in particular foreign owned firms to involve in informal payments.

4. CONCLUSION

The aim of this conclusion is to reaffirm the findings of the PhD thesis. The thesis itself consists of three chapters, out of which the first one is devoted to overview of the corruption concept, models used to study the phenomenon and its impact on countries. The second chapter empirically investigates in what extent the quality of the institutional system, manifested in the general evidence of corruption impacts the macroeconomic performance of transition countries. The third chapter empirically explores impact of corruption on the microeconomic performance of firms in transition countries. The main findings of each of the three chapters are summarized below. Finally, some tentative generalized conclusions on corruption impact in transition countries are drawn and discussed.

In the first chapter, we first present an overview of the corruption concept. Corruption is not a new phenomenon. It has been known since ancient times and present in all societies. Philosophers like Plato, Aristotle, Polybius, Machiavelli and Montesquieu believed corruption was necessary component of every cycle of government changes. In order to control this process a balance of power was necessary. Failure to maintain this balance was a synonym for corruption. Eighteen century saw refinement of the concept to include the idea of "manipulation of economic privileges for securing the political power" by few. By nineteen century corruption was understood as systematic process of selling corporate privileges. The widespread belief was that economics corrupted politics and not politics corrupting economics. The period marked adoption of antitrust laws and numerous reforms in every aspect of the politics and economy. By twentieth century corruption concept was referring also to behaviour of individuals and not only to a condition of polity. What we now refer to corruption borrows profoundly from the concepts in the past and defines it as the abuse of public office for a personal benefit.

Then, two major ways of modelling corruption, a principal-agent model and a resource allocation model are discussed. Studies on corruption have widely used them in order to understand the conceptual and theoretical relationship between corruption and efficiency of institutions. If in the past corruption was not seen as bad, today is widely accepted that it has negative effects on economic growth and society as a whole. The studies find that in some cases corruption can "grease the wheels" of the economy as it helps to overcome bureaucratic burdens and inefficient regulation. However, most of the theoretical and empirical studies show that corruption is primarily a "sand-in the wheels". This is especially seen as perennial problem in Central and Eastern European and former Soviet Union countries. Of course, these transition countries face different problems, even without a global anti-corruption movement. Without improving their institutions and respectable governments, it is unlikely that corruption can be reduced. The focus should be

on building strong institutions and implementing proper policies to constrain its occurrence.

Moreover, in transition countries state capture is increasingly being recognized as most detrimental form of corruption that undermines much needed reforms at a significant social cost (Hellman and Kaufmann, 2001). They argue this form of corruption is not only a symptom of poor governance and weak institutions but also a fundamental cause for it. Transition countries are trapped in a vicious circle in which reforms are undermined and where weak institutions are systematically maintained. And the quality of institutions is major determinant of economic development (see overview of studies in Mauro, 1995; Knack and Keefer, 1995; Hall and Jones, 1999; Acemoglu et al., 2000; Dreher, 2007). Although mentioned studies have drawn consistent evidence of the relationship between corruption, institutions and development, their common drawback is that they neglect shadow economy (Dreher, 2007). Many studies examine corruption and shadow economy separately even though the indirect cost of corruption is also evident through the impact on the number of entities preferring to operate in shadow economy. The question is do firms or individuals go underground to avoid corrupt officials or go underground by bribing officials? Or is the official economy a sanctuary from corruption? Theoretically, corruption and shadow economy can be either substitutes (Rose-Ackerman, 1997 and Dreher et al., 2005) or complements (Johnson et al., 1997, 1998; and Friedman et al., 2000). The precise relationship between the two is thus unsettled (Schneider and Enste, 2002). Yet, empirical studies show that too often corruption and inefficient institutions increase shadow economy (Johnson et al., 1998).

Thus, in the second chapter we thoroughly examine whether transition countries with higher levels of corruption perform worse in terms of economic growth, whereby we control for the relationship between corruption, levels of shadow economy and institutional efficiency. More specifically, we examine potential effects of corruption on performance of transition countries, starting with the premise that high levels of corruption will slow down their economic growth and at the same time impose a pressure on higher informal activities. On the other hand, higher institutional quality would promote economic growth and thus provide fewer incentives to engage in the shadow economy. We emphasize the view that different types of corruption, such as bribes to alter rules and regulations or state capture (embedded corruption within rules and regulations) will have different economic consequences. We first examine the impact of corruption on economic growth of countries, controlling for the usual production factors, quality of the institutional system, level of shadow economy and geographic location. Then, we analyse the impact of different forms of corruption (bribery and state capture) on economic growth. And finally, we examine the relationship between the levels of shadow economy and different forms of corruption across these countries, conditional on the level of development, level of institutional

quality and their geographic location.

The empirical findings are in line with our expectations. By using data from the Transparency International, EBRD Transition Report, Penn World Tables, World Bank, Schneider and Buehn (2011) and IMF for 28 transition economies, we find that higher institutional quality promotes economic growth and impedes activities in shadow economy. On the other side, findings of the direct effects of corruption on economic growth are less conclusive. Corruption is shown in some regions to affect growth through state capture activities, while in others it is shown to have long run rather than immediate negative impact on economic growth. Also, there is huge heterogeneity between these countries that affects the relationship between corruption, shadow economy and economic performance. We argue this divergence in performance can be mainly accounted for differences in building their institutions and type of institutional governance. Social institutions or culture appears to be highly important when taking into account whether firms or taxpayers will decide to be active in the official or shadow economy. But there is an important division between formal and informal institutions. Some countries may have implemented reforms and have faster integrated formal institutions that are in line with the EU requirements, however, changing culture and building sound informal institutions takes time. In countries where corruption is systemic and institutional system subject to frequent changes, it will be harder to obtain citizens trust and change the norms, values and beliefs of how business is done in country.

Therefore, studies show corruption is most harmful to economic development where governance and institutional system is weak. Yet, this relationship is not straightforward but it is rather complex as it involves the quality of the institutional system and a complex network of interactions between government agencies, legal system, informal institutions and economic agents. Méon and Sekkat (2005) also argue the quality of institutional system and corruption affect general economic development through microeconomic performance, i.e. through entry and exit dynamics of firms and their individual performance. Frye and Shleifer (1997), Shleifer and Vishny (1998) and Shleifer (1998) describe three theoretical models of interaction between institutional system and entrepreneurs in the course of development. The invisible-hand model implies that government shareholders are inefficient. They are unable to monitor managers effectively and do not care about maximizing shareholder value. The helping-hand theory implies that firms benefit from the presence of government shareholders and government affiliated managers. Finally, the grabbing-hand theory implies that government shareholders extract resources from publicly listed companies. They do so either to perform a social role or because government affiliated managers are corrupt and consists of a large number of independent bureaucrats pursuing their own interests, such as taking bribes, with no regard for the impact of their actions on private sector activity. These effects are aggravated when

institutional system is interacted with different ownership structure of firms. Empirical studies are unambiguous in finding that private ownership is associated with superior firm performance when compared to the state-owned firms (see overview of empirical studies on a wide variety of countries in Havrylyshyn and McGettigan, 2000; Djankov and Murrell, 2000 and 2002; Megginson and Netter, 2001; Estrin, Hanousek, Kocenda and Svejnar, 2009).

Thus, in the third chapter we continue with examining the relationship between stability of business environment and impact of corruption on microeconomic performance of firms in transition economies. We specifically look at the impact of informal payments and state capture on firm productivity growth, whereby we control for firm ownership and country groups. We use firm-level micro data collected by the Business Environment and Enterprise Performance Survey (BEEPS) for 27 transition countries. The results are in line with the previous research, confirming that corrupt activities negatively affect firms' productivity and the effects are even more negative with less efficient institutional environment. Yet, there is more variation than previously inferred.

We find that there are groups of firms that do benefit from engaging in corrupt activities to either circumvent weaker contract enforcement or by engaging in informal payments. These involve mainly foreign owned firms in the new EU member countries and state owned firms in former Soviet countries. Possible explanation is that foreign owned firms feel to be a priori at a competitive disadvantage vis-à-vis domestically (private or state) owned firms. This might be due to foreign firms' perception on what are the unspoken rules of doing business in a country they set up a base or perhaps they feel domestic firm owners are more politically connected and have easier access to doing business. As the foreign owned firms fear they would ultimately lose business to domestic or state owned firms they strategically chose to engage in informal payments. Likewise, there are practical considerations owing to where giving informal payments are outlawed in most countries; meanwhile they are allowed in certain countries. Consequently, the foreign owned firms engage in well-intentioned business activity because they think that is actually legal or they might intentionally engage in informal payments as they perceive the law enforcement weak or penalties not being severe in comparison to the benefits. Finally, the results show unstable and weak business environment has a significant negative impact on firm performance, while some groups of firms indeed seem to overcome this by involving in informal payments. These findings suggest that stricter law and contract enforcement are must, which may make firms' involvement in informal payments obsolete.

In summation, efficient institutions are necessary for constraining corruption occurrence and promoting economic growth. They also matter and serve as a structural determinant of firm performance in countries. Corruption is generally shown to have long run rather than

immediate negative impact on economic growth. Foreign owned firm firms are likely to benefit and state owned firms are more likely to lose from corrupt practices. In terms of policy implications according to what our results show, institutions that promote transparent business environment, reliability of law enforcement and measures that align anti-corruption policies and lobbying regulation may help reduce firms' involvement in corrupt activities, such as informal payments and state capture. This, in turn, may decrease the likelihood of in particular foreign owned firms to involve in informal payments.

Finally, in order to have even better understanding on the impact of corruption on the overall macroeconomic efficiency losses in transition countries, a further research in this area could be undertaken. There are various possibilities for it. First, it is interesting to examine how relationship between different types of corruption (bribery and state capture) and social institutions evolve over time. Also, it would be useful to extend the concept of shadow economy to all illegal activities as two thirds of money earned in illegal economy is later spent in official economy, which could give more insight on the mechanism of how illegal activities affect officially measured economic growth. This is not a simple task as obtaining data on illegal activities is difficult, however, it would give clearer picture on the relationship between corruption, institutional efficiency and necessary policies for development of the transition countries.

REFERENCES

Abed, G. T. and Gupta, S. (2002). Governance, corruption, and economic performance. *International Monetary Fund*.

Acemoglu, D., Robinson, J. A., and Woren, D. (2012). Why nations fail: The origins of power, prosperity, and poverty (Vol. 4). New York: *Crown Business*.

Acemoglu, D. (2006). Modelling inefficient institutions (No. w11940). *National Bureau of Economic Research.*

Acemoglu, D., Johnson, S., and Robinson, J. A. (2000). The colonial origins of comparative development: an empirical investigation (No. w7771). *National bureau of economic research.*

Ades, A., and Di Tella, R. (1997). The new economics of corruption: a survey and some new results. *Political Studies*, 45(3), 496-515.

Aidt, T. S. (2003). Economic analysis of corruption: a survey. *Economic Journal* 113: 632-652.

Aidt, T., Dutta, J., and Sena, V. (2008). Governance regimes, corruption and growth: Theory and evidence. *Journal of Comparative Economics*, 36(2), 195-220.

Alm, J., and Torgler, B. (2006). Culture differences and tax morale in the United States and in Europe. *Journal of economic psychology*, 27(2), 224-246.

Alm, J., Martinez-Vazquez, J. and Schneider, F. (2004). Sizing the problem of the hard-to-tax. *Working Paper*, Georgia State University: USA.

Alm, J., Sanchez, I., and De Juan, A. (1995). Economic and noneconomic factors in tax compliance. *Kyklos*, 48, 3–18.

Andreski, S. (1968). The African Predicament: A Study in the Pathology of Modernisation. *London: Michael Joseph*.

Andvig, J. C., and Moene, K. O. (1990). How corruption may corrupt. *Journal of Economic Behavior & Organization*, 13(1), 63-76.

Arndt, C. and Oman, C. (2006). Uses and Abuses of Governance Indicators. Paris, *OECD*.

Bardhan, P. (1997). Corruption and development: A review of issues. *Journal of Economic Literature* 3: 1320-1346.

Bayley, D.H. (1966). The Effects of Corruption in a Developing Nation, *The Western Political Science Quarterly* 19(4): 719-32.

Beck, P. J. and Maher, M.W. (1986). A Comparison of Bribery and Bidding in Thin Markets. *Economic Letters*, Vol. 20, No. 1, pp. 1–5.

Becker, G. and Stigler, G. (1974). Law Enforcement, Malfeasance, and Compensation of Enforcers. *The Journal of legal Studies* 3:1–19.

Besley, T. (2006). Principled Agents? The Political Economy of Good Government. *Oxford: Oxford University Press*.

Bhagwati, J.N. (1982). Directly unproductive, profit-seeking (DUP) activities. *Journal of Political Economy*, 90, 988 – 1002.

Bjørnskov, C. (2003). Corruption and social capital. Aarhus School of Business, Department of Economics.

Bjørnskov, C. (2011). Combating corruption: On the interplay between institutional quality and social trust. *Journal of Law and Economics*, 54(1), 135-159.

Blackburn, K., Bose, N., and Haque, E. M. (2006), 'The Incidence and Persistence of Corruption in Economic Development', *Journal of Economic Dynamics and Control*, 30, 2447–67.

Blagojević, S. and Damijan, J. P. (2013). The impact of corruption and ownership on the performance of firms in Central and Eastern Europe. *Post-Communist Economies*, 25(2), 133-158.

Bohara, A., Mitchell, N., and Mittendorff, C. (2004). Compound democracy and the control of corruption: a cross-country investigation. *Policy Study Journal* 32(4):481–499.

Bottelier, P. (1998). Corruption and development. *International Symposium on the Prevention and Control of Financial Fraud*, Beijing (Vol. 19, p. 1).

Bracking, S. (2007). Political Development and Corruption: Why 'Right Here, Right Now!? In Corruption and Development: The Anti-Corruption Campaigns, ed. Bracking, S, 3-27.*Palgrave Macmillan*.

Breusch, T. (2005). Estimating the Underground economy using MIMIC models. *Econometrics* 0507003, Econ WPA.

Campos, N. F., Dimova, R., and Saleh, A. (2010). Whither corruption? A quantitative survey of the literature on corruption and growth (No. 5334). *Discussion paper series//Forschungsinstitut zur Zukunft der Arbeit*.

Chafuen A. and Guzmán, E. (1999) Economic freedom and corruption. O'Driscoll GP, Holmes KR, Kirkpatrick M, 2000 index of economic freedom. *Heritage Foundation, Washington DC*.

Christian, L. and Oberholzer-Gee, F. (2006), Political relationships, global financing and corporate transparency: Evidence from Indonesia, *Journal of Financial Economics,* 81, 411-439.

Clarke, M. (ed). (1983). Corruption: Causes, Consequences and Control. *London: Frances Pinter.*

Choi, J. P. and Thum, M. (2005). Corruption and the shadow economy. *International Economic Review*, 46(3), 817-836.

Chowdhury, S.K. (2004). The effect of democracy and press freedom on corruption: an empirical test. *Econ Lett* 85(1):93–101.

Cummings, R. G., Martinez-Vazquez, J., McKee, M., and Torgler, B. (2004). Effects of culture on tax compliance: A cross check of experimental and survey evidence. *CREMA Working Paper Series*, 2004-13, Basel.

De Rosa. D, Gooroochurn, N. and Gorg, H. (2010), Corruption and Productivity: Firm-Level Evidence from the Beeps Survey, *World Bank Policy Research Working Paper No*. 5348.

Djankov, S., La Porta, R., Lopez-de-Silanes, F. and Shleifer, A. (2007), "The law and economics of self-dealing", *Journal of Financial Economics*.

Djankov, S., and Murrell, P. (2002), Enterprise Restructuring in Transition: A Quantitative Survey, *Journal of Economic Literature*, 40(3): 739–92.

Dobbin, F. R. (1993). The social construction of the great depression: industrial policy during the 1930s in the United States, Britain, and France. *Theory and Society*, 22(1), 1-56.

Doig, A. and Theobald, R. (2000). Corruption and Democratisation. *London: Frank Cass*.

Dreher, A and Gassebner, M. (2013). Greasing the wheels? The impact of regulations and corruption on firm entry. *Public Choice*, Volume 155.

Dreher, A., and Schneider, F. (2010). Corruption and the shadow economy: an empirical analysis. *Public Choice*, 144(1-2), 215-238.

Dreher, A., Kotsogiannis, C., and McCorriston, S. (2007). Corruption around the world: Evidence from a structural model. *Journal of Comparative Economics*, 35(3), 443-466.

Dreher, A., Kotsogiannis, C., and McCorriston, S. (2005). How do Institutions Affect Corruption and the Shadow Economy? *mimeo*.

Dreher, A. and Herzfeld, T. (2005), The Economic Costs of Corruption: A Survey and New Evidence, *Public Economics* 0506001, EconWPA.

Egger, P., and Winner, H. (2005). Evidence on corruption as an incentive for foreign direct investment. *European journal of political economy*, 21(4), 932-952.

Elgin, C., and Garcia, M. S. (2012). Public Trust, Taxes and the Informal Sector. *Bogazici Journal: Review of Social, Economic & Administrative Studies*, 26(1).

Elgin, C., and Oztunali, O. (2012). Shadow economies around the world: model based estimates. *Bogazici University Department of Economics Working Papers*, 5.

Elgin, C. (2010). Political turnover, taxes and the shadow economy. *Bogazici University Department of Economics Working Papers*, 8.

Estrin, S., Hanousek, J., Kocenda, E. and Svejnar, J. (2009), Effects of Privatization and Ownership in Transition Economies. *Journal of Economic Literature*, 47(3): 699–728.

Feld, L. P., and Frey, B. S. (2002). Trust breeds trust: How taxpayers are treated. *Economics of Governance*, 3, 87–99.

Fidrmuc, J. (2003). Economic reform, democracy and growth during post-communist transition. *European Journal of Political Economy*, 19(3), 583-604.

Fidrmuc, J., and Gërxhani, K. (2005). Formation of social capital in central and eastern Europe: Understanding the gap vis-à-vis developed countries.

Fisman, R., 2001, Estimating the value of political connections, *American Economic Review*, 91, 1095-1102.

Friedman, E., Johnson, S., Kaufmann, D. and Zoido-Lobaton, P. (2000), Dodging the Grabbing Hand: The Determinants of Unofficial Activity in 69 Countries, *Journal of Public Economics* 76:459-493.

Fries, S., Lysenko, T and Polanec, S. (2003), The 2002 Business Environment and Enterprise Performance Survey: Results from a survey of 6,100 firms, *EBRD Working Paper* No. 84.

Frey, B. S., and Stutzer, A. (2010). Happiness and public choice. *Public Choice*, 144(3-4), 557-573.

Frey, B. S., and Stutzer, A. (2000). Happiness, economy and institutions. *The Economic Journal*, 110(466), 918-938.

Frye, T. and A. Shleifer (1997), The invisible hand and the grabbing hand, *American Economic Review*, 87, 354 – 358.

Friedman, E., Johnson, S., Kaufman, D. and Zoido-Lobaton, P. (2000). Dodging the Grabbing Hand: the Determinants of Unofficial Activity in 69 Countries. *Journal of Public Economics* 76(3), 459-493.

Gaviria, A. (2002), Assessing the effects of corruption and crime on firm performance: evidence from Latin America, *Emerging Markets Review*, Vol. 3, Issue 3, 245-268.

Golden, M. and Picci, L. (2005). Proposal for a New Measure of Corruption, Illustrated with Italian Data. *Economics and Politics* 17, 37–75.

Gray, C., Hellman, J and Ryterman, R. (2004), Anticorruption in transition 2: corruption in enterprise-state interactions in Europe and Central Asia, 1999-2002, *World Bank Publications*.

Gregorič, A., Zajc, K., and Simoneti, M. (2012). Agents' response to inefficient judiciary: social norms and the law in transition. *European Journal of Law and Economics*, 34(1), 147-172.

Groenendijk, N. (1997). A principal-agent model of corruption. *Crime, Law and Social Change* 05-1997, Volume 27, Issue 3-4, pp 207-229.

Gupta, S., Davoodi, H., and Alonso-Terme, R. (2002). Does corruption affect income inequality and poverty?. *Economics of Governance*, 3(1), 23-45.

Gupta, S., Davoodi, H. R., and Tiongson, E. (2000). Corruption and the provision of health care and education services (No. 2000-2116). *International Monetary Fund*.

Hall, R. E., and Jones, C. I. (1999). Why do some countries produce so much more output per worker than others? *The quarterly journal of economics*, 114(1), 83-116.

Helliwell, J. F. (2003). How's life? Combining individual and national variables to explain subjective well-being. *Economic Modelling*, 20(2), 331-360.

Helliwell, J. F., and Huang, H. (2008). How's your government? International evidence linking good government and well-being. *British Journal of Political Science*, 38(04), 595-619.

Hellman, J., and Kaufmann, D. (2001). Confronting the challenge of state capture in transition economies. *Finance and Development*, 38(3), 31-35.

Hellman, J., Jones, G. and Kaufmann, D. (2000). Seize the State, Seize the Day: State Capture, Corruption and Influence in Transition, *World Bank Policy Research Working Paper* No. 2444.

Hellman, J., Jones, G., Kaufmann, D. and Schankerman, M. (2000). Measuring governance and state capture: the role of bureaucrats and firms in shaping the business environment, *EBRD Working Paper* No. 51.

Henderson, J. and Kuncoro, A. (2006). Corruption in Indonesia, *NBER Working Paper* 10674.

Hindriks, J., Keen, M. and Abhinay, M. (1999). Corruption, Extortion, and Evasion, *Journal of Public Economics* 74(3), 395-430.

Huntington, S. P. (1968). Political Order in Changing Societies. New Haven, *Connecticut: Yale University Press.*

Ivanov, K. (2007). The limits of a global campaign against corruption. Corruption and development. The Anti-Corruption Campaigns. Basingstoke, Hampshire: *Palgrave Macmillan,* 28-25.

Jain, A. (2001). Corruption: A Review, *Journal of Economic Surveys* 15(1): 71–121.

Jain, A. K. (2001). Power, Politics and Corruption, in Arvind K. Jain (ed), The Political Economy of Corruption. *Routledge Contemporary Economic Policy Issues. New York: Routledge*.

Jain, A. (1987). Agency problem and the international debt crisis. Proceedings of the *Fourth Symposium on Money, Banking, and Insurance*, West Germany, Band I. 367-91.

Johnson, S., La Porta, R. Lopez-de-Silanes, F. and Shleifer, A. (2000). Tunnelling. *American Economic Review*, 90, 22-27.

Johnson, S., Kaufmann, D. and Shleifer, A. (1997). The Unofficial Economy in Transition. *Brookings Papers on Economic Activity*, 27 (2); pp. 159-239.

Johnson, S. Kaufmann, D. and Zoido-Lobaton, P. (1998). Regulatory Discretion and the Unofficial Economy. *American Economic Review*, 88 (2); pp. 387-392.

Johnston, M. (1996). The Search for Definitions: The Vitality of Politics and the Issue of Corruption. *International Social Science Journal* 48:322.

Jos, P. H. (1993). Empirical corruption research: beside the (moral) point? *Journal of Public Administration Research and Theory*, 3(3), 359-375.

Joskow, P. L. (2008). Introduction to new institutional economics: A report card. *New institutional economics: a guidebook,* 1-19.

Katz, E. and Rosenberg, J. (1994). Rent-seeking for budgetary allocation: preliminary results for 20 countries. *Public Choice*, 60, 133-44.

Kaufmann, D. and S. J. Wei (1999). Does "grease money" speed up the wheels of commerce. *NBER Working Paper* 7093, Cambridge, Mass.

Kaufmann, D., Kraay, A. and Zoido-Lobaton, P. (1999). Aggregating 18 Governance Indicators, World Bank, *Policy Research Working Paper* No. 2195, Washington, D.C.

Kaufmann, D. (1997). Economic corruption: the facts. *Foreign policy*, 107, (Summer), 114-31.

Kautilya. (1991). The Arthashastra. New Delhi: *Penguin Books*, pp. 281.

Keefer, P. and Knack, S. (1998). Political stability and economic stagnation. In IEA Conference Volume Series (Vol. 119, pp. 136-153). *The Macmillan Press ltd*.

Kenny, C. (2006). Measuring and Reducing the Impact of Corruption in Infrastructure, *World Bank Policy Research Working Paper No*. 499.

Klitgaard, R. (1988). Controlling Corruption. Berkeley: *University of California Press*.

Knack, S. (2006). Measuring Corruption in Eastern Europe and Central Asia: A Critique of the Cross-Country Indicators, *World Bank Policy Research Working Paper* 3968.

Knack, S. and Keefer, P. (1995). Institutions and economic performance: cross-country tests using alternative institutional measures. *Economics & Politics*, 7(3), 207-227.

Krastev, I. (2000). "The Strange (Re)Discovery of Corruption". *Budapest: Central European University Press*.

Krueger, A. O. (1974). The political economy of the rent-seeking society. *The American economic review*, 291-303.

Kuncoro, A. (2006). Corruption and Business Uncertainty in Indonesia. *ASEAN*.

Kunčič, A. (2013). Institutional quality dataset. *Journal of Institutional Economics*, 1-27.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A. and Vishny, R.W. (1999). The Quality of Government. *Journal of Law, Economics and Organization*, 15, 1, 222-279.

La Porta, R., Lopez-de-Silanes, F. and Zamarippa, G. (2003). Related lending, *Quarterly Journal of Economics*, 119, 231-268.

La Porta, R., Lopez-de-Silanes, F, Shleifer, A. and Vishny, R. (1998). Law and Finance. *Journal of Political Economy*, 106, 1113–155.

Leff, N. H. (1964). Economic development through bureaucratic corruption. *American Behavioral Scientist* 8(3), 8–14.

Leff, N. H. (1964). Economic development through bureaucratic corruption. *American behavioral scientist*, 8(3), 8-14.

Leys, C. (1965). What is the Problem about Corruption? *The Journal of Modern African Studies*, 3(02), 215-230.

Lien, Da H. D. (1986). A Note on Competitive Bribery Games. *Economic Letters*, Vol. 22, No. 4, pp. 337–41.

Lippert, O. and Walker, M. (eds.) (1997). The Underground Economy: Global Evidences of its Size and Impact. Vancouver: *The Frazer Institute*.

Lipset, S. M. (1960). Political Man: The Social Basis of Modern Politics. New York: *Doubleday*.

Mauro, P. (1998). Corruption: causes, consequences, and agenda for further research. *Finance and Development*, 35, 11-14.

Mauro, P. (1995). Corruption and Growth. *The Quarterly Journal of Economics*, 110(3): 681- 712.

McCormick, R. L. (1981). The discovery that business corrupts politics: A reappraisal of the origins of progressivism. *American Historical Review* 86(2): 247–74.

McMillan, J. and Zoido, P. (2004). How to subvert democracy: Montesinos in Peru. *Journal of Economic Perspectives*, 69-92.

Meggison, W.L. and Netter, J.M. (2001). From state to market: a survey of empirical studies on privatization. *Journal of Economic Literature* 39, 321–389.

Méndez, F., and Sepúlveda, F. (2006). Corruption, growth and political regimes: cross country evidence. *European Journal of Political Economy*, 22(1), 82-98.

Menes, R. (2003). Corruption in cities: Graft and politics in American cities at the turn of the twentieth century (No. w9990). *National Bureau of Economic Research*.

Méon, P.G. and Sekkat, K. (2005). Does corruption grease or sand the wheels of growth? *Public Choice* 122(1), 69–97.

Méon, P.G. and Weill, L. (2008). Is Corruption an Efficient Grease?. Bank of Finland, Institute for Economies in Transition, *BOFIT Discussion Papers* 20/2008.

Miraldi, R. (2000). The Muckrakers: Evangelical Crusaders. *Praeger*.

Mixon, F.G. Jr, Laband, D.N. and Ekelund, R.B. Jr. (1994). Rent-seeking and hidden in-kind resource distortion: some empirical evidence. *Public Choice*, 78, 2, 171-186.

Mo, P. H. (2001). Corruption and economic growth. *Journal of Comparative Economics*, 29(1), 66-79.

North, D. (1990). Institutions, Institutional Changes and Economic Performance. *Cambridge Univ. Press, Cambridge, UK*

Nye, J. (1967). Corruption and Political Development: A Cost-Benefit Analysis. *American Political Science Review* 61(June): 417-27.

Nye, J. (1989). Political Corruption: A Cost Benefit Analysis, in Political Corruption: A Handbook, ed. A.J. Heidenheimer, Michael Johnston, and V. Levine (New Brunswick, NJ: *Transaction Books*), 966.

Olken, B. (2006). Corruption and the Costs of Redistribution: Micro Evidence from Indonesia. *Journal of Public Economics*, 90(4-5):853-870.

Olken, B. (2009). Corruption Perceptions vs. Corruption Reality. *Journal of Public Economics* 93, (7-8): 950-964.

Olken, B. and Barron, P. (2009). The Simple Economics of Extortion: Evidence from Trucking in Aceh. *Journal of Political Economy*, 117(3): 417-452.

Paul, C., and Wilhite, A. L. (1994). Illegal markets and the social costs of rent-seeking. *Public Choice*, 79(1-2), 105-115.

Persson, T. and Tabellini, G. (2000). Political Economics: Explaining Economic Policy. Cambridge: *The MIT Press*.

Peters, J. and Welch, S. (1978). Political Corruption in America: A Search For Definitions and a Theory: Or, If Political Corruption is in the Mainstream of American Politics, Why is it not in the Mainstream of American Political Research? *American Political Science Review* 72:3:974-84.

Pierson, P. (2004). Politics in Time: History, Institutions, and Social Analysis. Princeton: *Princeton University Press*.

Porta, D. and Vannucci, A. (1997). The 'perverse effects' of political corruption. *Political studies*, 45(3), 516-538.

Porta, D. and Vannucci, A. (1999). Corrupt Exchanges: Actors, Resources and Mechanisms of Political Corruption. *New York: Aldine de Gruyter*.

Prašnikar, J., Pahor, M., and Vidmar Svetlik, J. (2008). Are national cultures still important in international business? Russia, Serbia and Slovenia in comparison. Management: *Journal of Contemporary Management Issues*, 13(2 (Special issue)), 1-26.

Roberts, B. (1990). A dead Senator tells no lies: Seniority and the distribution of federal benefits, *American Journal of Political Science*, 34, 31-58.

Rodrik, D., Subrimanian, A. and Trebbi, F. (2002). Institutions rule: The primacy of institutions over geography and integration in economic development, *IMF Working Paper* 02/139.

Rose-Ackerman, S. (1999). Corruption and government: Causes, consequences and reform. *Cambridge University Press*, Cambridge, UK.

Rose-Ackerman, S. (1978). Corruption: A Study in Political Economy. *Academic Press*.

Rose-Ackerman, S. (1997). The Political Economy of Corruption, in. K. A. Elliott (ed.), Corruption and the Global Economy. Washington DC: *Institute for International Economics*: 31-66.

Ruzindana, A. (1997). The importance of leadership in fighting corruption in Uganda. Corruption and the Global economy, 133-145.

Sapienza, P. (2004). The effects of government ownership on bank lending, *Journal of Financial Economics*, 72, 357-384.

Schaltegger, C. A., and Torgler, B. (2007). Government accountability and fiscal discipline: A panel analysis using Swiss data. *Journal of Public Economics*, 91(1), 117-140.

Schmölders, G. (1970). Survey research in public finance: A behavioral approach to fiscal theory. *Public Finance*, 25, 300–306.

Sequeira, S. and Djankov, S. (2010). An empirical study of corruption in ports.

Shleifer, A. (1998). State versus Private Ownership, *Journal of Economic Perspectives*, 12, 4: 133-150.

Shleifer, A. and Vishny, R.W. (1998). The Grabbing Hand, Government Pathologies and Their Cures, Cambridge, MA, *Harvard University Press*.

Shleifer, A. and Vishny, R.W. (1994). Politicians and firms, *Quarterly Journal of Economics*, 109, 995-1025.

Shleifer, A. and Vishny, R.W. (1993). 'Corruption', *Quarterly Journal of Economics*, 108, 599–618.

Schneider, F., Buehn, A., and Montenegro, C. E. (2010). New Estimates for the Shadow Economies all over the World. *International Economic Journal*, 24(4), 443-461.

Schneider, F. (2006). Shadow economies and corruption all over the world: what do we really know? *CESifo Working Paper* No. 1806.

Schneider, F. (2005). Shadow economies around the world: what do we really know?. *European Journal of Political Economy*, 21(3), pp. 598-642.

Schneider, F. and Enste, D. (2002). The Shadow Economy: Theoretical Approaches, Empirical Studies, and Political Implications. Cambridge: *Cambridge University Press.*

Sequeira, S. and Djankov, S. (2010). An Empirical Study of Corruption in Ports. *MPRA Paper* 21791, University Library of Munich, Germany.

Shleifer, A. and Vishny, R. (1994). Politicians and firms. *The Quarterly Journal of Economics*, 995-1025.

Shleifer, A. and Vishny, R. (1993). Corruption. *The Quarterly Journal of Economics*, 108, 3, 99-617.

Smale, A. (2001). The Dark Side of the Global Economy. *New York Times*, 26 August, p. 3.

Smith, K. W. (1992). Reciprocity and fairness: Positive incentives for tax compliance. Ann Arbor, MI: *University of Michigan Press*.

Smith, K. W., and Stalans, L. J. (1991). Encouraging tax compliance with positive incentives: A conceptual framework and research directions. *Law and Society Review*, 13, 35–53.

Smith, A. (1759). The Theory of Moral Sentiments. Glasgow Edition of the Works and Correspondence Vol. 1. *Accessed 10 January 2015*.

Song, Y. D., and Yarbrough, T. E. (1978). Tax ethics and taxpayer attitudes: A survey. *Public Administration Review*, 442-452.

Steffens, L. (1957). The Shame of the Cities. Repr. *New York: Hill and Wang*.

Stigler (1971). The Theory of Economic Regulation. *Bell J. Econ. Man*. Sci. 2: 3-21.

Strümpel, B. (1969). The contribution of survey research to public finance. In A. T. Peacock (Ed.), Quantitative analysis in public finance (pp. 14–32). New York: *Praeger Publishers*.

Sung, H. E. (2004). State failure, economic failure, and predatory organized crime: A comparative analysis. *Journal of Research in Crime and Delinquency*, 41(2), 111-129.

Svejnar, J. (2002). Transition Economies: Performance and Challenges. *Journal of Economic Perspectives*, 16, 1, 19-42.

Svensson, J. (2003). Who Must Pay Bribes and How Much? Evidence from A Cross Section Of Firms. *The Quarterly Journal of Economics*, 118(1): 207-230.

Swamy, A., Knack, S., Lee, Y. and Azfar, O. (2001). Gender and Corruption. *Journal of Development Economics* 64: 25–55.

Tanzi, V. and Davoodi, H. (1998). Corruption, public investment, and growth (pp. 41-60). *Springer Japan*.

Tanzi, V. (1998). Corruption and the budget: Problems and solutions. In Economics of corruption (pp. 111-128). *Springer US*.

Teaford, J. (1984). The unheralded triumph: City government in America, 1870 – 1900. *Baltimore: Johns Hopkins*.

Torgler, B., and Schneider, F. (2009). The impact of tax morale and institutional quality on the shadow economy. *Journal of Economic Psychology*, 30(2), 228-245.

Treisman, D. (2007). What have we learned about the causes of corruption from ten years of cross-national empirical research?. *Annu. Rev. Polit. Sci*., 10, 211-244.

Treisman, D. (2000). The Causes of Corruption: a Cross-National Study. *Journal of Public Economics*, 76: 399-457.

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

Wallis, J. J. (2006). The concept of systematic corruption in American history. In Corruption and Reform: Lessons from America's economic history (pp. 23-62). *University of Chicago Press*.

Welsch, H. (2008). The welfare costs of corruption. *Applied Economics*, 40(14), 1839-1849.

World Bank (2012), [www document], (accessed 10 February 2012) at http://www1.worldbank.org/publicsector/anticorrupt/corruptn/cor02.htm.

Ziobrowski, A., Cheng, P., Boyd, J. and Ziobrowski, B. (2004), Abnormal Returns from the Common Stock Investments of the US Senate, *Journal of Financial and Quantitative Analysis* 39(4), 661-676.

APPENDIX

APPENDIX

Appendix A: SUMMARY IN SLOVENIAN LANGUAGE / DALJŠI POVZETEK DISERTACIJE V SLOVENSKEM JEZIKU

> *»Povejmo brez dlake na jeziku: rak korupcije je treba izkoreniniti. V vse več državah ljudje zahtevajo ukrepanje glede tega vprašanja…Vedo, da se zaradi korupcije sredstva preusmerjajo od revnih proti bogatim, da se povečujejo stroški poslovanja, da prihaja do nepravilnosti pri porabi javnih sredstev, kar vse odvrača tuje vlagatelje. Vsi vemo, da je to ovira za nemoten in pravičen razvoj.«* (James Wolfensohn, »Rak korupcije«, govor na Svetovni banki, 1996).

Namen daljšega povzetka v slovenščini je predvsem predstavitev problematike korupcije in njenega vpliva v tranzicijskih državah, in sicer v posameznih poglavjih, ki so sestavni del doktorskega dela. Prvi del povzetka podaja podrobnejšo predstavitev problematike korupcije. Nato sledijo predstavitve treh poglavij. Na koncu povzetka na kratko povzamemo splošne ugotovitve celotnega doktorskega dela in zaključimo z opisom našega načrtovanega prispevka k literaturi.

V zadnjih desetletjih so se številne raziskave posvetile vprašanju korupcije in razvoja (glej pregled literature v Bardhan, 1997). Empirične študije ugotavljajo, da so države z višjo stopnjo korupcije manj razvite in da imajo slabše možnosti za prihodnjo rast (Mauro, (1995), Dreher in Herzfeld (2005)). Dreher in Herzfeld (2005) prav tako ugotavljata, da povečanje korupcije za približno eno indeksno točko zmanjšuje rast BDP za 0,13 odstotne točke, BDP na prebivalca pa za 425 dolarjev.

Razmerje med korupcijo in razvojem je večplastno, ker se nanaša na kakovost institucionalnega sistema in zapleteno mrežo interakcij med državnimi službami, pravnim redom, neformalnimi institucijami in gospodarskimi subjekti. Frye in Schleifer (1997) ter Schleifer in Vishny (1998) opisujejo tri teoretične modele interakcije med institucionalnim sistemom in podjetniki v fazi razvoja z namenom analize teh vplivov, za katere se izkaže, da se poslabšajo zaradi vpliva različnih lastniških struktur podjetij. Položaj se še bolj zaplete predvsem zaradi podjetij v državni lasti, ki so dobro povezana s politiko in prevladujejo na trgu. Če želijo nova podjetja tekmovati na trgu z že uveljavljenimi in vplivnimi podjetji, se morajo odločiti za ujetost države (»state capture«) kot strateško izbiro (Hellman, Jones in Kaufmann (2000)). To pa povzroči precejšne družbene stroške in »ujetost ekonomije« in s tem znižanje gospodarske blaginje v tranzicijskih državah.

Fries, Lysenko in Polanec (2003) so na podlagi podatkov iz raziskave BEEPS (2002) pokazali, da imajo podjetja, vpletena v dejavnosti, povezane z ujetostjo države, 10 odstotkov višjo stopnjo naložb in 15 odstotkov višjo realno stopnjo rasti prihodkov kot druga podjetja. Hkrati pa imajo podjetja, ki poročajo, da so bila oškodovana zaradi ujetosti

države, nekoliko nižjo stopnjo produktivnosti in rasti prodaje kot druga podjetja. Ta ugotovitev kaže, da ujetost države prinaša koristi podjetjem, ki pri tem sodelujejo, hkrati pa ima negativne posledice za realno rast prihodkov in produktivnosti drugih podjetij.

To doktorsko delo poskuša preučiti vpliv različnih pojavnih oblik korupcije na gospodarsko učinkovitost na ravni podjetij in na celotno makroekonomsko učinkovitost v tranzicijskih državah. Doktorsko delo je sestavljeno iz treh poglavij. Prvo poglavje je posvečeno preučevanju koncepta korupcije, modelov, ki se uporabljajo za preučevanje fenomena in vplivu na države. Drugo poglavje empirično preučuje, v kolikšni meri kakovost institucionalnega sistema, ki se kaže v splošnem obstoju korupcije, vpliva na makroekonomsko učinkovitost tranzicijskih držav. Tretje poglavje empirično preučuje, kako korupcija vpliva na mikroekonomsko učinkovitost delovanja podjetij v tranzicijskih državah.

V prvem poglavju podajamo pregled koncepta korupcije. Korupcija ni nov pojav. Obstaja že od nekdaj in prisotna je v vseh družbah (glej Fleck in Kuzmics, 1985; Klitgaard, 1988). Po mnenju filozofov, kot so Platon, Aristotel, Polibij, Machiavelli in Montesquieu, je bila korupcija nujna sestavina vsakega cikla sprememb oblasti. Za nadzor tega procesa je bilo potrebno ravnovesje moči. Neohranjanje tega ravnovesja je bil sinonim za korupcijo.

> *»Če je zakon pod neko drugo avtoriteto in nima nič svojega, zlom države po mojem mnenju ni daleč; če pa je zakon gospodar vlade in vlada njegov suženj, takšno stanje veliko obeta in ljudje uživajo ves blagoslov, ki ga bogovi namenijo državi.« (Platon v Zakonih, 346 pr. n. št.)*

Platon je bil prepričan, da so zakoni in izobraženi vodje najpomembnejši za vodenje države. Aristotel je menil, da morajo ti zakoni temeljiti na pravičnih načelih za skupni interes vseh državljanov, ne le peščice.

> *»Vlade, ki upoštevajo skupni interes, so sestavljene v skladu s strogimi načeli pravičnosti in so zato prave ureditve; tiste, ki upoštevajo le interese vladarjev, so vse pomanjkljive in izkrivljene oblike, ker so oblastniške.« (Aristotel v Politiki, Knjiga III, 1279a)*

V osemnajstem stoletju je prišlo do izpopolnitve koncepta z vključitvijo pojma »manipulacije gospodarskih privilegijev za zagotavljanje politične moči« peščice. Do devetnajstega stoletja je bila korupcija pojmovana kot sistematičen proces prodaje korporativnih privilegijev. Splošno razširjeno mnenje je bilo, da je gospodarstvo korumpiralo politiko in ne da je politika korumpirala gospodarstvo. V tem obdobju je bila sprejeta protimonopolna zakonodaja in izvedene so bile številne reforme, ki so se nanašale

na vse vidike politike in ekonomije. Do dvajsetega stoletja se je pojem korupcije nanašal tudi na vedenje ljudi in ne samo na stanje režima. Pojem korupcije, kot ga razumemo danes, v veliki meri izhaja iz preteklih pojmov, opredeljuje pa jo kot zlorabo javne funkcije zaradi osebne koristi (glej Nye, 1967; Rose-Ackerman, 1978; Szeftel in Clark, 1983; Klitgaard, 1988).

Govor Wolfensohna, predsednika Svetovne banke, o »raku korupcije« iz leta 1996, je pomenil pomembno prelomnico pri razumevanju korupcije kot državnega sovražnika številka ena in glavnega razloga za slabe gospodarske rezultate držav. Od takrat so nastale številne teoretične in empirične študije o dejavnikih in stroških korupcije. V študijah o korupciji se za razumevanje konceptualnega in teoretičnega razmerja med korupcijo in učinkovitostjo institucij na splošno uporabljata dva modela korupcije, namreč model principal-agent in model alokacije sredstev. Če korupcije v preteklosti niso šteli za nekaj slabega (Leff, 1964; Leys, 1965), danes prevladuje mnenje, da ima negativne posledice na gospodarsko rast in celotno družbo (glej pregled študij Ades in Di Tella, 1997; Porta in Vannucci, 1997; Kaufmann, 1997; Rose-Ackerman, 1999; Kaufmann in Wei, 1999; Gupta et al, 2000). Študije ugotavljajo, da lahko korupcija v nekaterih primerih »naolji kolesa« gospodarstva, ker pomaga pri premagovanju birokratskih ovir in neučinkovitih predpisov. Večina teoretičnih in empiričnih študij pa kaže, da je korupcija predvsem »pesek v kolesih«. Preprečuje naložbe, zmanjšuje rast, povzroča nepravilnosti pri porabi javnih sredstev, krepi neformalno gospodarstvo, povečuje revščino in dohodkovno neenakost, zmanjšuje zaupanje v institucije itd.

Globalni protikorupcijski program je predvsem ekonomski problem, ki zahteva liberalizacijo, institucionalne reforme in krepitev dobre upravljavske prakse. Korupcija se obravnava kot glavna ovira za gospodarski razvoj. Postala je »boj« proti vzrokom in posledicam, zlasti v srednjeevropskih in vzhodnoevropskih državah ter državah nekdanje Sovjetske zveze, čeprav problem korupcije ni omejen na te države, saj so tudi zahodnoevropske države priča številnim korupcijskim škandalom. Obdobje od devetdesetih let prejšnjega stoletja sta zaznamovala propad komunističnih držav in konec hladne vojne, zaradi česar so nastale številne neodvisne države in tržna gospodarstva. V novoustanovljenih državah je prišlo do splošnega znižanja življenjskega standarda, zmanjšanja pričakovane življenjske dobe, povečanja števila oligarhov in nesorazmernega družbenega in gospodarskega razvoja. To je bilo obdobje gibanj velikanskih razsežnosti za demokratizacijo in reforme, privatizacijo državnih podjetij, kar zagotavlja plodna tla za korupcijo (Boychko et al, 1996). Ena od trditev v zvezi z razlogi, zaradi katerih tranzicijske države niso dosegle ravni razvoja zahodnoevropskih držav, je, da so njihove vlade običajno skorumpirane in da so leta in leta sistematično razvijale gospodarske politike, ki so promovirale politične interese in ohranjale politični nadzor njihovih ljudi in strank na oblasti (Bracking, 2007).

Pri preoblikovanju srednjeevropskih in vzhodnoevropskih držav ter nekdanjih sovjetskih socialističnih gospodarstev v tržna gospodarstva je prihajalo do vrste podobnih gospodarskih in političnih reform. Toda te tranzicijske države so dosegale različne ravni tržnega gospodarstva in gospodarske uspešnosti (Fidrmuc, 2003). Fidrmuc in Gërxhani (2005) v svoji študiji navajata, da bi bilo to mogoče pripisati tudi nižji kakovosti institucij in nižjemu splošnemu zaupanju. Učinkovitost institucij v tranzicijskih državah se zato razlikuje zaradi drugačnih okoliščin, kot so uporaba prisile, organizacija države, prisotnost močnih verskih prepričanj itd. Kot je lepo povedal Acemoglu (2006):

> *»Neučinkovite institucije se bodo pojavljale in vztrajale, če so skupine, ki so jim ljubše neučinkovite politike (ki ne krepijo rasti), ki jih te institucije ustvarjajo, dovolj močne, in če ni mogoče najti drugih družbenih ureditev, ki lahko nadomestijo te močne skupine, hkrati z doseganjem učinkovitejših porazdelitev.« (Acemoglu, 2006, str. 342)*

V tranzicijskih državah se ujetost države vse bolj šteje za najškodljivejšo obliko korupcije, ki spodjeda prepotrebne reforme na račun znatnih stroškov družbe (Hellman in Kaufmann, 2001). Trdita, da ta oblika korupcije ni samo znamenje slabega upravljanja in šibkih institucij, ampak tudi temeljni vzrok za to. Tranzicijske države so ujete v začarani krog, kjer prihaja do spodkopavanja reform in kjer se sistematično vzdržujejo šibke institucije. Kakovost institucij je glavni dejavnik gospodarskega razvoja (glej pregled študij v Mauro, 1995; Knack in Keefer, 1995; Hall in Jones, 1999; Acemoglu et al., 2000; Dreher, 2007).

Čeprav so v navedenih študijah zbrani dosledni dokazi o odnosu med korupcijo, institucijami in razvojem, je njihova skupna pomanjkljivost ta, da zanemarjajo sivo ekonomijo (Dreher, 2007). Številne študije ločeno preučujejo korupcijo in sivo ekonomijo, čeprav so posredni stroški korupcije vidni tudi prek vpliva na število gospodarskih družb, ki raje poslujejo na črno. Vprašanje je, ali podjetja oziroma posamezniki delujejo na črno, da se izognejo skorumpiranim uradnikom ali pa delujejo na črno, tako da podkupujejo uradnike? Vprašanje je tudi, ali je uradna ekonomija zavetje pred korupcijo? Teoretično sta lahko korupcija in siva ekonomija bodisi zamenjavi (Rose-Ackerman, 1997 in Dreher et al., 2005) bodisi dopolnili (Johnson et al., 1997, 1998; in Friedman et al., 2000). Natančen odnos med obema torej ostaja nepojasnjen (Schneider in Enste, 2002). Toda empirične študije kažejo, da korupcija in neučinkovite inštitucije vse prepogosto povečujejo sivo ekonomijo (Johnson et al., 1998).

V drugem poglavju natančno preučujemo, ali so tranzicijske države z višjimi ravnmi korupcije manj uspešne v smislu gospodarske rasti, pri čemer upoštevamo razmerje med korupcijo, ravnmi sive ekonomije in učinkovitostjo institucij. Natančneje, preučujemo

potencialne vplive korupcije na uspešnost tranzicijskih držav, ob predpostavki, da bodo visoke ravni korupcije upočasnile njihovo gospodarsko rast in hkrati povzročale pritisk na povečevanje neformalnih dejavnosti. Po drugi strani pa bi višja kakovost institucij pospeševala gospodarsko rast in s tem zagotavljala manj spodbud za poslovanje na črno. Poudarjamo stališče, da bodo imele različne vrste korupcije, kot so podkupnine za spremembo pravil in predpisov ali ujetost države (korupcija, zakoreninjena v pravilih in predpisih) različne gospodarske posledice. Najprej preučujemo vpliv korupcije na gospodarsko rast držav, z upoštevanjem običajnih proizvodnih dejavnikov, kakovosti institucionalnega sistema, ravni sive ekonomije in zemljepisne lege. Nato analiziramo vpliv različnih oblik korupcije (podkupovanje in ujetost države) na gospodarsko rast. Na koncu preučujemo odnos med ravnmi sive ekonomije in različnimi oblikami korupcije v teh državah, kar je pogojeno s stopnjo razvoja, ravnjo kakovosti institucij in njihovo zemljepisno lego. Po našem najboljšem vedenju ne obstajajo poskusi preučevanja posledic posebnih vrst korupcije na ravni sive ekonomije in primerjave vpliva gospodarske uspešnosti v tranzicijskih državah.

Ta vprašanja obravnavamo z ocenjevanjem dveh empiričnih modelov na podlagi podatkov na makro ravni. Model (1) temelji na standardnem modelu makroekonomske rasti, ki se običajno uporablja v konvergenčnih študijah. Model spreminjamo z dejavniki, ki nakazujejo kakovost institucionalnega sistema, raven zaznane korupcije in raven sive ekonomije. Ocenjujemo tudi alternativno specifikacijo modela (1) z upoštevanjem različnih oblik korupcije. Pri modelu (2) in (2a) preučujemo razmerja med korupcijo in ravnmi sive ekonomije. Uporabljamo podatke iz študije Schneiderja in Buehna (2010), temelječe na modelu več kazalnikov in več vzrokov (MIMIC), za obravnavanje vprašanja sive ekonomije, poročilo EBRD o tranziciji in svetovne kazalnike upravljanja Svetovne banke za obravnavanje vprašanja kakovosti institucij in napredka (ekonomske in politične institucije), Penn World Tables za obravnavanje rasti in kakovosti človeškega kapitala ter indeks zaznavanja korupcije Transparency International (CPI) za obravnavanje ravni zaznane korupcije. V drugem poglavju uporabljamo tri sklope mikro podatkov na ravni podjetja, zbranih s pomočjo raziskave Svetovne banke Business Environment and Enterprise Performance Survey (BEEPS) za ugotavljanje različnih vrst koruptivnega ravnanja (podkupovanje in ujetost države) in za preučitev, ali obstajajo jasni in realni vzorci razmerja med korupcijo in sivo ekonomijo.

Empirične ugotovitve so skladne z našimi pričakovanji. Ugotavljamo, da višja kakovost institucij spodbuja gospodarsko rast in ovira dejavnosti sive ekonomije. Po drugi strani pa so ugotovitve o neposrednih vplivih korupcije na gospodarsko rast manj prepričljive. V nekaterih regijah je razvidno, da korupcija vpliva na rast prek dejavnosti ujetosti države, v drugih pa se zdi, da ima dolgoročni in ne takojšnji vpliv na gospodarsko rast. Med temi državami obstaja tudi velika heterogenost, ki vpliva na razmerje med korupcijo, sivo

ekonomijo in gospodarsko uspešnostjo. Trdimo, da je te razlike v uspešnosti mogoče pripisati predvsem razlikam pri izgradnji njihovih institucij in vrsti institucionalnega upravljanja. Zdi se, da so družbene institucije in kultura izrednega pomena pri odločanju o tem, ali bodo podjetja oziroma davkoplačevalci delovali v uradni ali sivi ekonomiji. Med formalnimi in neformalnimi instituciji pa obstaja velika razlika. V nekaterih državah so sicer izvedli reforme in hitreje vključili formalne institucije, ki so skladne z zahtevami Evropske unije, vendar pa je za spreminjanje kulture in izgradnjo brezhibnih neformalnih institucij potreben čas. V državah, v katerih obstaja sistemska korupcija, institucionalni sistem pa je deležen pogostih sprememb, bo težje pridobiti zaupanje državljanov in spreminjati norme, vrednote in prepričanja o tem, kako naj se sklepajo posli. Pri tem ne gre za to, da bi dvomili v dobre namene protikorupcijskih dejavnosti, ampak da so potrebne druge temeljne politike in reforme za njihov napredek pri razvoju. Brez izboljšanja institucij in brez vlad, vrednih spoštovanja, ni pričakovati zmanjšanja korupcije. Zato je boj proti korupciji tesno povezan z drugimi reformami. V zvezi s tem je treba storiti še veliko več.

To doktorsko delo prispeva tudi k razpravi o razmerju med korupcijo in razvojem, njegov namen pa je predvsem ugotoviti, kako korupcija (neformalna plačila in ujetost države) vpliva na mikroekonomsko poslovanje podjetij v tranzicijskih državah.

Raziskave so pokazale, da je korupcija najbolj škodljiva za gospodarski razvoj v državah s šibkim sistemom upravljanja in šibkim institucionalnim sistemom. Vendar pa to razmerje ni enostavno, ampak dokaj zapleteno, ker se nanaša na kakovost institucionalnega sistema in kompleksno mrežo interakcij med državnimi službami, pravnim redom, neformalnimi institucijami in gospodarskimi subjekti. Méon in Sekkat (2005) prav tako trdita, da kakovost institucionalnega sistema in korupcija vplivata na splošni gospodarski razvoj prek mikroekonomske uspešnosti, tj. prek vstopne in izstopne dinamike podjetij in njihove individualne uspešnosti. Frye in Shleifer (1997), Shleifer in Vishny (1998) ter Shleifer (1998) opisujejo tri teoretične modele interakcije med institucionalnim sistemom in podjetniki v fazi razvoja. Model nevidne roke pomeni, da so državni lastniki neučinkoviti. Ne morejo uspešno nadzirati vodstev in ne skrbijo za to, da bi povečali vrednost za delničarje. Teorija roke pomoči pomeni, da imajo podjetja korist od prisotnosti državnih delničarjev in od države odvisnih vodstev. In končno, teorija roke, ki grabi, pomeni, da državni lastniki iz podjetij, ki kotirajo na borzi, črpajo sredstva. To počno bodisi zato, ker opravljajo družbeno vlogo bodisi zato, ker so od države odvisne uprave skorumpirane in jih sestavlja veliko število neodvisnih birokratov, ki se zavzemajo za lastne interese, kot je sprejemanje podkupnin, ne da bi upoštevali vpliv svojih dejanj na poslovanje zasebnega sektorja. Te posledice se še slabše, če na institucionalni sistem vpliva različna lastniška struktura podjetij. Empirične študije so jasne glede ugotovitve, da je zasebno lastništvo povezano z uspešnejšim poslovanjem podjetij v primerjavi s podjetji v državni lasti (glej

pregled empiričnih študij o različnih državah v Havrylyshyn in McGettigan, 2000; Djankov in Murrell, 2000 in 2002; Megginson in Netter, 2001; Estrin, Hanousek, Kocenda in Svejnar, 2009).

V tretjem poglavju nadaljujemo s preučevanjem razmerja med stabilnostjo poslovnega okolja in vplivom korupcije na mikroekonomsko uspešnost podjetij v tranzicijskih ekonomijah. Za analizo potencialnih vplivov na neformalna plačila in ujetost države na produktivnost podjetij smo uporabili empirično metodologijo v treh korakih. Najprej smo preučili vpliv neformalnih plačil in ujetosti države na rast produktivnosti podjetij ob upoštevanju njihovega lastništva. Drugič, opravili smo analizo vpliva neformalnih plačil in ujetosti države na produktivnost podjetij ob upoštevanju skupin držav in raven stabilnosti poslovnega okolja. Na koncu smo preučili vpliv vpletenosti podjetij v neformalna plačila in ujetost države ob upoštevanju obdobja pred širitvijo Evropske unije leta 2004 in po njem, da bi ugotovili morebitne vplive zahtev za pridružitev Evropski uniji, ki se nanašajo na izboljšanje institucij in večjo stabilnost poslovnega okolja. Za oceno vpliva koruptivnih ravnanj na rast produktivnosti smo uporabili standardni model izračuna prispevkov rasti (1), ki je upošteval vpliv koruptivnih ravnanj (merjenih z neformalnimi plačili in spremenljivkami ujetosti države na ravni podjetij).

Dosedanje preučevanje vpliva korupcije in ujetosti države na uspešnost podjetij je bilo omejeno zaradi pomanjkanja ustreznih podatkov, saj gre za zelo zaupne informacije o koruptivnih ravnanjih, ki jih zaznavajo direktorji in o njihovi vpletenosti v ta ravnanja. V tretjem poglavju smo uporabili mikro podatke na ravni podjetja, zbrane v raziskavi Business Environment and Enterprise Performance Survey (BEEPS). Poleg značilnosti podjetij podatki vključujejo tudi dragocene informacije iz raziskave o korupciji (merjeno z neformalnimi plačili in spremenljivkami ujetosti države na ravni podjetij). Uporabili smo tri sklope podatkov za vsako državo, kar nam je omogočilo, da smo upoštevali dolgotrajne učinke neformalnih plačil in ujetosti države na uspešnost poslovanja podjetij. Rezultati so skladni s prejšnjimi raziskavami, kar potrjuje, da koruptivna ravnanja negativno vplivajo na produktivnost podjetij in da so vplivi še bolj negativni v manj učinkovitih institucionalnih okoljih. Odstopanja pa so večja, kot je bilo mogoče prej sklepati.

Ugotavljamo, da obstajajo skupine podjetij, ki imajo resnično korist od izvajanja koruptivnih dejavnosti, tako da bodisi izkoristijo slabše izvrševanje pogodb bodisi uporabljajo neformalna plačila. To se nanaša predvsem na podjetja v tuji lasti v novih državah članicah Evropske unije in podjetja v državni lasti v nekdanjih sovjetskih republikah. Možna razlaga za to je, da podjetja v državni lasti menijo, da so že vnaprej v slabšem konkurenčnem položaju glede na domača podjetja (v zasebni ali državni lasti). Razlog za to je morda način, po katerem tuja podjetja zaznavajo neizrečena pravila poslovanja v državi, kjer imajo sedež ali pa menijo, da imajo lastniki domačih podjetij

boljše politične zveze in lažji dostop do sklepanja poslov. Podjetja v tuji lasti se bojijo, da bodo nazadnje izgubile posel v korist domačih podjetij ali podjetij v državni lasti, zato se strateško odločijo, da bodo uporabila neformalna plačila. Obstajajo tudi praktični vidiki, in sicer da je dajanje neformalnih plačil v večini držav prepovedano, v nekaterih pa ne. Tako podjetja v tuji lasti začno dobronamerno izvajati poslovno dejavnost, ker menijo, da je dejansko zakonita ali pa se začno namerno ukvarjati z neformalnimi plačili, ker se jim zdijo organi pregona šibki ali pa kazni ne dovolj ostre v primerjavi s koristmi. Rezultati kažejo, da ima nestabilno in šibko poslovno okolje znatne negativne vplive na uspešnost poslovanja podjetij, pri nekaterih skupinah podjetij pa se zdi, da so to premagala z izvajanjem neformalnih plačil. Te ugotovitve kažejo, da so strožji organi pregona in doslednejše izvrševanje pogodb nujni, s čimer bi bilo mogoče odpraviti ukvarjanje podjetij z neformalnimi plačili.

Učinkovite institucije so potrebne za omejevanje pojava korupcije in spodbujanje gospodarske rasti. Pomembne so tudi za uspešno poslovanje podjetij v posamezni državi in predstavljajo strukturni dejavnik uspešnosti. Na splošno se je izkazalo, da so negativni vplivi korupcije na gospodarsko rast dolgoročni in ne takojšnji. Pri podjetjih v tuji lasti obstaja verjetnost, da bodo imela koristi od koruptivnih ravnanj, pri podjetjih v državni lasti pa obstaja večja verjetnost, da bodo od tega imele izgubo. Glede na to, kar kažejo naši rezultati, lahko institucije, ki spodbujajo pregledno poslovno okolje, zanesljivost organov pregona ter ukrepe za uskladitev protikorupcijskih politik in zakonsko ureditev lobiranja, z vidika političnih posledic pripomorejo k zmanjšanju koruptivnih dejavnosti podjetij, kot so neformalna plačila in ujetost države. Po drugi strani lahko to zmanjša verjetnost uporabe neformalnih plačil predvsem v podjetjih v tuji lasti.

Za boljše razumevanje vpliva korupcije na celovito poslabšanje makroekonomske učinkovitosti v tranzicijskih državah bi na tem področju bilo mogoče opraviti nadaljnje raziskave. Zanje obstajajo različne možnosti. Zanimivo bi bilo, na primer, preučiti, kako se sčasoma razvija razmerje med različnimi oblikami korupcije (podkupovanje in ujetost države) in družbenimi institucijami. Prav tako bi bilo koristno razširiti koncept sive ekonomije na vse nezakonite dejavnosti, saj se dve tretjini denarja, ki ga ustvari nezakonita ekonomija, kasneje porabi v uradni ekonomiji. To bi omogočilo boljši vpogled v to, kako nezakonite dejavnosti vplivajo na uradno merjeno gospodarsko rast. To ni enostavna naloga, saj je težko pridobiti podatke o nezakonitih dejavnostih, vendar bi omogočila jasnejšo sliko o razmerju med korupcijo, učinkovitostjo institucij in potrebnimi politikami za razvoj držav v tranziciji.

Zgodovina kaže, da je korupcija prisotna, odkar ljudje živijo na zemlji in da je najverjetneje nikoli ne bo mogoče izkoreniniti. Morda bi se morali namesto tega usmeriti

v izgradnjo močnih institucij in izvajanje ustreznih politik za omejevanje njene pojavnosti. To ni enostavna naloga in odgovori pogosto niso enoznačni.

Pričakujemo, da bodo ugotovitve tega doktorskega dela prispevale k boljšemu razumevanju vpliva korupcije na preglednost poslovanja, ob upoštevanju različnih lastniških struktur, in vpliva pomanjkanja preglednosti poslovanja na učinkovitost podjetij ter splošno makroekonomsko učinkovitost. Ugotovitve te raziskave imajo tudi praktične vidike. Omogočajo pripravo vrste predlogov za potrebne ukrepe oziroma reforme, povezane s privatizacijo in regulacijo dejavnosti ter pripravo protikorupcijskih programov. Rezultati bi morali pritegniti zanimanje širše raziskovalne skupnosti in zakonodajne oblasti za nadaljnje razvijanje potrebnih politik in zagotavljanje učinkovitih institucij z namenom omejevanja pojava korupcije v tranzicijskih državah.