

DO THE MORE REGULATED
TRANSITION ECONOMIES EXHIBIT
MORE CORRUPTION?

by

Olha Poharska

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Abstract

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Chairperson of the Supervisory Committee: Professor Anatoliy Voychak
Director of the Christian University

Recent interest in the issues of corruption and its consequences for development outcomes has been accompanied by a growing theoretical and empirical literature. However, for effective and successful policies to combat corruption the roots of it should be investigated. This paper examines the link between the corruption levels and the degree of administrative intervention in the economy. In a cross-section of transition economies, the positive relationship between regulatory burden and corruption levels is tested. Results demonstrate a strong empirical link between these issues. Even after controlling for other governance indicators (like institutional quality, political instability and unpredictability), countries with higher degree of state intervention exhibit more corruption. The paper also investigates other possible causes of corruption such as low wages of government officials relative to private ones on corruption, political instability, low institutional quality etc. Based on obtained results the importance of deregulation of the economy is stressed but magnitude of complex reforms is accentuated. The findings of these studies and their consequent policy recommendations can help a country understand the shortcomings in its policies and institutions and design a better strategy to strengthen the state's performance.

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GLOSSARY

Blat – (pull) an informal use of personal relationships to get excess to scarce goods, services and resources.

Bribe – a sum of money or something valuable given to an official in order to persuade the official to do something. Sometimes bribes can be treated as gifts, however, there is a distinction between them since a bribe implies reciprocity while a gift may not.

Bureaucracy – a complex, specialized organization (especially a governmental organization) composed of non-elected, professional administrators and clerks hired on a full-time basis to perform administrative services and tasks. Bureaucratic organizations are broken up into specialized departments or ministries, to each of which is assigned responsibility for pursuing a limited number of the government's many official goals and policies – those falling within a single relatively narrow functional domain.

Corruption – the abuse of public power for private benefit (World Bank, Tanzi, 1998).

- the sale by government officials of government property for personal gain (schleifer and Vishny, 1993).
- dishonest and illegal behavior by people in position of authority and power (Collins Cobuild Student's Dictionary).

Deregulation – a set of measures aimed at reducing government interference into entrepreneurship, elimination of legal, administrative, economic and organizational barriers in the enterprise development (Decree of the President of Ukraine “About Elimination of Barriers That Restrain Entrepreneurship Development”, 79/98 ,03/02/1998).

Economic regulations – the overt barriers to entry or exit, licensing and tariffing laws, and price and wage controls. Economic regulations intervene directly in market market decisions such as pricing, competition, market entry, or exit (OECD). In this work under term “regulation” the definition of “economic regulations” is used.

Regulation – the diverse set of instruments by which government set requirements on enterprises and citizens (OECD).

Rent-seeking behavior – the expenditure of resources in order to bring about an uncompensated transfers of goods or services from another person or persons to one's self as a result of a “favourable” decision on some public policy.

LIST OF ABBREVIATIONS

- BEEP** – Business Environment and Enterprise Performance Survey.
- CEE** – Central and Eastern Europe.
- CIS** – Commonwealth of Independent States.
- CORQ14** – Corruption Index derived from WDR 97 Survey.
- EBRD** - The European Bank for Reconstruction and Development.
- FSU** – Former Soviet Union.
- GOVEFF** - Government Efficiency Index.
- IFC** – The International Financial Corporation.
- INSTAB** - Political Instability Index.
- INSTQ** - Freedom House Institutional Quality Index.
- JUDQUAL** - Judiciary Quality Index.
- OECD** – The Organization of Economic Cooperation and Development.
- TI CI** – Transparency International Corruption Index.
- TSLs** – Two Stage Least Squares.
- UNPRED** - Political Unpredictability Index.
- WDR** – World Development Report.

LIST OF COUNTRIES COVERED.

The Baltic countries

Estonia

Latvia

Lithuania

Central and Eastern European countries

Bulgaria

Czech Republic

Hungary

Poland

Slovak Republic

The CIS periphery

Armenia

Azerbaijan

Georgia

Kazakhstan

Kyrgyzstan

Uzbekistan

The CIS central

Belarus

Moldova

Russia

Ukraine

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INTRODUCTION

The lion's share of the causes of corruption determined in the economic literature can be related to the quality of governance. This concept captures the ability of the government to formulate and implement good economic policies (that is market-friendly ones, such as price or trade liberalization, designated to minimize state intervention in the business environment), their continuity, effectiveness and predictability of rules (Kaufmann, Kraay and Zoido-lobaton, 1999). This paper empirically investigates the relationship between indicators of various aspects of governance and corruption in transition economies.

There is a common perception that corruption is harmful for any society. Recent empirical research confirmed this belief, having found that corruption reduces economic growth (Mauro, 1995), foreign and domestic investments (Tanzi and Davoodi, 1997), increases the share of unofficial economy (Johnson, Kaufmann and Zoido-Lobaton, 1998) etc. Although understanding economic and social costs of corruption are important for realizing the necessity of anti-corruption and other policy reforms, an effective effort to deal with corruption depends on correctly identifying its root causes.

Corruption flourishes in rigid systems with multiple sources of monopoly power within government. Throughout the former Soviet bloc, the state of the economy (arbitrarily created deficits caused by enduring mechanism of state-determined prices, often at below market-clearing levels) gave officials an opportunity to exploit their positions for private gain. Corruption was common because the rigidity of the system was not supported by an impartial legal system capable to enforce the rules. During the transition period the situation may worsen if remnants of the former system and uncertainty caused by economic restructuring are enforced by fragile and poorly developed administrative and political structures. Excessive taxation, unstable legislation, subsidization of domestic firms, trade and regulatory constraints provoke private entities to pay public officials to reduce tax and regulatory burden, to obtain licenses, permits,

passports and so on. Given the incompleteness of legal system and weaknesses of other institutions in these countries, corruption is related to the scope of controlling power over economic activity in the hands of politicians and bureaucrats.

The aim of this paper is to investigate the causes of corruption. In particular, it is focused on the relationship between the levels of corruption and the degree of administrative intervention in the economy as one of the governance aspects. The hypothesis of a positive relationship between them is tested with use of econometric tools. Including further explanatory variables (measures of other aspects of governance), the robustness of the results is tested. The study covers some former Soviet Union and Central Eastern Europe countries. Measure of degree of regulation and other aspects of governance are taken from the private sector survey WDR 1997, the Freedom House annual comparative survey, EBRD Transition report 1999, and the Transparency International corruption index is taken as measure of corruption. The findings of this research can help in understanding the shortcomings of a country's policies, establishing priorities for reforms and designing a strategy to improve governance of the country.

The paper proceeds as follows. Section I presents discussion of existing economic literature and empirical works carried out in corruption causes and consequences. Section II describes the data and develops the empirical model. Section III presents empirical results and discusses econometric issues. Section IV concludes by developing possible applications.

Corruption in the Economic Literature.

Ukraine was one of the fifteen Soviet republics that became an independent country after the breakup of the former Soviet Union. The initial stages were very difficult, since transition is a complex of reforms designed to replace one economic system by another. However, the transition includes not only economic but also political and other changes. During ten years of transition period in most FSU and CEE countries stabilization was achieved and some of them are now experiencing economic growth (especially such CEE countries as the Czech Republic, Poland, Hungary, the Baltic countries and others). Others, including Ukraine, are suffering from continued economic decline. Such inability to overcome the prolonged crisis in Ukraine raises the question of what the reasons are for this phenomenon. Excessive taxation, unstable legislation, trade and regulatory constraints are present in the Ukrainian economy and can cause and promote corruption in this country (Tanzi, 1998; Rose-Ackerman, 1997; Shleifer and Vishny, 1993; Gray and Kaufmann, 1998). The practice of paying governmental officials to obtain licenses, permits, passports as well as to reduce the tax and regulatory burden are the examples of corruption that is widespread in Ukraine. High levels of corruption in FSU countries may be one of the explanations for low growth rates in these countries, since recent studies have shown that there is negative correlation between corruption and economic growth. High corruption levels affect economic growth through reducing incentives for domestic and foreign businesses to invest, diminishing the productivity of public investments, tax revenues, quality of the infrastructure, etc., increasing transaction costs and uncertainty, reducing the ability of government to perform its proper functions (Mauro, 1998; Tanzi and Davoodi, 1997; Tanzi, 1998; Gray and Kaufmann, 1998).

The phenomenon of corruption is not new for us: the first record of it can be attributed to the fourth century B.C. in India (Bardhan, 1996); however, in recent years there is much more consideration given to it. There are increasing

debates in the economic literature about the effects of government institutions on the economic performance of the country, their role in promoting and combating corruption. For example, in their work Shleifer and Vishny (1993) state that weakness of the government (inability to establish well defined, stable rules and regulations, law credibility, poor institutional control etc.) allows governmental agencies bureaucrats to charge payments (bribes) for providing goods (licenses, permits) and services and thus harm the investment and growth in the country. The role of government in promoting or combating corruption is examined in Susan Rose-Ackerman (1996, 1997), Vito Tanzi (1994, 1998), Robert Klitgaard (1997), Daniel Kaufmann (1997), Van Rijckeghem and Beatrice Weder (1997), Carlos Leite and Jene Weidmann (1999) and other researchers' works.

Some economists dwell on the problems of definition of corruption phenomenon and how corruption is organized (Tanzi, 1998; Rose-Ackerman, 1997; Shleifer and Vishny, 1993; Gray and Kaufmann, 1998). The problem of defining corruption arises because it depends on a point of view, nation's standard of "goodness", traditions etc. The most popular definition of corruption was made by the World Bank (Tanzi, 1998): the abuse of public power for private benefits. But this definition seems to be narrow considering that corruption actually may exist not only at political and bureaucratic levels (the first independent from the other or in the form of collusion), but also in private enterprises. The existence of fraud and corruption in both sectors of economy is, of course, a very serious problem. However, I concentrate primarily on cases of corruption in the public sector. It seems reasonable because solving this problem in the public sector can lead to controlling corruption in private sector while the reverse looks unlikely. Moreover, in this paper I focus on administrative corruption. This means that I will focus on the public officials rather than politicians (who can be corrupt as well), who as administrators control various activities or decisions.

"The abuse of public power" may be for the benefit of some individuals, parties, organizations, trade unions and so on. Rose-Ackerman (1997), for example, defined different types of corruption organization taking into account the level at which corruption is taking place and the number of bribers: kleptocracy, mafia-

dominated state, competitive bribery and bilateral monopoly. Others have tried to classify the acts of corruption in different categories (Tanzi, 1998) and look at the determinants of different levels of corruption: the structure of government institutions and the political process (Shleifer and Vishny, 1993); the level of public benefits available and illegality of corrupt deals, etc. (Rose-Ackerman, 1996).

The definition of the World Bank above also fails to distinguish between isolated and systemic corruption. In the first case, corruption is rare and can be easily detected and punished. In contrast, systemic corruption is widespread and is a routine in transactions between government and private sector.

Different models are built to explain various features of corruption, for example, corruption without and with theft - to investigate why corruption spreads and what makes it more distortionary and costly compared to taxation (Shleifer and Vishny, 1993). Econometric models examine the impact of corruption on growth, public investments, government revenues, quality of public investments and infrastructure, etc. (Tanzi and Davoodi, 1997; Mauro, 1996). Other theoretical models in relation to corruption, like the model of corruption as a game, the model of corruption with inter-temporal behavioral externalities and others are analyzed in Bardhan work (1996).

Many studies examine the causes and consequences of corruption. Among the causes of corruption suggested by Mauro (1998), Tanzi and Davoodi (1997), Tanzi (1998), Kaufmann (1997) and others, the following seem to be the most important:

- Causes that directly relate to government restrictions and intervention in different aspects of business activities such as:
 - ◊ Trade restrictions (tariffs, import quotas, custom duties).
 - ◊ Distributing scarce benefits (subsidies, taxation, licenses, provision of goods and services at below market price – credits, access to publicly provided goods such as land, water, electricity, etc.).
 - ◊ Taxes or other fees.

- ◇ The choice of public investment projects, government expenditures on purchasing different goods and services – government contracts privatization.
- ◇ Price controls and others.
- Factors that may cause corruption but which are not directly related to government intervention, e.g.
 - ◇ The ability to influence the legal and regulatory process (weakness of the political system);
 - ◇ Low wages of public officials;
 - ◇ Lack of effective institutional control, ineffective penalty system;
 - ◇ Access to the distribution process of natural monopolies or other limited natural resources control.

As can be seen, researchers pay significant attention to the role of government in causing corruption (See Rose-Ackerman, 1996, 1998; Schleifer and Vishny, 1993; Tanzi, 1998). Most research suggests that the more government officials intervene in business activities, the more likely corruption will be observed, especially when legislative, judicial institutions are weak. This weakness arises due to inability of these institutions to supervise government officials (weakness as lack of controlling mechanisms), on the one hand, and possibility to interpret laws, instructions, etc. differently and thus creating new sources and ways to charge payments for providing goods and services by public officials and bureaucrats (weakness as unclear, tangled and ambiguous legislation).

Several models were presented in the economic literature to explain these effects. For example, Schleifer and Vishny (1993) use a simple model where there are corrupt officials who have some power to influence the provision of goods (licenses, permits, etc) the official owner of which is the state. Power of the corrupt officials is defined as the ability to delay or deny the provision of the goods. In the model private agents demand these goods. It is assumed by the authors that government officials are monopolists in selling (providing) the good and their goal is to maximize the revenue from collecting the bribe. In this model the controlling

institutions are weak, so the probability of being caught is small and perpetrators are rarely punished. Furthermore, the detection of illegal transactions is difficult since corruption envelops almost all levels of government. To determine the revenue that officials get from these transactions, the cost to them are examined. It is necessary to consider two cases to calculate the costs to officials:

- 1) corruption without theft: when the officials receives payment for the good from private agent it consists of two parts – price the government imposed on this good and bribe. In this case the official returns the price to government, so that the cost of one transaction is equal to the government price;
- 2) corruption with theft: official does not return the price to the government and in this case the private agent pays only the bribe. So in this case there is no cost for the official.

Then, using the simple model of monopolist's behavior the optimal size of bribe and quantity of good to sell can be determined in both cases: the quantity is defined by the equality of marginal cost and marginal revenue of corruption and the price can be found from the demand curve. However, the above model does not include an important component of illegal transactions – keeping them secret. So, taking this cost into consideration the authors propose more advanced model. Through this model the authors show that as costs of keeping transactions secret increases, bribe level decreases.

Schleifer and Vishny also develop a theoretical argument of consequences of the corruption. They argue that when there are a number of goods which public officials have the power to provide and if each agency charges the bribes independently (there an assumption is made that goods are differentiated by location – in other words that there is no competition between agencies) then the supply of public and foreign investments decreases due to very high costs and thus the economic growth decreases. The fact that corrupt transactions are illegal and the need for secrecy makes corruption even more costly for the economy. Investment projects may be chosen on the criteria of better opportunities for secrecy and not on the basis of their worthiness in terms of output contribution to

the country's economy. These effects were empirically verified by a number of studies on this issue (See Tanzi, 1998; Mauro, 1995).

Susan Rose-Ackerman (1996, 1997) presents another theoretical models of corruption. In her papers she compares centralized corruption and decentralized corruption. She considers corruption as a form of rent-seeking activities. Rent seeking occurs when there are unclear and restrictive laws, high taxes and custom rates, or controlled prices and foreign exchange in a country. All this gives the opportunity for public (government) officials to search for private gain in carrying out their ordinary business. The interpretation of rent seeking that the author gives is very similar to the notion of corruption as defined by World Bank: "the abuse of public power for private benefits". However, a clear distinction is made between these two terms. Rent seeking is used as more general term for both legal and illegal efforts to create or obtain rents while corruption includes only illegal transactions.

The low reward for the public officials for honest work is mentioned by Rose-Ackerman as a cause of corruption. She argues that there is a positive relationship between the desire of personal financial gains and creation of opportunities for rent seeking. Van Rijchghem and Weder (1997) develop a model that suggests that there is strong relationship between public sector wages and corruption. Testing this hypothesis empirically they find that in those countries that are characterized by low wages, high levels of bribery exist.

Rose-Ackerman distinguishes between rent-seeking activity at high level officials and low level ones with the emphasis on the former one. She examines two extreme types of ruler – the benevolent dictator and the pure kleptocrat¹. Since usually a kleptocrat is elected for some short-term period he may favor policies that benefit him, however, the cost of such activity spreads far beyond this period. The fact that even a kleptocrat does not have absolute control over the other levels of government apparatus means he has to share with subordinates. The analysis of kleptocracy as a form of corruption can be extended to other levels of government. The head of ministries, committees or departments can also be

¹ According to Susan Rose-Ackerman (1978, 1998), benevolent dictator maximizes society's wealth and pure kleptocrat acts in favor of his own benefits.

kleptocrats. The ruler that maximizes his short-run benefits may demand inefficient public spending programs and private investments and may also choose to finance only short-term projects that lead at the end to lower economic growth in a country. Against this background, the author focuses on the policy options for countries that are willing to reform in order to reduce and abolish corruption.

In recent years a number of empirical studies have investigated the consequences of corruption on economic development. Many of these works are based on cross-country data. Here some results are discussed in more detail.

Vito Tanzi and Hamid Davoodi (1997) examine the effect of corruption on government's public finance. They start from the fact that investments contribute to economic growth. The decision about large public investments is usually made at high levels of the government by members of parliament or the head of the state. Some of these projects can be very large and are very profitable for the private enterprises chosen for realization of such projects. Thus, managers of these enterprises are willing to pay government officials that can influence the process of making decision about which enterprise is selected, or who can promote the contracting process in favor of a particular enterprise. The process of approval of the investment projects is difficult and takes some time. Since time is also costly (the long period of making the decision increases uncertainty in managing the firm) they may choose to pay the corrupt officials to hasten the decision process. Prima facie paying to speed up the process might increase economic efficiency and lower the costs of projects – given the constraints of the corrupt environment. However, the high costs of regulations and unofficial payments, the uncertainty surrounding them, can prevent some investors from the investment plans implementation since they create barriers to entry, limit the power of competition etc. Growing enterprises may spend more time with public officials and pay more unofficial payments because it produces a signal to public administrations that if enterprises are to invest and to grow they can submit to more bribes demand. Moreover, when the decision is made via auction large distortions occur: the decision can be made in favor of these firms that pay the highest bribe and, as a result, bigger and more complex, often lower quality, projects are accepted. The result is that the overall

cost of the investment project for the society is considerably higher than if the decision were made in the absence of corruption. The authors argue that the consequence of this is a decrease in productivity of the capital investments not only from new projects but also from existing infrastructure.

Using simple regression models they tested these arguments and found that:

- corruption tends to increase the size of public investments;
- corruption distorts the composition of public expenditures away from health and education projects, since these projects are considered harder to influence (see also, Mauro, 1995);
- corruption reduces the productivity of public investments.

Paulo Mauro (1995) examines the effects of corruption on investments. In a cross-section of 67 countries he regressed the ratio of investment to GDP on the corruption index taken from the Business International and concludes that corruption reduces investment as a whole due to higher costs and uncertainty that are unavoidable consequences of corruption. Since it is known that the rate of growth is sensitive to the size of investments, the author concludes that there is positive relationship between corruption and economic growth.

The consequences of corruption are controversial in the economic literature. On the one hand, there is a common viewpoint that corruption leads to inefficient economic outcomes (Mauro, 1998; Tanzi and Davoodi, 1997; Tanzi, 1998; Gray and Kaufmann, 1998; Rose-Ackerman 1996, 1997; Brunetti, Kisunko and Weder, 1997). There are many empirical studies that investigate how corruption would affect economic growth, composition of government expenditures, public investments, etc. According to this line of argument, corruption leads to lower economic growth. This may happen through lower incentives for domestic and foreign businesses to invest, lowering the productivity of public investments, tax revenues, quality of the infrastructure, etc., raising transaction costs and uncertainty, reducing the ability of government to perform its functions.

However, the direct regressions on the impact of corruption on GDP and GDP growth show ambiguous results (Brunetti, Kisunko and Weder, 1997; Kaufmann, Kraay and Zoido-Lobaton, 1999). While obtaining significant results, many problems arise when estimating this relationships. One of them is that countries at the different stage of development differ in the extent of corruption, and thus, perceptions, on the basis of which corruption indices are constructed, may be overshadowed and is less reliable. However, there is strong correlation between GDP and corruption indices and by regressing GDP per capita rather than GDP itself Kaufmann, Kraay and Zoido-Lobaton solve the problem of perception bias.

As to composition of government expenditures, Mauro (1998) finds that corruption reduces public expenditures on education because other expenditures offer public officials better opportunities to collect bribes. He concludes that such an allocation of resources creates inefficiency in the economy and thus lowers well being of society. Other empirical studies on the impact of corruption on foreign trade, foreign direct investments etc. show the numerous ways through which corruption lowers economic efficiency and growth.

The above empirical works concentrate on the negative consequences of corruption. However, some researchers (Rose-ackerman, 1996; Tanzi, 1998; Klitgaard, 1998) state that corruption may have positive effects, under some circumstances, e.g.:

- ⇒ corruption may result in better work of government employees (bribes give incentives to public officials to work quickly and favor those who value their time);
- ⇒ business entities may avoid the excess burden of taxes, ineffective legal system, allowing them to get funds for activities that may result in positive effect for the whole economy. In other words, bribes lower the cost of overly restrictive regulations or tax burden to those firms that bribe.

The above theoretical arguments are criticized in many ways. For example, Kaufmann and Wei (1999) investigate the effect of heavy regulations on the firms' willingness to pay to avoid them. The authors begin with the hypothesis that paying

government officials and bureaucrats is similar to deregulation and in this sense corruption can promote economic growth, and try to verify it empirically. In a survey they find that managers who on average pay more bribes have to spend more time dealing with various officials. The result contradicts the hypothesis, since the opposite relationship was to be true.

This argument also can be supported by the simple logic of such transactions. Corruption leads to economic inefficiency and waste since it affects the allocation of funds, production and consumption. Gains obtained through corruption can not be used legally as investments and they are spent on the conspicuous consumption or go away from the country as accounts in foreign banks. Furthermore, corruption makes possible the survival of economically inefficient enterprises, thus, the structure of production becomes distorted etc.

Thus, most of these authors (Tanzi, 1998; Rose-Ackerman, 1997, 1996; Gray and Kaufmann, 1998) and many others, anyway, consider corruption in the society as synonymous with evil and thus propose “remedies” to cope with it:

- policy changes that reduce opportunities for corruption (decrease regulation and government intervention - lowering tariffs and other barriers to international trade, minimize licenses, subsidy programs, price controls, demonopolize government property, etc.);
- reforming government institutions (civil service reforms - increase public sector wages, establishing efficient control and penalty systems, strengthen legal and judicial systems, clarify laws, change government procedures, etc.);
- greater reliance on internal competition between public officials can increase the cost of keeping corrupt transactions in secrete so high that officials will decide in favor of not taking the bribes, and others.

Since it is government officials that are corrupted, the question arises who will administer these policies. However, even with endemic corruption in a country, there is likely to be some reform-minded decision makers who are willing to change the regime that supports the corrupt environment. Moreover, some decisions to decrease corruption can be made under the pressure of

international organizations and donor groups (this argument is especially urgent for countries in transition) or citizens in a democracy.

It can be seen from the growing theoretical and empirical literature on corruption issues that corruption is a complex phenomenon. Its roots lie in bureaucratic and political institutions and detection of them is central for research and policy-makers. The reason for the concern about this issue is that corruption is costly for economic development. Although some may argue that corruption can have a positive effect (like in the case of avoiding excessive regulation), there is a growing number of counter-arguments and empirical research that do not find sufficient evidence in favor of positive effects (Kaufmann and Wei, 1999; Kaufmann, Kraay and Zoido-Lobaton, 1999). Results of these works are used to draw possible solutions to reduce corruption and fraud.

While there is a lot of theoretical and empirical work on corruption, there are still many unanswered questions: causality issues between corruption and growth, poverty, inefficiency, inequality, etc., which forms of corruption can be viewed as less “harmful” and why, what has been done to reduce corruption and was it successful and others.

The paper’s contribution is an empirical investigation of the causes of corruption in transition economies. In particular it is investigated how excessive burden of taxes and high regulations promote higher levels of corruption. Rapidly changing macroeconomic environment and the new legal and property regimes, deep recession in the first stage of transition, the dramatic increase in poverty, inconsistencies in laws and policies, all these formed auspicious ground for corruption to flourish. The situation worsened due to the long-term practice of specific business relations existed in the former Soviet countries. During that time business entities accommodated to the imperfect planned economy by establishing “friendly relations” with government officials. This tradition easily stroked its roots under new but constantly changing conditions. The study of corruption issues covers the CIS, CEE and Baltic countries.

Data Description and Methodology.

2.1. Data description.

The aim of this paper is to investigate the causes of corruption. In particular, it is focused on the relationship between the levels of corruption and the degree of administrative intervention in the economy as one aspect of governance. To conduct the empirical part of this work different independent variables were constructed based on the data from two surveys - Private Sector Survey conducted in 1997 for the World Development Report (WDR) and the European Bank for Reconstruction and Development Business Environment and Enterprise Performance Survey results presented in the Transition Report 1999 (EBRD BEEP). Additional data came from the organization Transparency International, and from the Government Committee of Statistics of Ukraine. The main reason for using different sources is that they differ in coverage of questions asked (surveys), government statistics and time. For example, the WDR survey gives possibility to construct variety of indices reflecting different aspects of governance, while the EBRD BEEP data are used to stress the severity of regulation burden for business entities in transition economies.

On the basis of these data the following variables were measured:

➤ *Corruption.*

From the WDR survey I have used question 14 as a proxy for the corruption levels in transition economies. About 1,100 firms were asked to assess how common it is for firms in their line of business to have to pay some irregular “additional payment” to get things done. Answers were on the scale ranging from: 1 (always) to 6 (never). Data also allow making comparison between the effects of regulatory burden on the tending of small-, medium-, and large-sized firms’ managers to pay bribes, as well as manufacturing, service and export firms.

In recent years new data on corruption across countries have appeared in the form of reports on corruption, case studies, questionnaire-based surveys

conducted by different agencies. On an annual basis the corruption indices are constructed by Business Environment Risk Intelligence, the Wall Street Journal Central European Economic Review, Gallup International Association and many others organizations. However, since these indices are not available to me, I have used the Transparency International Corruption Index (TI CI) to rate the level of corruption and check the reliability of results obtained by regressing the described above variable on measures of regulatory burden and other aspects of governance. Published annually since 1995 the TI CI has become the most widely used indicator of the level of corruption. The index is based on a weighted average of approximately ten surveys that vary in the number of countries examined. It ranks countries by their level of corruption on a scale of 0 to 10 in the descending order (the higher is the index the more corrupt is the country).

Though the TI index is mostly commonly used in the empirical literature on corruption, the appropriateness of it is somewhat restricted. Since different year surveys cover different samples of countries (Appendix 1 presents TI index for the CEE and Baltic countries), two major problems arise: impossibility of time series analysis and incommensurable data². The latter means that the following assumptions should be made in order to use TI CI 1999 as a dependent variable in the regression analysis: the independent variables (described below) are not changing much from 1997 to 1999. The reason under this assumption is that with a slow legislative process and little political change, the 1997 survey is still accurate in 1999. Moreover, the laws and regulations from 1997 could take awhile to work their way through the political and legal systems and actors in the economy usually do not respond immediately to such changes.

➤ *Regulation index.*

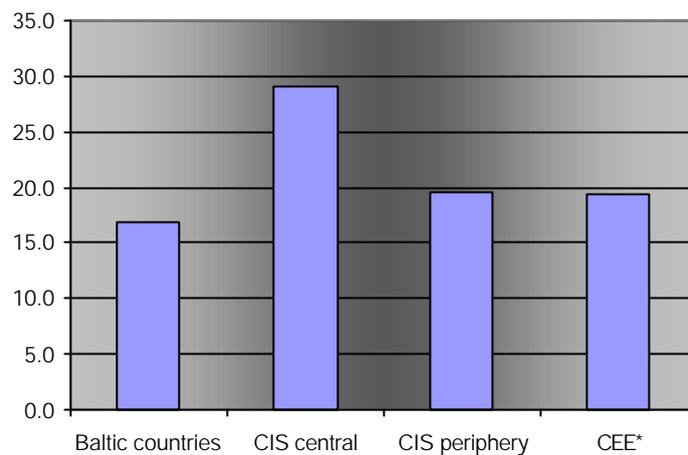
As has been already mentioned, I focus on regulation as a major source of corruption. The simple reason for this is that the lion's share of all causes mentioned in economic literature and presented in the previous chapter are

² As can be seen from the appendix 1, the coverage of countries in 1996 considerably differs from that one in 1999. Since only TI CI 1999 covers most countries of my interest and independent variables are taken from WDR survey conducted in 1997, this problem arises.

attributed to government regulation. The OECD defines regulation as “the diverse set of instruments by which government set requirements on enterprises and citizens” (OECD’s Work on Regulatory Reform). According to the OECD, both government and non-government bodies have regulatory power if it was delegated to the latter ones by government. It also considers three categories of regulation: economic, social and administrative. For the purpose of this work, social regulation is not considered, however it does not mean that I belittle its effects on economy.

Economic regulation includes government intervention in pricing decisions, competition, market entry or exit, in other words – intervention in market decisions of an enterprise. In the Soviet period all these areas were the domains of government decisions, and after its collapse the transition to market-determined mechanisms began. However, in a decade of transition, countries have achieved widely varying levels of considerable progress in these areas. Appendix 3 presents the results of a BEEP survey question about state intervention in enterprise decisions. Based on this survey data the Index of State Intervention was calculated. As a proxy for the level of state intervention, it was used the percentage of all firms in the survey that answered they face state intervention sometimes or more frequently in several aspects of their operations: investment, employment, sales, mergers/acquisitions, wages and prices. This index is calculated as a simple average of these dimensions. In chart 2.1 the average of this index in four areas is presented. From the Central and Eastern Europe countries I have excluded Hungary and Slovak Republic because the responses in these two countries are a little strange and may be explained by different expectations about the role of government on the transition way. To support this argument the following case can be presented. In appendix 4 the Governance Index for these two countries shows the top ratings. Although this fact can be explained by stronger institutions in these countries, still the evidence of state intervention can be perception biased.

Chart 2.1. State Intervention Index



Source: EBRD Transition Report 1999.

The same arguments could be used to explain relatively low State Intervention and Governance Indices in such countries as Uzbekistan, Armenia, Azerbaijan. One more explanation is that these countries have made little progress on their way to market-oriented economies (EBRD Transition Report, 1999) and thus enterprises used to government intervention in the past can underreport the extent of governance and see intervention as a norm in their business.

Administrative regulations that include paperwork and “red tape” also have substantial impact on enterprises’ performance. The more regulated is the economy, the more power and possibilities have public officials to intervene and charge bribes. For example, in Ukraine in 1997 there were about 102 entrepreneurial activities for which licenses should be obtained, and the rules that regulated license issuing were stated in 3 Codes, 32 Laws of Ukraine, 2 Decrees of the President of Ukraine, 23 Resolutions of the Cabinet of Ministers of Ukraine and 67 instructions (Hansen, J. and V. Nanivska, 1999). Entrepreneurial activity is regulated by 32 Laws of Ukraine, 18 Decrees of the President of Ukraine, and more than 80 Resolutions of the Ukrainian government (Pidluska, 1998). Moreover, about 30 different ministers and departments have right to issue various permits to conduct business. The costs to solve official impediments can be huge. In table 2.1 the results of the survey asked how much on average should

non-government medium-sized enterprises pay to get around various administrative regulations in Ukraine presented.

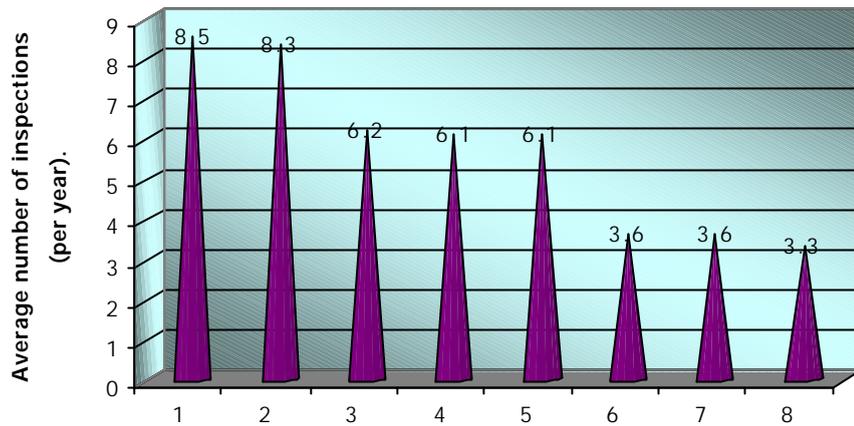
Table 2.1. Structure of Average Fees Firms Need to Pay to Obtain Licenses, Permits and Other Public Goods.

Public Goods and Services	Average Fee
Export License/Permit	\$217
Export Contract Paper work/processing	\$189
Expedite Border Crossing	\$194
Import License/Permit/Registration	\$108
Expedite Creation of New Enterprise	\$186
Each Quarter Tax Inspection Visit	\$91

Source: Kaufmann, D. and A. Kaliberda. 1996. "Integrating the Unofficial Economy into the Dynamics of Post-Socialist Economies: A Framework of Analysis and Evidence".

The situation worsens the fact that Ukrainian entrepreneurs consider these payments as a necessity (see Appendix 5), thus conclusion can be made about systemic characteristics of the corruption phenomenon in Ukraine. According to the Ukrainian Government Committee of Entrepreneurship, the annual costs of government regulation (registrations, license provisions, inspections etc.) were estimated to be \$21,780 per enterprise in manufacturing industry and \$6,607 in trade (Sydoruk, 1997). The cost of corruption in terms of time wasted with government officials is also enormous. For example, registration takes about 38 days and obtaining a license requires 81 days (Sydoruk, 1997). Moreover, an average Ukrainian enterprise faces 78 inspections annually (Pidluska, 1998). According to the IFC - Ukraine, the State Sanitary-Epidemiological Service most frequently "visits" Ukrainian enterprises (8.5 inspections per year), then come Committee of Consumer Rights (8.3), Customs (6.2), Tax Administration and Fire Safety Inspection (6.1) (see chart 2.2).

Chart 2.2. Structure of Inspections by Government Agencies.



Source: Pidluska, Inna. 1998. "Choice Problem: Corruption or "Clear" Business in Ukraine?" *Economic Reforms Today* #17.

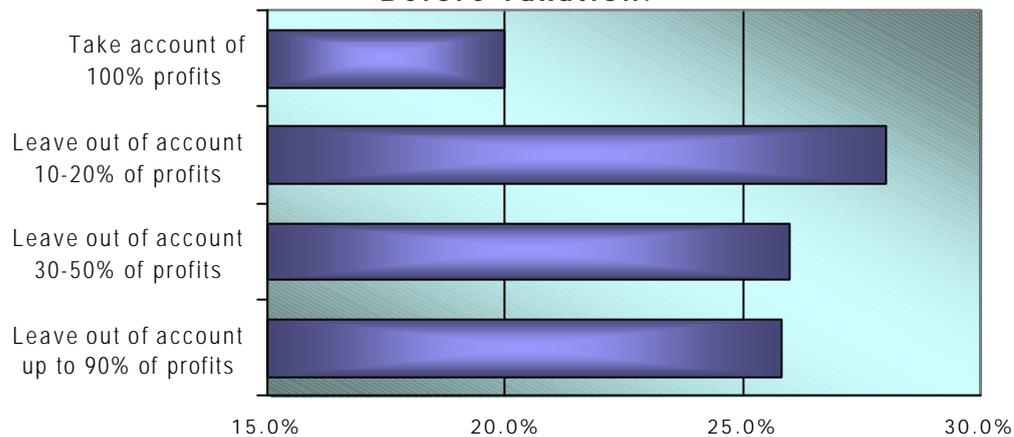
Data for constructing the Regulation Index were taken from WDR survey. Respondents were asked to assess the how problematic different policy areas are for doing business on the six point scale: from 1 (no obstacle) to 6 (very strong obstacles). The following areas were covered:

- regulation for starting business (new operations);
- regulations on foreign trade (export, imports);
- tax regulations and/or high taxes;
- price controls;
- foreign currency regulations.

I have included tax regulation in this index because tax regulation is another important source of state intervention. According to survey of 430 Ukrainian large-size-enterprise managers in June 1998, 96% of respondents reported that high tax rates were the major reason of the mass tax evasion and the increase of shadow economy (Pidluska, 1998). From the economic literature it is known that the shadow economy is closely related to corruption (Kaufmann and Kaliberda, 1996), since operating illegally usually involves a degree of complicity with corrupt government officials. The frequent complaints about high taxes that enterprises report in different surveys raise the concern about the tremendous scope of corruption in the tax administration. The complexity of tax

administration and tax regulation requires the expenditure of large amount of financial and human resources. Moreover, it associates with another cost for those enterprises that operate honestly. Honest enterprises suffer twice: once when they pay all taxes, get licenses, etc., and then when face dishonest competition with illegal competitors. Unofficial competitors that got away from paying taxes and other bureaucracy obtain a competitive advantage because they can easily undercut margins. According to Sydoruk (1997), in Ukraine about 26% of respondents reported they could gain 90% of their profits if operating illegally and only 20% pay taxes fully (see chart 2.3).

Chart 2.3. **Share of Profits Left Out of Account Before Taxation.**



Source: Sydoruk, S. 1997. "Lights and Shadows of Home Economy", *Galytsky Kontraktv*. No. 47.

Thus, the incentive for an enterprise to operate illegally is large. To crown the above considerations, inspections are frequently used as a form of unfair competition. According to IFC-Ukraine, corruption and the use of government controlling organizations as method of getting rid of rivals were reported by 45% of respondents (the highest number) (Pidluska, 1998). Thus, although tax regulation is not included in the definition of regulation given by the OECD, it is clear that complexity of tax system and regulation can have similar impacts on enterprise performance to the effects of tight economic and administrative regulation.

Regulation index is calculated as the simple average across all the above

indices.

➤ *Institutional quality indices.*

These indices constructed on the basis of two questions from the WDR survey: The first one is derived from WDR survey question 25, which asks to rate “the efficiency of government in delivering services” on the one (very efficient) to six (very inefficient) scale. The idea captured in this index is that as the quality of government service provision and the competence of civil servants improve the costs to enterprises of dealing with public officials without additional payment decreases while inefficiencies in the delivering of public services widen the scope of corruption.

The second index, which is labeled as “quality of judiciary”, is derived from question 11 from WDR survey and asks whether “unpredictability of the judiciary presents a major problem for the business operations”. An independent and well-functioning judiciary is a fundamental institution that supports civil society and market economy. The lack of predictability results in the loss of credibility to the judiciary as fair recourse against unlawful behavior, the overall level of law obedience decreases and business and citizens seek for possible substitutions of formal law. Thus, weakness of the judiciary and inadequate enforcement of the rule of law can be considered as one of the most important reasons of corruption. The index is scaled from 1 (fully agree) to 6 (strongly disagree). To simplify interpretation of coefficients in regression analysis I have rescaled the latter index thus making them both be scaled in the descending order (1 – best, 6 – worst).

The other proxy is the External Control Index. The probability of detection and punishment plays a key role in defining corruption. For the proxy of such detection the index of “political rights and civil liberties” is taken. This index is constructed as a simple average of the index of political rights and civil liberties constructed by the Freedom House. This index measures the extent to which citizens are able to participate in the selection of government and the latter is accountable for their actions. It captures such factors as the right to vote, to organize parties, freedom of press, independent judiciary system and others. Here

an assumption is made that free press and well-informed citizens can impose some constraint on corruption. Since this index encompasses the previous one, they cannot be used together in the same regression specification. The index is measured on a one-to seven scale with one representing the highest degree of freedom and seven the lowest.

➤ *Political indices.*

This index is obtained as a simple average of two questions from WDR survey. The first one, which is labeled as “unpredictability of laws and policies”, is derived from question 1, which asks the respondents to rate the regularity of coping with “unexpected changes in rules, laws or policies which materially affect your business”. The assessment of changes in laws and policies were rated on a one-to-six scale (1 – completely predictable, 6 – completely unpredictable). The uncertainty created by frequent and unexpected changes in lawmaking process can result in business entities obtaining information early with help of different, often illegal, means through government agencies. Since the provision of such “consulting services” usually requires payments for it, an increase in unpredictability of laws and policies is another source of corruption. Moreover, constant changes in the law, and inconsistencies generated by these processes makes it hard to predict what laws will apply in any given situation. In such situation the decisions of public officials who are usually the final decision-makers may be influenced by the size of the bribe or by anything else.

Another question asks to rate on a one-to-six scale: (1 – fully agree, 6 – strongly disagree) the following statement: “Constitutional changes of government (as a result of elections) are usually accompanied by large changes in rules and regulations that have an impact on my business”. The likelihood of frequent changes in government, which have an effect on the continuity and direction of policies, undermines the confidence in the ability of state to protect property rights. The polarized political spectrum in transition countries and uncertainty about changes in government lead to business entities seek a form of insurance from these changes. For example, a firm may lobby its interests in the government or maintain “close contacts” with representatives of both sides.

However, since the first question is scaled in the descending order (1 – best, 6 – worst), while the second one – in the ascending order (1 – worst, 6 – best). To avoid confusion I have rescaled the latter one.

The Political and Institutional Quality Indices are used in the regression analysis to control the robustness of results from regressing corruption indices on regulation one.

As can be seen from the above description of major indicators of corruption and other aspects of governance, the data are drawn from two kinds of surveys: cross-country survey of respondents (in this case, companies) carried out by the WB and the EBRD, and polls of experts and general public views, which reflect country ratings produced by the Transparency International. There could be the following problems that arise of using the survey data.

First of all, this kind of data has subjective nature. In the first kind of surveys entrepreneurs who are irritated with state interference (in the form of excessive regulation, various inspections and others) in their business and their own inability to cope with it, might overstate their ratings, while those who are contented with the state of affairs might undervalue them. Furthermore, survey questions can be interpreted in context- or culture-specific ways. It means that such issues like corruption depend on a point of view and a standard of “goodness”, and as to regulation – it depends on a country’s progress in market-oriented transition³.

However, it is useful to utilize the survey data because it reflects the opinion of a large number of respondents that are closely connected with the countries they are assessing, and it is very hard to obtain objective measures of such aspects as corruption, rent-seeking, shadow economy and others. Moreover, sometimes indicators based on the perception of respondents are as important as objective ones.

³ In the EBRD BEEP the most advanced and the least advanced in transition progress countries showed high scores of governance. For example, Estonia’s Governance index is 1.95 and Uzbekistan get 1.83 compared with Czech Republic – 1.59. The possible explanation could be that in the least advanced countries the functions of state did not change much since the Soviet Union collapse and firms do not see the state intervention into their business as a major obstacle because they are used to it.

Another problem with the use of such data arises when a researcher wants to do time series analysis. Usually surveys like WDR or EBRD BEEP are conducted with three/four year frequency. Moreover, they vary by the coverage of countries as well as by the number of questionnaires in different countries. For example, TI CIs for Belarus and Romania were constructed based on six surveys, while those ones for Czech Republic and Poland were based on twelve. Thus, a year-to-year comparison of a country's indices is problematic: changing scores can result not only from changing perceptions of a country's performance but also from a changing sample, methodology or survey.

Finally, the averaging process can lead to considerable measurement errors while ranking the countries.

➤ *Public Officials Wage Index.*

To construct this index the data of wages in both sectors of the economy – public and private – are taken from the Government Committee of Statistics (for Ukraine) and YearBook of Labor Statistics (1999). The logic to construct this index and include in the regression analysis is that low wages of public officials relative to wages in private sector generate an additional powerful source of corruption, because of the perception that officials take bribes to support their families and themselves. In the poorest countries (often with corrupt ruling clique) government is simply unable to pay officials a living wage, thus low wages potentially promote corruption (Transparency International, 1996). However, this argument can be used only partially for comparative analysis of countries in transition. After the Soviet Block collapsed a deterioration of the safety net occurred in many countries, especially in the CIS countries. However, the situation varies in different countries – social sector conditions in the Central Europe and the Baltic countries differ from the CIS ones. For example, the share of population in poverty calculated by EBRD using an international poverty line of US\$ 4 per day at PPP exchange rules is accounted to be 1% in such countries of Central Europe like Czech and Slovak Republics, Slovenia, 2% in Hungary and 13% in Poland. In the CIS countries the situation is much worse: the share of population in poverty reaches 41% in Ukraine, 38% in Russia, 65% in Moldova,

76% in Kyrgyzstan and 85% in Tajikistan (Transition Report, 1999). However, it is still appropriate to include this variable to trace general effect of wages into corruption level.

Division into private and public sector wages was made on the basis of YearBook of Labor Statistics (1999) wage classification by economic activity. For the public sector wages the subcategory “L” was chosen labeled as “Public Administration and Defense; Compulsory Social Security”; for the private sector one – I have chosen four other subcategories: “D – Manufacturing”, “G – Wholesale and Retail Trade, Repair of Motor Vehicles, Personal and Household Goods”, “J – Financial Intermediation” and “K – Real Estate, Renting and Business Activities”. As can be seen from this classification, there is no clear division into public and private sector, thus the results could be misleading to some extent.

Wage data for Ukraine were taken from another classification – by ownership. Here there is clear division of the two sectors. For the public sector the monthly wages of state owned firms’ permanent employees were taken and for the private sector the subcategories “Manufacturing”, “Finance, Crediting and Insurance” and “Wholesale and Retail Trade” were taken.

All wages data are calculated on the monthly earnings basis. This enables comparison between different countries, recognizing of course that these earnings have different purchasing power in different countries.

Wage data have many limitations that complicated their further usage. First of all, they may not reflect the actual earnings of a particular employee especially in the private sector. For example, in Ukraine the share of shadow economy in real gross domestic product was estimated to be about 41.7% in 1997⁴, output not captured in the wage data. The another limitation arises from the fact that data collecting mechanisms are still not perfect. Traditional statistical

⁴ This figure was obtained based on the calculation of a general coefficient of “shadowization” presented in the World Bank Discussion Paper No. 407 “Economic Growth with Equity: Ukrainian Perspectives”. The coefficient is a ratio of gross domestic product produced in the shadow economy (GDP_s) to the overall volume of gross domestic product (it includes both the official gross domestic product and (GDP_o)). The ratio of GDP_s to official GDP was accounted to 71.4% in 1997 compared with 14% in 1990.

systems were designed to monitor the activities of state-owned enterprises and private sector activities are often underreported. Although a lot has been done to improve the quality of gathering information since the beginning of transition period, there is still uncertainty about the actual data in the transition economies⁵. Finally, the official statistics on wages do not take into account arrears in wage payments and thus does not reflect the actual monthly earning of employees. Since there is a common perception that arrears are mostly common in public sector and in state-owned enterprises, the results of comparing wage rates in public and private sectors can be misleading.

The public official wage index is constructed as a ratio of public sector wage rate to private sector wage rate. This index for transition economies presented in appendix 5. As can be seen, there are only two countries out of nine that have their wage index more than 100%. This evidence present some rationale for testing the hypothesis that law wages of public officials may be a source of corruption. For simplicity, in the regression analysis index is presented in the percentage form.

2.2. Econometric Issues.

The aim of this paper is to investigate the causes of corruption. In particular, it is focused on the relationship between the levels of corruption and the degree of administrative intervention into the economy.

Hypothesis 1: Other things being equal, a highly regulated economy is associated with high corruption.

I have used a simple linear specification to test this hypothesis in which the regulation index is regressed on a constant and corruption index. As a proxy for corruption index both CORQ14, constructed on the basis of question 14 of WDR survey and TI CI are used with the latter to verify the finding while using

⁵ This means that data I have used for private and public sector wages could be biased from the beginning and results obtained from regression analysis should be interpreted with certain degree of caution.

the former⁶ one. The main equations can be presented in the following way:

$$\text{CORQ14}_i = \alpha_1 + \beta_1 * \text{Regulation}_i + u_i,$$

$$\text{TI}_i = \alpha_2 + \beta_2 * \text{Regulation}_i + e_i,$$

where u_i and e_i are the residual terms.

The residuals reflect measurement errors that reflect perception bias, other determinants of cross-country differences in regulation procedures, other possible sources of corruption that have been excluded from this specification. Usually such variables reflect country-specific effects. Since important variables are not included here this constitutes a specification error due to omitting a relevant variable. The econometric solutions that propose to take first differences and estimate the regression with the new data and instrumental variables. However, this technique is not appropriate here because corruption indices I have used have little variations over time (TI Corruption index) or unique in time (corruption index derived from WDR survey). Furthermore, small sample size (only 18 observations) also makes this procedure impossible since estimation would suffer from insufficient degrees of freedom.

According to the hypothesis of positive relationship between these two variables it is expected that $\beta < 0$ in the case of using both corruption indices. This confusion can be explained by the fact that CORQ14 and TI CI are scaled in ascending order (it means the higher the index the less corruption in the country) while Regulation Indices are scaled in the descending order while (the higher the index the more regulated is economy). Furthermore, it would be hard to compare β estimates of these two regressions directly because of different measuring scales: CORQ14 is measured on one-to-six scale while TI CI is on the one-to-ten scale.

Corruption itself is probably not explained by just one aspect of governance, regulation burden. Despite the fact that this variable contains the lion's share of causes of corruption enumerated in the economic literature, there

⁶ The reason why CORQ14 preferred to TI CI is explained in the section describing construction of variables (see p. 10-11).

may be other important sources of corruption such as low wages of public officials relative to wage rates in other sectors' employees, another set of governance indicators, an inherited corrupt system from the former regime and others. Based on this consideration, the corruption index can be written as a function of the regulation index and additional observable variables presented in the vector form Z_i :

$$\text{CORQ14}_i \text{ (or TI}_i \text{)} = \alpha + \beta * \text{Regulation}_i + \gamma' * Z_i + \varepsilon_i$$

where ε_i is a zero-mean residual term that captures other unobserved determinants of corruption.

Consequently, if we estimate the previous specification from the residuals presented in the model, u_i , are in fact $u_i = \varepsilon_i + \gamma' * Z_i$. This means that simple OLS estimates of this regression will be biased and inconsistent. However, under the assumption of Z_i to be uncorrelated with CORQ14 and TI CI the OLS estimates of β will be unbiased (Gujarati, 1995).

A simple solution to this problem is proposed in the econometrics literature: "Once a model is formulated on the basis of the relevant theory, one is ill-advised to drop a variable from such a model" (Gujarati, 1995; p.458). However, this advice is not applicable in this case. On the one hand, there is no established unique model to explain corruption phenomenon in the economic literature. On the other hand, including proxies of all the causes mentioned in chapter 1, would result in a problem with multicollinearity. Under such problem estimation of regression coefficients is possible but standard errors will be large, thus making t – ratios statistically insignificant and interpretation of results seems difficult.

In choosing the appropriate model I follow Leamer's approach to model selection. He suggested undertaking extreme bound analysis (EBA) to reporting regression results. According to this approach all variables in a regression model are divided into free (key) and others. Then regression is run on key variables including or excluding all combinations of other variables. Among all obtained coefficients of key variables (and they of course will be different for different

specifications) choose the lowest and the highest values of the estimates that represent a bound (range). If this bound is fairly narrow, it can be argued that the data yield fairly strong information on the coefficient. Although the critique to this method is that the decision, which regressors are key and which are not, is due to researcher and is not easy task, it has many adherents and it is advisable when researchers “explicitly recognize uncertainty they have about equation specification” (Gujarati, 1995; p.484).

In my regression specification I have chosen the following key variables:

- Regulation Index;
- GDP per capita. For this variable data from the World Bank, IMF was taken. GDP p.c. was expressed in current dollar terms . The average for 1995-1999 was taken. This variable I included due to the following assumption: social pressure against corruption may be higher the higher general level of income. Furthermore, since it is impossible to include wage index in the general regression because of lack of data, it seems a good proxy for an assumption that low wages of public officials generate more corruption. The assumption is made that the higher GDP per capita the higher wages are paid to public officials, the higher the costs of being caught (and thus fired);

To control the results obtained from main regressions, I have included further explanatory variables described in the above section. For convenience, I have named the described above indices as:

GOVEFF for Government Efficiency Index;

JUDQUAL for Judiciary Quality Index;

INSTQ for Freedom House Institutional Quality Index;

UNPRED for Political Unpredictability Index, and

INSTAB for Political Instability Index.

As it had already mentioned, institutions play an important role in controlling and preventing corruption. It is more likely that corrupt activities will flourish in countries with weak law enforcement, low penalties and the absence of credible restrains. They also capture the possibility of citizens to fight corruption

by control and participation measured as political rights, democracy independence of media etc. These features reflected in JUDQUAL and INSTQ variables. The hypothesis tested in this work is:

Hypothesis 2: Other things being equal, low quality of institutions is associated with higher corruption.

Another important source of corruption is the quality of public goods provision, the competence of public officials, etc. As the efficiency of government agencies increases it is expected that amount of bribes paid either to speed up the provision of the good or any other purposes will decrease. Thus, the hypothesis about negative correlation between government efficiency and corruption is tested.

Hypothesis 3: Other things being equal, the more efficient government agencies are the lower corruption.

Political instability and unpredictability as discussed above contribute to corruption phenomenon. Uncertainty generated by them may lead to higher corruption. Thus, the hypotheses of their impact on corruption are respectively:

Hypothesis 4: Other things being equal, the higher government stability is associated with lower corruption.

Hypothesis 5: Other things being equal, the more predictable rules are associated with lower corruption.

Another important issues here is to include another explanatory variable – public officials wage index, because this postulate can be very crucial for explaining the corruption level differences across countries. However, given the shortcoming of wage data and small number of observations, the empirical results of the analysis of the relationship between low wages of public officials and corruption levels should be treated as explorative and indicative the importance of this source of corruption. Thus, it should be kept in mind that regressions containing wage index are just suggestive and not definitive. The more thorough study of the effect of wages of public officials on corruption is left for further research. The hypothesis that I would like to test is a positive relationship between low wages of public officials relative to private sector and corruption

levels.

Hypothesis 6: Other things being equal, low wages are associated with higher corruption.

Here I regress the corruption index on a constant, the regulation index and the wage ratio. However, I cannot obtain unbiased estimates of the parameters, despite that the problem of omitted variable is partially solved because another very important variable that explains corruption is included. However, despite the number of observations is very low and the insufficient degrees of freedom, I use Leamer's EBA technique just to look what results will be.

There should not be confusion about the meaning of "low wages". In everyday usage it might raise immediate question: which wages are considered as "low"? For example, a wage that is equivalent \$400/mo in USA, Central Europe, some other countries is considered very low, while in other countries like Ukraine, Russia, Belarus etc. it is a high wage rate. However, in this work this term is related to wage index as described above. It just means that wage rate in the public sector is well below the private sector ones.

The specification is similar to the previous regression in which the linear relationship was presumed. In this case an equation will be as follows:

$$\text{CORQ14}_i \text{ (or TI)} = \alpha + \beta_1 * \text{Regulation}_i + \beta_2 * \text{Wage}_i + v_i,$$

where v_i is the residual term.

Causality problem.

In this work I am investigating the relationship between corruption level and degree of regulation in the economy. In constructing the model I have implicitly assumed that causality direction is the following: higher degree of regulation of the economy causes higher corruption levels. However, one can argue that when public officials are delegated a power to intervene the business

activities they can arbitrarily create more and more opportunities to extort bribes. And here the causality problem can arise, since it is not clear whether the existence of regulations lead the bureaucrats to ask for bribes or whether it is corrupt public officials that are likely to create regulations. Although it seems the first causality direction is more likely to occur, the latter possibility should not be denied.

The standard approach to test causality problems is through the Granger Causality test. However, this approach cannot be used here. To apply a Granger test data lags should be used, and the causes why the cross time approach cannot be used in this case was mentioned in the text above. Another technique to solve the problem of causality would be the use of TSLS method. However, the lack of data prevents me from applying this method in my work and I leave this section for future research.

The direction of causality has important implications for policy recommendations, but in this specific case policy conclusions can be made observing high correlation coefficients between corruption and regulation indices. This implies that deregulation is essential to decrease the waste of time, energy and money whatever direction of causality is. The resulting changes in the content of laws would decrease the costs to business related to registration, licensing and inspections and to delays, on the one hand, and enforcement of laws and involving all ministries and agencies to participate in this program would eliminate the possibility of bureaucrats to create new regulations.

CHAPTER 3

Econometric Results.

Using the described in chapter 2 data, variables and specifications, in this chapter I present the empirical results examining the relationship between corruption levels and regulation burden, wages, and other “controlling” variables.

Before presenting results I would like to review the expected signs of coefficients.

- Despite the assumption about positive correlation between corruption and regulatory burden, negative coefficients are expected. The reason for this is that the corruption scales are in ascending order, and the regulatory scale is in descending order.

- Another hypothesis is that as wages of public officials rise relative to wages in public sector, corruption should lessen, thus the coefficient of the wage index should be positive.

- For controlling variables:

- As institutions become stronger, the probability of detection and punishment increases, thus corruption should decrease. The expected coefficient should be negative in both cases: regressing INSTQ or JUDQUAL.
- As government efficiency in providing services and goods increases corruption should decline. So, negative coefficient is expected.
- As policy instability increase corruption level also can increase. Thus, the coefficient should be negative.
- As political unpredictability increases corruption can also increase. Negative coefficient is expected.

I would like to start with the cross-country comparison between measures of corruption level and regulation burden presented in both cases by two indices:

CORQ14 and TI CI as a measurement of corruption level and regulation index as proxy for regulatory burden. In table 3.1, I present the results for this type of regressions.

As can be seen from the table, the coefficients are of the right signs, exhibit the expected positive relationship between degree of regulation of the economy and corruption level, and it is statistically significant. R^2 is not high in both cases that means Regulation index itself cannot fully explain corruption phenomenon. Less value of R^2 in the specification with TI CI as a dependent variable can be explained by looking at correlation matrix presented in table 3.5. As can be seen from the matrix correlation between TI CI and Regulation is much less than respective correlation of CORQ14. Despite the significant coefficients, they should be treated only as reflecting general relationship between corruption level and regulatory burden, as these results may be subject to omitted variable bias.

Table 3.1. Corruption level and regulatory burden.

Dependent variable \ Explanatory variable	CORQ14	TI CI
<i>Regulation</i>	-0.918076 (-3.967894)* (0.011)**	-1.249161 (-2.868321)* (0.011)**
R^2	0.495971	0.339587
Number of observations	18	18

Note: Constant term is not shown. In the table t-statistics presented in parentheses denoted by * mark and p-values are shown in parentheses denoted by ** mark.

To test the robustness of results I have developed two sets of regressions. Results of the first one are shown in table 3.2. Here I used the specification when corruption indices are regressed on regulation index and other explanatory variables to control for the sensitivity of findings.

Table 3.2. **Sensitivity Analysis of the Determinants of Corruption**
Index: specification 1.

Dependent variable Explanatory variable	CORQ14				TI CI			
<i>Regulation</i>	-0.65 (-2.16)* (0.05)**	-1.10 (-2.67)* (0.02)**	-0.63 (-2.52)* (0.02)**	-1.02 (-3.11)* (0.01)**	-0.54 (-1.02)* (0.32)**	-2.31 (-3.30)* (0.00)**	-0.94 (-1.82)* (0.09)**	-1.76 (-2.98)* (0.01)**
<i>JUDQUAL</i>	-0.43 (-1.32)* (0.21)**				-1.15 (-1.98)* (0.07)**			
<i>GOVEFF</i>	0.30 (0.53)* (0.60)**				1.82 (1.86)* (0.08)**			
<i>INSTAB</i>	-0.61 (-2.06)* (0.06)**				-0.66 (-1.08)* (0.29)**			
<i>UNPRED</i>	0.18 (0.45)* (0.65)**				0.89 (1.25)* (0.22)**			
R^2	0.55	0.51	0.61	0.50	0.48	0.46	0.39	0.40
Number of observations	18				18			

Note: Constant term is not shown. In the table t-statistics presented in parentheses denoted by * mark and p-values are shown in parentheses denoted by ** mark.

As can be seen, in all cases the regulation index exhibits positive relationship between corruption and regulatory burden and majority of coefficients are significant at 5% level. As to the other variables, GOVEFF and UNPRED show “wrong” signs for their coefficients but they are statistically insignificant. One possible explanation why GOVEFF exhibit unexpected sign may be a matter of habit to pay government officials for delivering public goods even when the efficiency of government agencies and competence of their employees improved. Another explanation may be that bureaucrats may commercialize the provision of improved quality services. For example, if registration takes about 35 days for

average entrepreneur, it may take only 5 days if the procedure of registration is made through the law firm but for higher payments. In this case, entrepreneur does not pay bribes but corruption still exists in the form of personal or whatever “relations” of employees of the law firm and of government agencies.

An interesting observation can be made from the table 3.2 – there are few explanatory variables used to control the robustness of main findings (the significance of Regulation index and steadiness of its sign) that are statistically significant. However, if we look at correlation matrix the answer will be obvious - this regression may suffer multicollinearity problem. Correlation coefficients between explanatory variables reach in some cases 55-69%. It should not surprise that political instability in a country affect the frequency of changes in laws, rules of game, citizens ability to control over politics and bureaucrats and influence the through the media etc. As a result of political instability regulation burden may be influences since changes of government result in changes of legislation that regulates economic field of a country.

However, it seems there is no clear explanation why the sign of UNPRED coefficient contradicts the expected one. The possible explanation could be that there is still omitted variable bias since this analysis does not include such an important variable as wage index.

Since the wage index covers twice less countries compared to regulation index, I use the GDP p.c. variable as one possible proxy for wage index and test the sensitivity of the results to exclusion of omitted variables. The test is conducted through the EBA. The results are presented in tables 3.3 and 3.4.

As can be seen from the table above, all coefficients of both key variables exhibit expected signs of the coefficients and are statistically significant. These support both hypotheses: tighter regulatory burden and low wages of public officials exhibit more corruption. The other variables have expected negative signs of the coefficients except GOVEFF, but it is insignificant. Coefficient bounds presented in table 3.4.

Table 3.3. **Sensitivity Analysis of the Determinants of Corruption**
Index: specification 2.

Explanatory variable \ Dependent variable	CORQ14					
		-0.594 (-2.527)* (0.023)**	-0.510 (-1.821)* (0.09)**	-0.617 (-1.515)* (0.15)**	-0.594 (-1.777)* (0.097)**	-0.432 (-1.787)* (0.096)**
<i>Regulation</i>						
<i>GDP p.c.</i>	0.000229 (2.582)* (0.021)**	0.000208 (2.135)* (0.051)**	0.000228 (2.42)* (0.03)**	0.000229 (2.439)* (0.029)**	0.000193 (2.235)* (0.042)**	0.000170 (1.548)* (0.144)**
<i>JUDQUAL</i>		-0.186 (-0.589)* (0.565)**				
<i>GOVEFF</i>			0.036 (007)* (0.945)**			
<i>UNPRED</i>				-0.0002 (-0.0006) (0.9995)**		
<i>INSTAB</i>					-0.462 (-1.695)* (0.112)**	
<i>INSTQ</i>						-0.092 (-0.921)* (0.373)**
R ²	0.651	0.66	0.65	0.651	0.71	0.671
Number of observations	18					

Note: Constant term is not shown. In the table t-statistics presented in parentheses denoted by * mark and p-values are shown in parentheses denoted by ** mark.

Table 3.4. **Determinants of Corruption Index: Extreme Bounds Analysis.**

Key variables	Basic Specification	Lower Bound	Upper Bound
Regulation	-0.594	-0.432	-0.617
<i>GDP p.c.</i>	0.000229	0.000170	0.000229

In the Extreme Bounds Analysis only key variables presented since other variables exhibit insignificant estimates. As can be seen from this table, the bounds for both coefficients are fairly narrow that means the data yield fairly strong information on the coefficients in question.

Table 3.5. Correlation Matrix.

	TI CI	Regulation	GDP p.c.	NSTQ	UNPRED	STAB
TI CI	1.0	-0.58	0.80	-0.78	-0.22	-0.50
CORQ14	0.84	-0.70	0.71	-0.71	-0.43	-0.66
Regulation	-0.58	1.0	-0.53	0.64	0.69	0.55
GDP p.c.	0.80	-0.53	1.0	-0.72	-0.24	-0.47
INSTQ	-0.78	0.64	-0.72	1.0	0.35	0.32
UNPRED	-0.22	0.69	-0.24	0.35	1.0	0.51
INSTAB	-0.50	0.55	-0.47	0.32	0.51	1.0

Similar results to that presented in table 3.3 were obtained while regressing TI CI as a dependent variable. The results are presented in appendix 6. Only in two from five specifications statistically significant coefficients for Regulation were obtained. The difference in constructing of these variables can be the explanation of the discrepancy of the impact of regulation index on different measures of corruption. The less impact of regulation index on TI CI may be for two reasons. On the one hand, because TI CI is drawn based on the expert and general public views of the extent of corruption in a country it may not reflect the severity of the problem since in general they less frequently come

across with corruption than business entities do. On the other hand, entrepreneurs are likely to overstate the severity of corruption in the surveys.

Table 3.6. **Corruption and Its Determinants: specification 3.**

Dependent variable Explanatory variable	CORQ14	TI CI
<i>Regulation</i>	-0.44 (-0.99)* (0.34)**	-1.05 (-1.71)* (0.11)**
<i>GDP p.c.</i>	0.000163 (1.44)* (0.18)**	0.000343 (2.20)* (0.05)**
<i>JUDQUAL</i>	-0.16 (-0.38)* (0.71)**	-1.07 (-1.85)* (0.09)**
<i>GOVEFF</i>	-0.17 (-0.29)* (0.78)**	0.69 (0.87)* (0.40)**
<i>UNPRED</i>	0.30 (0.62)* (0.55)**	1.05 (1.51)* (0.16)**
<i>INSTAB</i>	-0.49 (-1.48)* (0.17)**	-0.11 (-0.24)* (0.82)**
R ²	0.72	0.80
Number of observations	18	

Note: Constant term is not shown. In the table t-statistics presented in parentheses denoted by * mark and p-values are shown in parentheses denoted by ** mark.

Slightly better situation than in case of CORQ14 regression was obtained for explanatory variables. At least two of them (not including the key variables) exhibit significant coefficients at 15% level. It means that there are other important sources of corruption that should not be neglected when trying to cope with it.

Of course, from the theoretical point of view it would make more sense to include the control variables together. However, high correlation coefficients between explanatory variables result in multicollinearity problem and statistically

insignificant results were obtained in this specification. However, as the regression results presented in table 3.6 show, most of the coefficients in the specification when TI CI is used as dependent variable are statistically significant. Moreover, coefficients of key variables are also significant – Regulation at 11% level and GDP p.c. at 9% level. These results also support the main assumption that regulation and corruption are positively correlated.

Table 3.7. **Corruption level, regulatory burden and wage rates.**

Dependent variable Explanatory variable	CORQ14	TI CI
<i>Regulation</i>	-0.918552 (-2.398123)* (0.0534)**	-1.699415 (-3.542517)* (0.0122)**
<i>Wage index</i>	-9.87E-07 (-0.235296)* (0.8218)**	8.46E-06 (1.609507)* (0.1586)**
R ²	0.56	0.68
Number of observations	9	9

Note: Constant term is not shown. In the table t-statistics presented in parentheses denoted by * mark and p-values are shown in parentheses denoted by ** mark.

Results of regressing corruption indices on regulation index and wage index are presented in table 3.7. Regulation coefficient has the expected negative sign and is significant at 5% level. However, the wage index coefficient exhibits “strange” result and is statistically insignificant. Possible explanation to this phenomenon could be problems with data collection mentioned in chapter 2, small sample size, and stated possible problems with specification of the model. However, in the contrast to the latter argument, regression results presented in column 2 in this table show both coefficients of right sign and statistically significant. It should be pointed out that with the inclusion of another explanatory variable, the Regulation

variable is significant thus presenting the further argument to support the main hypothesis.

Table 3.8. **Sensitivity Analysis of the Determinants of Corruption**
Index: specification 4.

Dependent variable Explanatory variable	TI CI				
<i>Regulation</i>	-1.20 (-1.94)* (0.11)**	-1.04 (-1.71)* (0.16)**	0.29 (0.32)* (0.76)**	-1.10 (-1.58)* (0.19)**	-0.96 (-1.10)* (0.23)**
<i>GDP p.c.</i>	0.000272 (1.23)* (0.27)**	0.00012 (0.48)* (0.65)**	-0.000069 (-0.28)* (0.80)**	0.000169 (0.53)* (0.62)**	0.000199 (0.83)* (0.45)**
<i>Wage index</i>	6.07E-06 (1.12)* (0.31)**	5.77E-06 (1.10)* (0.33)**	1.66E-05 (2.40)* (0.07)**	7.81E-06 (1.14)* (0.31)**	6.2E-06 (1.12)* (0.32)**
<i>JUDQUAL</i>	-0.85 (-1.17)* (0.31)**				
<i>GOVEFF</i>	-3.93 (-1.95)* (0.12)**				
<i>UNPRED</i>	-0.85 (-0.49) (0.65)**				
<i>INSTAB</i>	-0.64 (-0.90)* (0.41)**				
R ²	0.75	0.81	0.87	0.77	0.79
Number of observations	18				

The sensitivity analysis showed that because of multicollinearity problem and insufficient degrees of freedom all coefficients are statistically insignificant. Since both regressions (CORQ14 and TI CI as dependent variables) exhibit similar results I have presented only one of them (see table 7.8). As can be seen from the table key coefficients have expected signs but only Regulation coefficient in the first specification and wage index in the third specification are statistically significant at 11% and 7% level respectively. As it was stated above these results should not be treated as definitive but rather suggestive identifying possible direction of further research.

To summarize the findings of this empirical part of the work, using different econometric techniques it was shown that there is a clear evidence that support the main hypothesis of this research: the more regulated transition economies exhibit higher levels of corruption.

CHAPTER 4

Policy Implications and Scope for Future Results.

An essential condition for high standards of living is productivity of the nation's economy. Stable political and legal institutions, and sound macroeconomic policies create the potential for country's prosperity. However, the wealth is actually created at micro (enterprise) level. Companies' ability to produce valuable goods and services depends upon the quality of business environment. And government plays an important role in creating favorable conditions for domestic enterprises because it affects many aspects of the business environment (regulatory standards and processes, government purchases and openness to foreign competition etc.).

Creating a high-quality business environment is a necessary condition for outstanding economic performance of a country. And if there are considerable distortions in government policies as to micro level (e.g., excessive interference of public officials into enterprise business) the consequences could be irrevocable. If, for example, regulatory burden and delays are endogenously chosen by the public officials in order to extract rents, it can result in systemic corruption that has much more serious consequences for society than occasional one. Bribes are understood by everyone as a routine in dealing with government and its branches. The feeling of hopelessness of fighting with the system may lead to the acceptance of the "game rules" and corruption becomes part and parcel of the system. And nobody asks how harmful such a state of affairs can be - misuse of natural and economic resources, inefficiency, poverty and other distortions.

In the growing number of empirical literature on the effects of corruption signifies the severity of this problem for nation's development toward prosperity. It also stresses the necessity of anti-corruption and other policy reforms, but an effective effort to deal with corruption depends on correctly identifying its root causes. The findings of this paper show that there is a strong positive relationship between corruption levels and regulation burden. There are significant coefficients in bivariate regressions, and these results persist when controlling for other explanatory variables.

Deregulation and the expansion of markets are powerful tools for controlling corruption. This view is confirmed by this paper's results and its findings suggest that the degree of regulation in the economy should be relaxed. This is also supported by the data presented by Daniel Kaufmann's lecture (Kaufmann, 2000). According to officials' responses in 62 countries on the question of what to do about corruption, deregulation of the economy took third place (about 74% of respondents assigned a high rating to this action).

The regulation index includes the following areas of civil services where corruption is most commonly found: public procurement, customs, taxation, licenses and permits, foreign trade of goods and currency distortions, among others. This directly points out the most likely areas to be targeted by anticorruption reforms.

Reforms that sharpen competitive pressures provide powerful incentives for firms to become more efficient, innovative and competitive. However, these are not the only effects. Enlarging the scope and improving the functioning of markets curtails rents, thereby eliminating the bribes public officials may extort or may be offered to secure them (rents). In favor of deregulation reform works the fact that it does not make heavy demands on institutional capacity. The incentives for economic actors could be changed very quickly by removing controls, introducing a market-determined allocation system in pricing decisions, foreign exchange and trade etc.

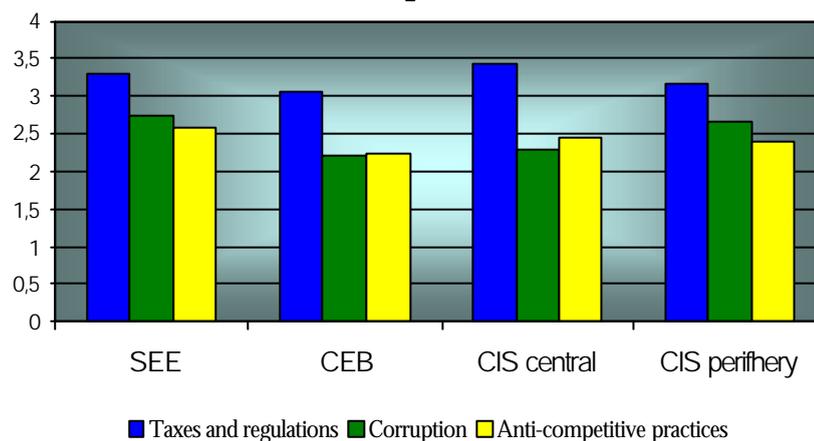
The following measures can be taken to reduce the rents of public officials from extorting bribes:

- Decrease tax pressure, lower tariffs and other barriers to international trade and establish market-determined exchange rates and eliminate price control.

Tax reform should eliminate multiple rates and exemptions and limit the discretionary power of tax officials. Such measures can help reduce corruption and enhance economic efficiency. When tax payers consider that tax rates are too high and find out that it is less costly for their businesses just to pay tax officials to avoid this burden, it can encourage informalization of the economy, induce tax evasion

and corruption of tax officials. As can be seen from chart 4.1, taxation is considered as one and even the major obstacle for the enterprise prosperous development. From the appendix 2 one can see how severe the tax regulation is for business entities in some countries. The number of principal taxes varies in different countries: from 3 Hungary and Poland to 9 in Ukraine and 10 in Uzbekistan. Thus it is no wonder that firms decide to make “additional payments” for tax officials rather than pay taxes. The positive relationship between corruption index and number of taxes presented in appendix 2 indicate that large number of different taxes as well as high tax rates coupled with weak collection and institutional arrangement just inflate the gains from corruption without increasing the risk of detection.

Chart 4.1. **Some Main Barriers to Entry and Expansion.**



Source: EBRD Transition Report 1999.

It can be argued that in designing laws and regulatory acts dealing with taxation, tariffs and currency regulations, some nation’s governments were guided by political rather than economic logic. Thus, key challenges in the system of measures that government has to develop and implement are creation of effective tax regulation system and improvement of the legislative framework. As can be seen from table 4.1 the highest degree of consensus obtained the assertion that high tax pressure on business subject is caused by inefficient tax policy, frequent

changes in “rules of game” and existence of many charges and legally required payments.

Table 4.1. **Causes of High Tax Pressure on Business Entities.**

(% of respondents).

Cause	Total	Representatives of government organizations.	Representatives of non-government organizations.
Inefficient tax policy	100	100	100
Existence of numerous charges and legally required payments	95.2	96.8	90.9
Insufficient economic substantiation of laws and regulatory acts dealing with taxation, tariff, and currency regulation and provision of benefits.	88.1	90.3	81.8

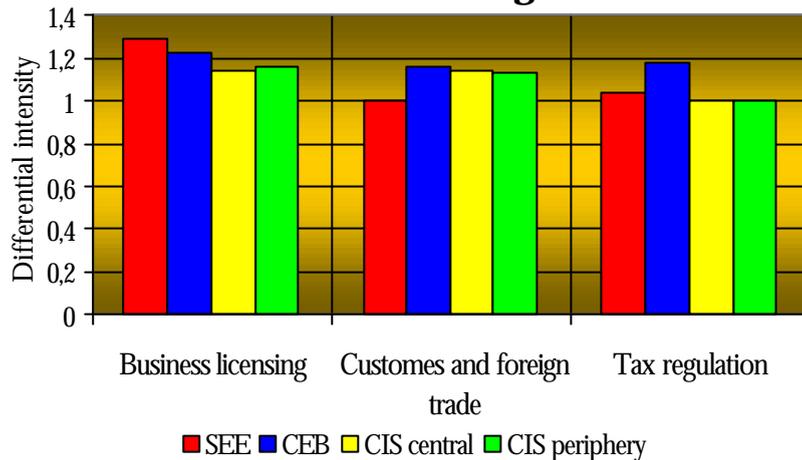
Source: Hansen J., Halchynsky A., Nanivska V. and others. Economic Growth with Equity: Ukrainian Perspectives. World Bank Discussion Paper No.407.

- Reduce licensing requirements regulations and other ones to start new business.

The entry of new businesses is very important for a country’s development since they introduce new goods and services and a major source of innovations, of contraction or exit of inefficient firms. However, there are a number of obstacles for new businesses (primarily small and medium-size enterprises). They are macroeconomic obstacles (inflation, price and trade controls etc.), micro-level-financial constraints and non-financial constraints. While some of these obstacles are crucial for existing firms there are one specific obstacle for start-ups – licensing

requirements and regulations to start business. The large number of official regulations and red tape creates incentives for those who would like to start their own business to pay bribes. In turn, it creates temptation for other public agencies to participate in such profitable business as establishing new chargeable requirements for business entities.

Chart 4.2. Taxes and Regulations.



Source: EBRD Transition Report 1999.

And this is especially urgent in transition economies where legal-institutional norms are not strong enough to establish credible threat of detecting and punishing corruption. Among other questions in the BEEP survey, respondents were asked to assess main barriers to entry and expansion on the one (no obstacle)-to-four (major obstacle) scale. As chart 4.2 shows regulations and taxes are considered as the most relevant barrier. Moreover, the differences in the level of responses measured as responses of new entrants relative to the state-owned enterprises show that initial and regular renewal of different licenses and permits create opportunities for arbitrary bureaucratic interference and thus is perceived as the most serious obstacle for start-ups (see chart 4.1).

Among the general policies in support of SMEs that includes macroeconomic stabilization, creation of attractive business environment for new productive investments, enforcement of legal framework to protect property rights, policies also must abolish opportunities for arbitrary bureaucratic interference in

tax, licensing and other regulatory requirement areas. One possible and simple way to do this is to simplify laws and regulations where it is possible.

- Decrease subsidies to enterprises and avoid monopoly rents creation.

Subsidies are the most direct form of state support. However, this area is subject to bribe taking activity. In societies where corruption and informal connections are everyday practice for business decision making, the allocation of subsidies may be not in favor of firms that really need support but those ones who seek for monopoly rents. It is known that subsidies can lead to reduction of firm's production costs and consequently firms that lobby the state for support obtain favorable position in product or factor markets. Another source of monopolistic rents is market power inherited from the previous regime that pushed some of firm managers to seek the protection for such privileges position. As chart 4.1 shows an anti-competitive actions were pointed out as one of the major barriers for new businesses and expansion. Among the components of anti-competitive practices, favorable access to essential business services and customers and receiving subsidies were top-ranked (Transition Report 1999).

Competition policy, which must prevent the granting of market power privileges and other protectionist policies like budgetary subsidies, price controls, trade barriers etc., improves in service quality, reduces entry barriers and transaction costs, improves access to information. Thus, it has a critical role and should be between the prior government strategy for accelerating market reforms and improving economic effectiveness.

To summarize, deregulation reform that reduces business burdens and increases transparency of regulatory regimes, reduces "red-tape", paper work burdens, and thus, supports entrepreneurs, encourages innovative and productive activities, exit of unproductive enterprises, market entry and economic growth, frees up valuable time. In other words, regulatory reform contributes to improvements in government and economic performance.

However, the reader should keep in mind two things:

- When writing about deregulation of economy, tax and competition reforms, I do not mean that the role of government should be decreased or

abolished to the extent that it will lead to destabilization of the economy. In the work I argue for the deregulation in such areas as licensing, provision of different permits, registration procedure, inspections etc. According to Joel Turkewitz, Director of Regulatory Reform Project in the International Center for Policy Studies:

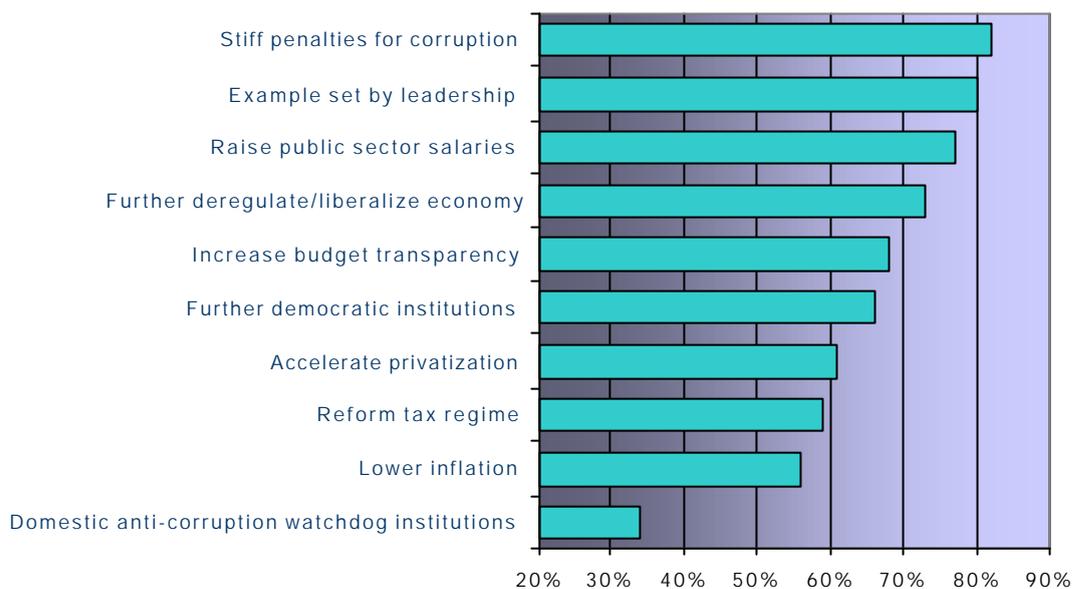
- “...Deregulation must occur in two ways:
- change in the content of laws
- changes in the enforcement of laws and regulations...”

Similar remedies to combat corruption are proposed in a number of research conducted by Tanzi (1998), Kaufmann (1997), Kraay and Zoido-Lobaton (1999), Schleifer and Vishny (1993) and others. It is known that there are some areas where government interference is desirable and government activity should be carefully restricted to this role. Government regulation is sometimes expedient in areas of market failure. As to the latter one, it occurs in such fields as monopolistic and oligopolistic markets, negative externalities like environmental pollution, provision of public goods. However, government policies that intends to improve economic inefficiencies generated by externalities and market failures can lead to poor outcomes and even greater corruption (like in case of market power) if they are not accompanied by improvements in other institutional capacities. In any case, before deciding in favor of one or another policy, one should thoroughly think over all possible consequences.

- It should not be thought that deregulation policy is a panacea for reducing corruption. As I have already mentioned there should be a complex of anti-corruption reforms because although regulation is one of the major causes of corruption but it is probably not unique. Very important for effective policies to combat corruption from all sources is creation of a strong institutional framework. An independent judiciary, simple, understandable laws and deregulation can be a good start in combating corruption. Moreover, other anti-corruption measures should be undertaken to defeat corruption in any society. Chart 4.3 presents the respondents opinion on the question “What to do about corruption”. As can be seen among variety of actions at least two concern with strengthening institutions,

since everyone understands that well –functioning public management systems, accountable organizations, strong legal framework, judiciary are central keys to controlling corruption. Getting the right economic policies, enforcing laws, practicing transparent procurement across the public sector require strong institutions.

Chart 4.3. **Measures to Combat Corruption.**



Source: New Empirical Tools for Anti-Corruption and Institutional Reform: A Step-by-Step Guide to Their Implementaion. World Bank Institute, 1999.

The Scope for Further Research.

The way the Regulation index was constructed does not give the possibility to distinguish between different types of regulation on corruption. The following hypothesis may be tested: it is tax burden or regulatory barriers to entry, or foreign trade regulations, etc. that lead to more corruption. Such division would enable to form more effective policy recommendations and to use more effectively scarce resources in combating corruption.

With a proliferation of data measuring corruption and different aspects of governance, it might be possible to conduct time series analysis on these issues in the future.

The issue of causality can be another objective for future studies since both directions - regulation burden causes corruption or there are corrupt officials who demand for more regulation – are possible.

With more data available, the hypothesis about the effect of low wages of government officials relative to private employees can be more carefully tested.

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