Corruption in the Czech and the Slovak Republics: Did the EU Pressure Improve Legal Enforcement?

Ladislava Grochová, Tomáš Otáhal

Abstract

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Did the EU pressure improve legal enforcement in the Czech and Slovak Republics? The paper analyzes the current state of the Czech and Slovak quality of legal enforcement in a context of the European Union accession. We looked at different kinds of corruption indicator data, such as statistics of revealed and clarified malfeasance connected with corruption per 100 capita and the composite indexes. These indicators suggest that the quality of the legal enforcement in the Czech and Slovak Republics has not improved after joining the European Union. More precisely, it can be argued that in spite of implementation of anti-corruption public policies proposed by EU institutions, perceived corruption of public officials has remained the same, which means that trustworthiness of legal enforcement responsible for deterrence and reduction of corruption remained the same as well. Therefore, in order to improve the quality of the legal enforcement, reduction of barriers to entry and deeper legal reforms is suggested.

Key Words

Anti-corruption public policy, corruption, Czech Republic, EU accession, Slovak Republic

JEL: D74, K42, P3

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Acknowledgements

Introduction

Institutional framework and its enforcement plays significant role in the allocation of resources (Coase 1960) and in the economic development (North 2002). The reason is that the institutional framework and their enforcement structures human interaction and thus determines if the human behavior is productive and leads to economic development, or if it is unproductive and restricts economic development. Unproductive human behavior is rent-seeking (Tullock 1967, Krueger 1994).[1]

From this perspective, the transition from the dictatorial communist regime to democracy was the transition of the institutional framework and their enforcement. Dictatorial communist regime allocated the privileges through the bureaucratic decision making and competition for privileges led the bureaucrats to create pervasive shortages to extract bribes. The firms competing for privileges were thus rather involved in rent-seeking than in productive behavior (Shleifer and Visny 1992). The question of transition from the dictatorial communist regime to democracy was thus the question of the transition of the institutional framework and their enforcement to restrict rent-seeking.

Corruption of communist bureaucrats in the Czech and the Slovak Republics was common in eighties. Later, after main transition reforms the corruption of public officials became the political problem in the Czech and the Slovak Republic. Even though the corruption of public officials is productive in the case that it allows entrepreneurs to avoid inefficient regulations (Leff 1964), the corruption in the post communist countries is unproductive, because it restricts democratic control (Shleifer and Vishny 1993). After 20 years of democracy in the Czech and the Slovak Republics, the corruption is still political and economic problem. Thus the question could be raised, how far the transition of institutional framework and their enforcement in the Czech and Slovak Republics come to restriction of rent-seeking through the corruption?

Geršl (2006) argues that, although the improvement of the institutional framework in Central and Eastern European countries has been driven by pressure from EU institutions, the quality of legal enforcement in the Czech Republic allows the informal sector and interest groups to influence formal institutions through corruption. To solve this situation, Geršl (2006) suggests the removal of barriers to entry, improvement of the business environment and reform of legal enforcement, which should increase the pressure of foreign capital on politicians and should improve the quality of the legal framework and its enforcement in the Czech Republic.

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[1] For historical literature survey see Grochová and Otáhal (2010).

Žák and Vymětal (2006) supports the Geršl's (2006) conclusion. They use Governance Metters indicators to provide the evidence supporting Geršl's findings. More precisely, Žák and Vymětal (2006) use the Rule of Law and Control of Corruption indexes constructed by World Bank to provide evidence that the legal institutions in the Czech Republic in comparison with other European countries did not improve after joining the European Union. Anna Kadeřábková (2007) also supports this conclusion, but Kadeřábková (2007) uses Doing Business data provided by the World Bank and applied on the Czech Republic.

In this paper, we want to report the state of corruption in the Czech and the Slovak Republics. Complementally to Geršl's (2006) suggestion we want to challenge again the removal of barriers to entry and deeper legal reform in the Czech and Slovak Republics. Using the selected corruption indicators, we want to evaluate the state of corruption in the Czech Republic and the Slovak Republic and compare it with other countries in the region to show how the legal enforcement improved in the Czech Republic and the Slovak Republic after joining the European Union. We assume that perceived corruption situation approximates the trust of citizens in formal legal setting (Shleifer 1997), which is also responsible for reduction of both political and petty corruption. Thus when corruption situation in a country is perceived as bad the responsibility of legal enforcement should be lifted. From the evaluation of public policies targeted to reduction of corruption of public officials in the Czech and the Slovak Republics, we show that the pressure of EU institutions did not improve the trust into legal system and its enforcement.[2] We thus argue that in spite of the EU pressure the legal enforcement system responsible for deterrence and reduction of corruption is still untrustworthy. For this reason, in compliance with Geršl's (2006) general findings, we argue that although the improvement of the institutional framework and its enforcement in Central and Eastern European countries has been driven by pressure from EU institutions, the quality of legal enforcement in the Czech Republic still allows the informal sector and interest groups to influence formal institutions through corruption.

Difference between our analysis and Geršl's (2006), Žák and Vymětal's (2006) and Kadeřábková's (2007) analysis is that we do not use general institutional quality indicators provided by the World Bank, but we use different kinds of corruption measurements. Our analysis is thus more complex and detailed because it combines different kinds of measurements, which are complementary to each other. Moreover, the regression analysis of different kinds of corruption measurements gives us also better position for supporting the theoretical explanation of empirically described situation.

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[2] Most of the data used in the comparison were published in Otáhal (2008a).

In the next section, we will describe the anti-corruption public policies targeted to the setting of parameters of legal enforcement. To demonstrate the results of described anti-corruption public policies we will provide the official statistics of revealed and clarified malfeasance connected with corruption of public officials per 100 capita as a corruption measurement that records the governmental effort to reduce corruption. In the second section, we will run several regressions of the evidence based on perception-based composite corruption indexes. In the conclusion with reference to all presented corruption measurements we summarize the argumentation.

1. Anti-corruption public policies description

Before fall of Berlin Wall, the formal institutional framework and its enforcement structured the human interaction in the Czech and Slovak Republic slightly similarly. The reason is the forty years of the same dictatorial communist regime. In the first stage of transition, fast for-markets reforms, however, destructed the old legal framework and new for-market legal framework started to be developed.

The creation of the for-market legal framework was highly inspired by future EU countries, especially by Germany. For this reason, the entry to EU was the logical decision of the transition governments. Nevertheless, from our point of view more importantly the EU entry promised the stabilization of the institutional framework development and its enforcement (Sachs 1996).

The crucial legal reform in the transition was the legalization of the private property rights. Of course, the private property rights were respected in the Czech and Slovak Republics through the decades before fall of Berlin Wall, but this respect was not officially acknowledged. Unofficial respect to private property rights allowed the firms and bureaucrats to keep revenues from corruption (Shleifer and Vishny 1992). Later, when the legalization of private property rights comes to realization, the allocation of state ownership was highly determined by the ex-communist private property rights structure. Privatization of the state ownership officially targeted to general public thus in the most cases led to the legalizing of the ex-communist private property claims. For this reason, the EU institutions founded the privatization process in the Czech and the Slovak Republic as corrupt.

Before EU entry, the Czech Republic and the Slovak Republic were pressured by EU institutions to improve their state of corruption. Upcoming EU entry thus obligated the Czech and the Slovak governments to improve the legal frameworks and their enforcements. Since the Mečiar's government decided to realize the slow privatization strategy to retain its political control the legal

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framework and its enforcement in the Slovak Republic was worse when compared with the Czech Republic.[3]

In this section, we will describe the public policies realized by the Czech and the Slovak governments to show how the governments were responding to the pressure of EU institutions. We will assume that the quality of the legal framework is approximated by the corruption of public officials. Our reasoning is following. When the corruption of public officials occurs, the legal framework and its enforcement is not appropriately functioning thus its quality is low.

We do not concentrate, however, on the all legal reforms in the Czech and Slovak Republics. We rather describe how anti-corruption public policies improved the ability of the legal framework and its enforcement to reduce corruption of public officials and thus improve the overall quality of legal system.

For anti-corruption public policies description we use Becker and Stigler's model (1974). This model is generally referred to as the principal–agent model. Another theoretical model solving the corruption problem is the model of rent-seeking (Tullock 1967, Krueger 1974). In this section, we do not concentrate on the impact of corruption on the allocation of resources; therefore, the principal–agent model will serve perfectly for a description of anti-corruption public policy of the Czech and Slovak Republics.

According to Becker and Stigler's model (1974) the principal has three possibilities how to fight corruption of the agent. First, he can raise salaries or *rewards (w)*, second he can raise *punishments (F)*, and third he can increase the *probability of detection (p)* and thus increase the incidence of rewards and punishments. The agent's utility function for n period is thus following,

$$w_n = (pv_n - F) + (1-p)(b + w_n),\qquad\qquad(1)$$

where (v - F) is negative reward when agent's corruption is revealed, p is the probability of detection and (b + w) is sum of bribe and reward in case when the agent's corruption is not revealed.

Shortcoming of the principal-agent model (Becker and Stigler 1974) is that it assumes exogenously given institutional framework and its enforcement (Otáhal 2007b). While the institutional framework in the Czech and the Slovak Republic was continuously transforming the public legal enforcement did

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[3] After elections, in 1993 the Czech and the Slovak Republics split. The reason was that the Klaus's government wanted to realize big bang transition strategy while the Mečiar's government wanted to control whole process. While Klaus's government realized the voucher privatization, Mačiar's government tended to direct sales. It is likely that the reason was that the direct sales provide to politicians and bureaucrats more opportunities to extract bribes (Otáhal 2007a).

not undergo the deeper reform. This model is thus suitable for the description of public policies targeted to the reduction of corruption via setting the parameters of the public legal enforcement.[4]

The public choice literature (i.e. Benson 1990) argues that inefficiently controlled public officials have very poor incentives to punish themselves. Because the public officials are inefficiently controlled by politicians and citizens are rationally ignorant of controlling bureaucrats, the corruption of public officials is hardly reduced via setting the parameters of legal enforcement. For this reason, we assume that the setting of legal enforcement parameters is done by bureaucratic decision-making (Niskanen 1968).

1.1. The Czech and the Slovak Governments' Anti-corruption Strategies

In this subsection, we will describe the public policies realized by the Czech and the Slovak governments that were targeted to reduction of public officials' corruption.

In the nineties the negotiation between the Czech government and EU institutions started. As the response to the negations the Czech government also started an anti-corruption governmental program. In 1997, the governmental coalition, which was led by Civic Democratic Party (ODS), decided to "propose an offensive approach to detect corruption in the public sector".[5] Later in 1998, when the Czech Social-Democratic Party (ČSSD) won the elections, the governmental coalition carried on this program.[6]

Lízal and Kočenda (2001) provide institutional analysis of this anti corruption governmental program. On the sociological surveys and composite corruption indexes they prove that even though the Czech government promised to improve state of corruption in the Czech Republic, the results were not visible. The reason is that the first steps were aimed only at the educational programs of public officials. Nevertheless, in 2002, Act No. 265/2001 sb. came into force and enabled better coordination of repressive forces. The Act was in accordance with the EU legislation and international treaties.[7] This anti-corruption governmental program was targeted to increase the *probability of detection (p)* of public officials' corruption.

Later on in 2002, the Czech Social-Democratic Party's government carried again on the anti-corruption governmental program. The government was in the middle of preparations to enter the EU, and thus accomplished a series of steps improving the controlling mechanisms. The major aim

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[4] Tullock (1996) criticizes the Becker's and Stigler's assumption of benevolent dictator.
[5] Governmental decision no. 674/97.
[6] Governmental decision no. 129/99.
[7] http://aplikace.mvcr.cz/archiv2008/dokument/2002/korupce/ukoly.html.

was thus again *to increase the probability of detection (p)*, which was to be achieved by higher cooperation of different controlling departments. These were supported by independent organizations such as Transparency International. The educational programs ran at the same time.[8]

The Slovak government was more criticized for corruption. The negative evaluation had a negative impact on the preparations for entering the EU. In 1998, when the Slovak Democratic Coalition (SDK) won the elections, the government stressed the necessity to fight corruption. As a reaction, in June 2000, the government started the national program against corruption of public officials (part of the intended National Action Plan against Corruption).

Zero tolerance of public officials' corruption was declared by setting up a special anti-corruption unit on the level of police headquarters. The anti-corruption unit received permission to intervene against corruption in the government and justice with the help of tightened penalties. This anti-corruption public policy was targeted to improve *probability of detection (p) supported by the severe punishment (F)*.

Another important measure was the establishment of the Special Court for corruption and organized crime (Act No. 458/2003 sb.), which came into action in 2004. The newly established court, in cooperation with the anti-corruption unit, led to improvement of repression of public official's corruption with the help of the new ways of proving corruption crimes. For instance, the state's evidence and agent provocateur were used.

Both the Czech and Slovak anti-corruption governmental programs were targeted to reduction of high-level and low-level corruption. High-level corruption involves elected and senior public officials: "This category covers, in particular, financing of political parties and their election campaigns, parliamentary lobbying and public tenders at any level of state administration. Lobbying, at high-level administration does not generally contain features of the transparent process often found in Western democracies. Instead, it resembles rent seeking activities of political and business influential groups." (Lízal and Kočenda, p. 132) Low-level corruption involves mid and low level bureaucrats: "This classification refers to municipalities and all forms of public service provided by the state through regional and local agencies, as well as state guaranteed health care. Such a level also entails informal links among private companies and low-level state bureaucracy." (Lízal and Kočenda, p. 132)

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[8] http://aplikace.mvcr.cz/archiv2008/dokument/index.html.

1.2. The Czech and the Slovak Governments' Anti-corruption Strategies in Data

In this subsection, we will present the official statistics of revealed and clarified malfeasance connected with corruption of public officials per 100 capita. We will thus concentrate only on the corruption of public officials that is rather problematic than the corruption of private employees. The experience of forty years of communist dictatorial regime is the evidence. If the corruption of public officials was not rather problematic than corruption of private employees, there would be no reason to transform the Czech and the Slovak Republics communist regime to democracy.

The official statistics of revealed and clarified malfeasance connected with corruption of public officials per 100 capita is a useful corruption measurement that records the governmental effort to reduce corruption. The statistics record malfeasance connected with corruption, as defined by the Czech and the Slovak law. This is the misuse of power by governmental officials, disturbing the objectives of the governmental official through malpractice, receiving bribes, bribery and indirect bribery. This in both countries similar legislative definition of corruption of public officials is very close to widely accepted general definition of corruption provided by Transparency international. Transparency international defines corruption as the misuse of public power.

The shortcoming of the official statistics of revealed and clarified malfeasance connected with corruption is that it does not record the state of corruption in society but only the governmental effort to reduce legally defined corruption of public officials. As we will show on the other corruption indicators one could not take for a granted that if the government increases its effort to reduce legally defined corruption of public officials the corruption in society will be reduced as well.

Graph 1 shows the development of revealed malfeasance connected with corruption per 100 capita in the Czech and Slovak Republics. The development demonstrates the increased effort of the Slovak government to reveal the corruption of public officials after the implementation of described anti-corruption policies. The development of the Czech revealed malfeasance connected with corruption per 100 capita shows that, despite the pressure of EU institutions, the effort of the government to reveal public officials' corruption did not increase. More precisely, the development of revealed malfeasance connected with corruption per 100 capita in the Czech and Slovak Republics shows that the implementation of described governmental anti-corruption strategies led to increased effort of the Slovak government to reveal corruption of public officials while it led to almost decreased effort of the Czech government in the period from 2002 to 2004 when the both countries were prepared to EU accession. After joining the EU the effort of both governments recorded decreasing trend.
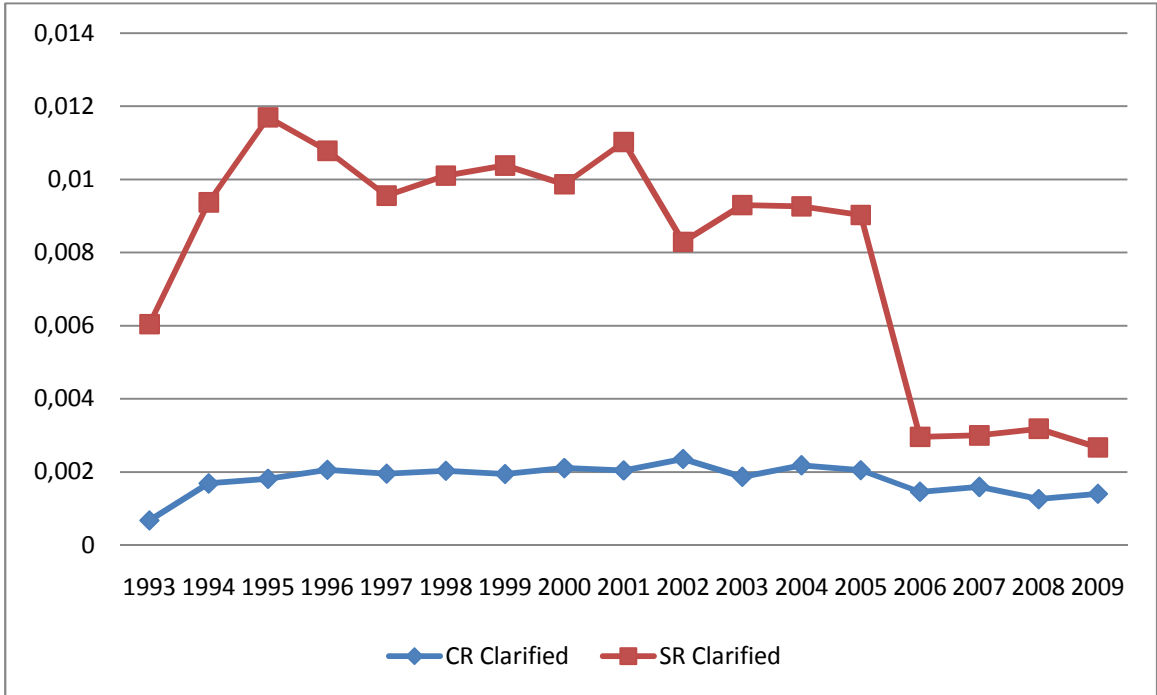
Graph 1: Revealed malfeasance connected with corruption per 100 capita
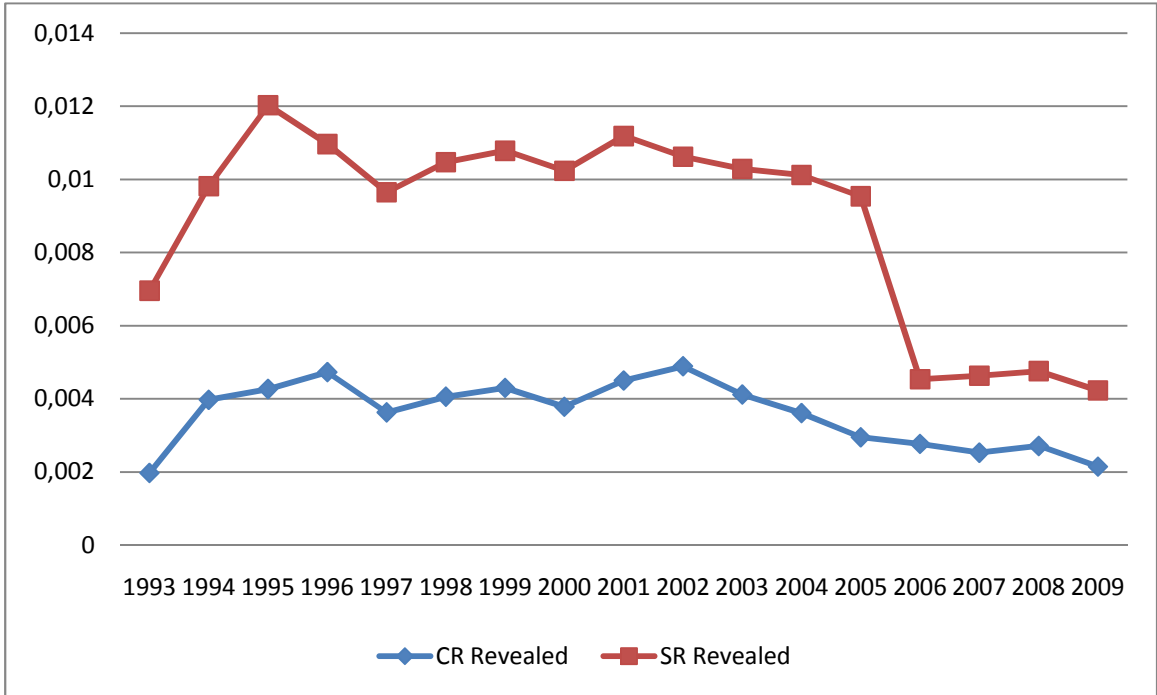
Source: The Ministry of Interior of the Czech Republic and the Slovak Government Office, Czech Statistical Office and Slovak Statistical Office

Increased or decreased govenrmental effort to reveal the corruption of public officials, however, does not mean that the revealed corruption will be clarified and the corrupt public official will be punished. Graph 2 thus shows the development of clarified malfeasance connected with corruption per 100 capita. The development again demonstrates that, despite the pressure of EU institutions, the effort of the government to punish public officials' corruption in the Czech Republic decreased after joining the EU. The development of the Slovak clarified malfeasance connected with corruption per 100 capita records a positive trend. Nevertheless, although the effort of the Slovak government to clarify malfeasance connected with the corruption of public officials increased before the date of the EU accession, it decreased to the trend of the Czech Republic after EU accession.

Graph 2: Clarified malfeasance connected with corruption per 100 capita

Source: The Ministry of Interior of the Czech Republic and the Slovak Government Office, Czech Statistical Office and Slovak Statistical Office

The official statistics of revealed and clarified malfeasance connected with corruption of public officials per 100 capita demonstrate the effort of the Czech and Slovak governments closely connected with the anti-corruption public policies described in the previous subsection. Precisely, the trends of the official statistics of revealed and clarified malfeasance connected with corruption per 100 capita demonstrate that the effort of public officials to repress legally defined public officials' corruption in the Czech Republic remained in effect the same or decreased while the effort of the officials to repress the corruption in the Slovak Republic adjusted to the development in the Czech Republic in the period when the public policies described in the previous subsection were implemented.[9]

In other words, the trends of official statistics of revealed and clarified malfeasance connected with corruption of public officials per 100 capita demonstrates that while the pressure of EU institutions led to the implementation of anti-corruption governmental policies, the effort of public officials record decreased activity a few years after join of EU. The explanation of this conclusion is twofold. First, one can argue that the corruption of public officials was not so prevalent thus the increased activity was not needed. This conclusion, however, is not realistic. Since the corruption under

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[9] According to Pearson's chi-square correlation coefficient between Czech CPI and Slovak CPI was 0,975.

communist dictatorship was pervasive, it is not realistic to assume that it will disappear in the decade after fall of Berlin Wall. Moreover, if the corruption was not so prevalent, why the anti-corruption governmental policies were implemented?

The second, realistic explanation is that the pervasive corruption of ex-communist bureaucrats became visible through the privatization process thus the anti-corruption governmental policies were implemented to stabilize the states of corruption in the Czech and Slovak Republics. Nevertheless, the trends of official statistics of revealed and clarified malfeasance connected with corruption of public officials per 100 capita suggest that while the politicians in the Czech Republic and the Slovak Republic were winning the elections with anti-corruption governmental programs, the public officials did not turn these promises into results.

2. Some regressions of corruption measurements

In the previous section, there were described the anti-corruption public policies of the Czech and the Slovak governments, which ware implemented to prepare both the Czech and the Slovak Republic to EU accession. It was argued that even though the promises of politicians sounded ambitions the effort of the Czech Republic officials to reveal and clarify malfeasance connected with corruption did not increase, rather decrease. In the case of the Slovak Republic the effort of public officials to reveal and clarify malfeasance connected with corruption increase but suddenly adjusted to the development of the Czech Republic. With reference to the evidence presented in previous section we have concluded that the effort to improve the quality of legal framework in the Czech and Slovak was not recorded.

We concluded in such a strong way also with the reference to the development of the public legal enforcement system in the Czech and Slovak Republics. Precisely, while the fast transition reforms were partly targeted to creation of the for-market legal framework the legal enforcement did not undergo deeper reform. Thus the "new" legal framework was enforced by "old" and corrupt public legal enforcement system. Žídek (2005), for instance, argues that in the Czech Republic in 1999 commercial dispute in average took 478 days and restituions disputes in average took 1206 days (Žídek 2005). Frič (2001) provides the survey based evidence collected from citizens and policemen in the Czech Republic in 1999 that supports our conclusion.

In this section, we will provide additional evidence. Precisely, in this section we will report the state of corruption in the Czech and the Slovak Republic with the reference to other different corruption measurements. We will thus not only concentrate on the effort of public officials to reveal and clarify legally defined malfeasance connected with corruption of public officials, but we will concentrate on

reporting the state of corruption in the Czech and the Slovak societies. This section thus addresses the question how far the pressure of EU institutions improved the state of corruption in the Czech and Slovak societies.

Of course, the incidence of in previous section described anti-corruption public policies is limited. Corruption is the phenomenon that growths from social values and these could be changed through governmental policies that are not directly targeted to the setting the parameters of the public legal enforcement. Since the accession of the Czech and the Slovak Republics to EU was complicated legislative task other legislative changes must have been done. For instance, the system of governmental regulation was redefined. While the Czech and Slovak regulatory agencies define the regulatory duties according to industries classification, the EU regulatory agencies define regulatory duties according to goods classification. This fact obligated the process of legislative harmonization with deeper systematic legislative changes. These legislative changes could have positive or negative effect on the state of corruption in society. Moreover, even public policies implemented independently on EU institutions could have positive or negative effect on the state of corruption in society. For instance, in the period from 1998 to 2006, Dzurinda's government implemented for-market reforms. According to Moore (2005), the reforms of Dzurinda's government encouraged investments and improved institutional quality by broadening the tax base, reducing the administrative burden and improving work incentives. It is likely, that these for market reforms had positive effect on the state of corruption in the Slovak Republic. In this section, we will thus report the state of corruption in the Czech and the Slovak Republic with the reference of other different corruption measurements that absorbs the effects of wider public policies.

2.1. Empirical Strategy

In this subsection, before we will provide a comparison of other different kinds of corruption measurements to show how the preparation of accession and accession to EU affected the state of corruption in the Czech and Slovak Republics, we will explain our empirical strategy in detail.

In the institutional economic literature, there is often argued that while formal institutions like legal framework can be changed rather very quickly, the informal institutions like social values and cultures is hardly to change overnight. Miguel and Fisman (2007) provide evidence that supports the hypothesis that the legal framework and cultures determine the attitudes of people to corruption.[10]

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[10] Miguel and Fisman (2007) provide evidence from diplomatic parking tickets in New York. They test how the cultures of different countries from which the tested diplomats come have affected their willingness to break the parking code in Manhattan. They conclude that the cultures of the countries from which the tested diplomats come affected their willingness to break the parking code in Manhattan thus the willingness to be

In this section, we do not deny that the cultures have affect on different kinds of measurements of corruption but we want to report how certain public policies have affected the quality of legal enforcement approximated by different kinds of corruption measurements. It could be argued that certain public policies have no affect on the quality of legal enforcement approximated by different kinds of corruption measurements. The reason could be that the quality of legal enforcement is highly affected by cultures of corruption. If it is so the question of the paper is answered.

Nevertheless, the setting of parameters of legal enforcement could have the effect on the trustworthiness of legal enforcement approximated by different kinds of corruption measurements in the long run. The economics of institutional transition that points out the importance of the informal institutions like social values and cultures stresses the problem of short run institutional transition referred to as path dependence. In particular, it is argued that the legal framework and legal enforcement must be supported by informal institutions and the problem is that these could be reformed only in the long-run when the informal institutions appropriately evolve (i.e. North 2002). If legal framework and legal enforcement are not supported by informal institutions like social values and cultures, legal framework and legal enforcement reform has no impact.[11] The inappropriate functioning of legal framework and legal enforcement is recognized by corruption. Different kinds of corruption measurements provided in this section as the approximation of the legal enforcement quality could thus only show if the pressure from EU institutions have improved the legal enforcement in the Czech and Slovak Republic in the short run without any long-run impact. In the sense of Miguel and Fisman (2007) it means that effect of certain public policies on the cultures of corruption is not tested even though according to path dependence literature (i.e. North 2002) it is important to explain.

Nevertheless, we do not want to provide the evidence against this argument. In this section, we want to demonstrate that the pressure of EU institutions is not enough to improve legal enforcement in the short run. The purpose of presented evidence is thus not the demonstration that the problem of path dependence does not exist, but the demonstration that the removal of barriers to entry and the deeper legal reform must be realized to improve quality of legal enforcement approximated by different kinds of corruption measurements. The reason for this suggestion is that if someone

corrupt must be affected by cultures as well. Moreover, they also tested the effect of raising punishments on the diplomats' willingness to break the parking code in Manhattan. They conclude that raising punishments affected the diplomats' willingness to break the parking code in Manhattan thus the willingness to be corrupt must be affected by the legal frameworks well.

[11] This argument was used in the critique of the "big bang" transition strategy in the Czech Republic (Sojka, Mlčoch and Machonin 2002).

believes that via exogenous pressure and coping of formal institutions from EU could be improved trustworthiness of legal enforcement he must automatically assume that deeper legal reform could improve trustworthiness of legal enforcement as well and better. On the other hand, if someone believes that informal institutions like social values and cultures plays more important role he automatically assumes that the pressure of EU institutions must have no effect in the short run because the informal institutions like social values and cultures must endogenously emerge first. Then we argue that to create the conditions for letting the domestic informal institution endogenously emerge barriers to entry must be removed.

Thus, even though evidence provided in this section could be considered as insufficient, because of the short time period that it covers, the suggestion for removal of barriers to entry and deeper legal reform could not be denied. The reason is that even though the certain public policies work only in the long run because of path dependency problem it does not mean that the deeper legal reform would not have better affect in the long run as well. On the other hand, even though the certain public policies could have no effect in the short run because of informal institutions like social values and cultures, it does not mean that the removal of barriers to entry could not provide the conditions for the faster emergence of informal institutions like social values and cultures. These then can endogenously develop the more trustworthy legal enforcement.[12] For this reason evidence presented in this section supports the hypothesis that the pressure of EU institutions is not enough in the short run therefore to be sure that the improvement of the quality of legal enforcement in the Czech and the Slovak Republic will happen in the long run the removal of barriers to entry and deeper legal reform must be realized.

2.2. Composite Indexes Test

For comparison of the state of corruption in the Czech and Slovak Republics before and after EU accession, we have chosen two perception-based composite corruption indexes. The first is the Corruption Perception Index (CPI) published by Transparency International (TI) and the second is Control of Corruption (CC) published by the World Bank (WB). These perception-based composite corruption indexes are useful for our purposes because they cover the longest available time-period. Other perception-based composite corruption indexes like an Opacity index provided by

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[12] Hay and Shleifer (1998) argue that privatization of legal enforcement is a good way how to let the trustworthy legal enforcement emerge. They argue that the legal enforcement in Russia was so bad in nineties so that the firms rather hired criminals or bribed public officials to enforce their contracts. For this reason according to Hay and Shleifer (1998) the privatization of legal enforcement was the only way how to make untrustworthy legal enforcement more trustworthy and functioning. Legalization of unofficial legal enforcement is the way how transparency and open access to legal enforcement could be ensured.

PricewaterhouseCoopers, Business Risk Servis provided by Business Environments Risk Intelligence (BERI), Business Environment Ranking provided by Economist Intelligence Unit (EIU) and others do not cover such a long time period or report rather on general business environments and political risks than on corruption of public officials.

Both the CPI and CC are composed of a number of perception-based sources, especially from rankings provided by business agencies and foreign business people.[13] While TI defines corruption as the misuse of power by public officials (Lambsdorff 2006, p. 84), the definition of the WB is broader, because the CC includes broader cross-country indicators reporting ratings of countries on boarder aspects of corruption (Kaufmann, Kraay and Mastruzzi 2009, p. 6). Even though Control of Corruption defines corruption broadly, both indicators are similarly constructed and generally understand corruption as :„Behavior which deviates from the formal duties of a public role because of private-regarding (close family, personal, private clique) pecuniary or status gains; or violates rules against the exercise of certain types of private-regarding influence." (Nye 1967, p. 419).[14]

Nevertheless, the fact is that every kind of corruption measurements defines corruption in slightly different way. Even though the definition by concrete legislation against corruption is close to the definition of TI, it is slightly different. Even though the definition of TI is widely accepted every ranking from which the CPI or CC are composed defines corruption in slightly different way. And finally every sociological survey, which asks the respondent how often he provides bribes to public officials, defines corruption in slightly different way. It depends on the respondent's perceptions of what the bribe exactly is. Thus even though the institutional analysis based on different kinds of corruption measurements is more complex and detailed, it is possible that the different kinds of phenomenon are measured.

Moreover, the perception-based composite corruption indexes are composed of a number of perception-based sources, which must be aggregated. The aggregation of different perception-based sources is followed by two measurement shortcomings. The first is that the changes in numbers of sources and methodology make the year-by-year comparison less valid. The second is that the aggregation of different sources, which are based on slightly different definitions of corruption, make the country score comparison less valid as well (Körner, Kudrna and Vychodil 2002). These are not, however, very important shortcomings for CPI, because the Transparency International provides the

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[13] For more detailed information on CPI construction and determination see Grochová (2006) and Soreide (2003).
[14] For discussion see Otáhal (2006).

standard error of CPI aggregation thus the size of "uncertainty" connected with the aggregation of a number of perception-based sources is estimated.

The comparison of the perception-based composite corruption indicators collected in Central European and Baltic states is shown in Graph 3 and Graph 4. Graph 3 demonstrates that the transition public policies had positive effect on the development of the perceived state of corruption in the Czech and Slovak Republics. It is proved by CPI score that indicates positive development in period from 2004 to 2008 in both countries. On the other hand Graph 4 demonstrates that despite the transition public policies development of the perceived state of corruption remained the same in the Czech and Slovak Republics. It is proved by CC score that does not indicate positive development in period from 2004 to 2008 in both countries.

Graph 3: CPI development in Central European and Baltic states
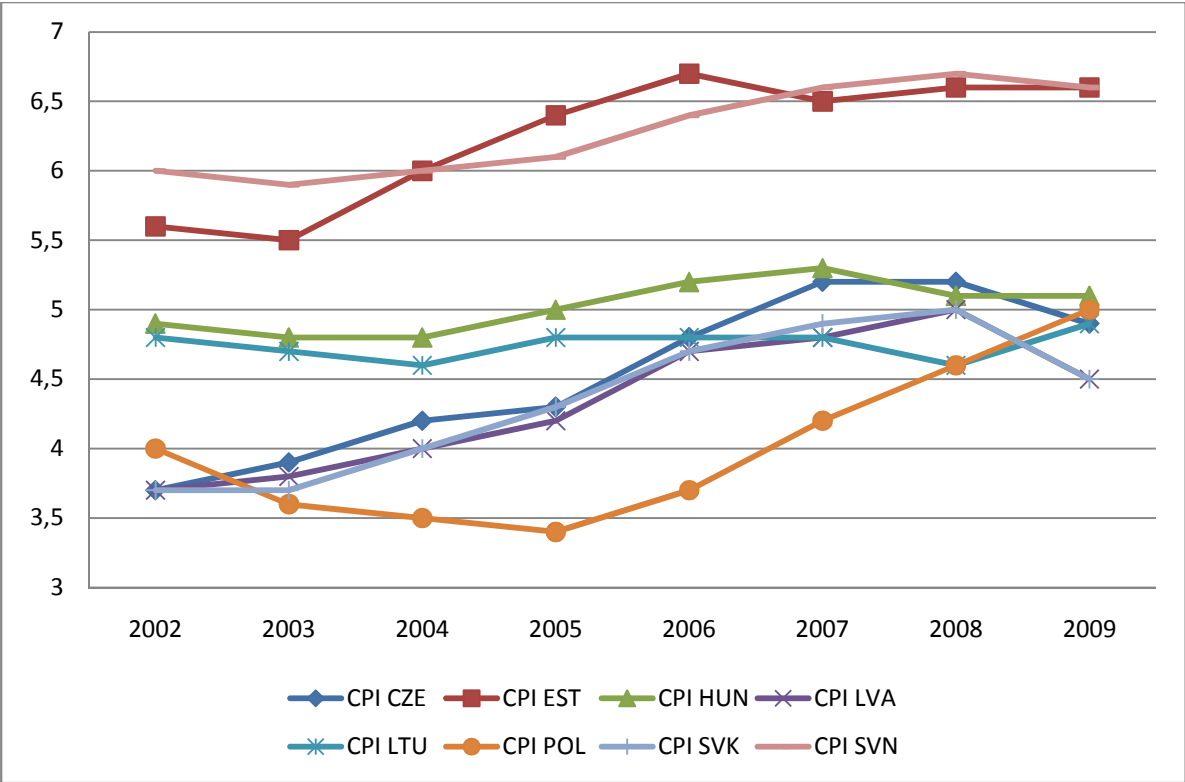
The range of CPI score is 0-10 when 10 is the best score
Source: Transparency International (http://www.icgg.org/corruption.cpi_2009.html)

Graph 4: CC development in Central European and Baltic States
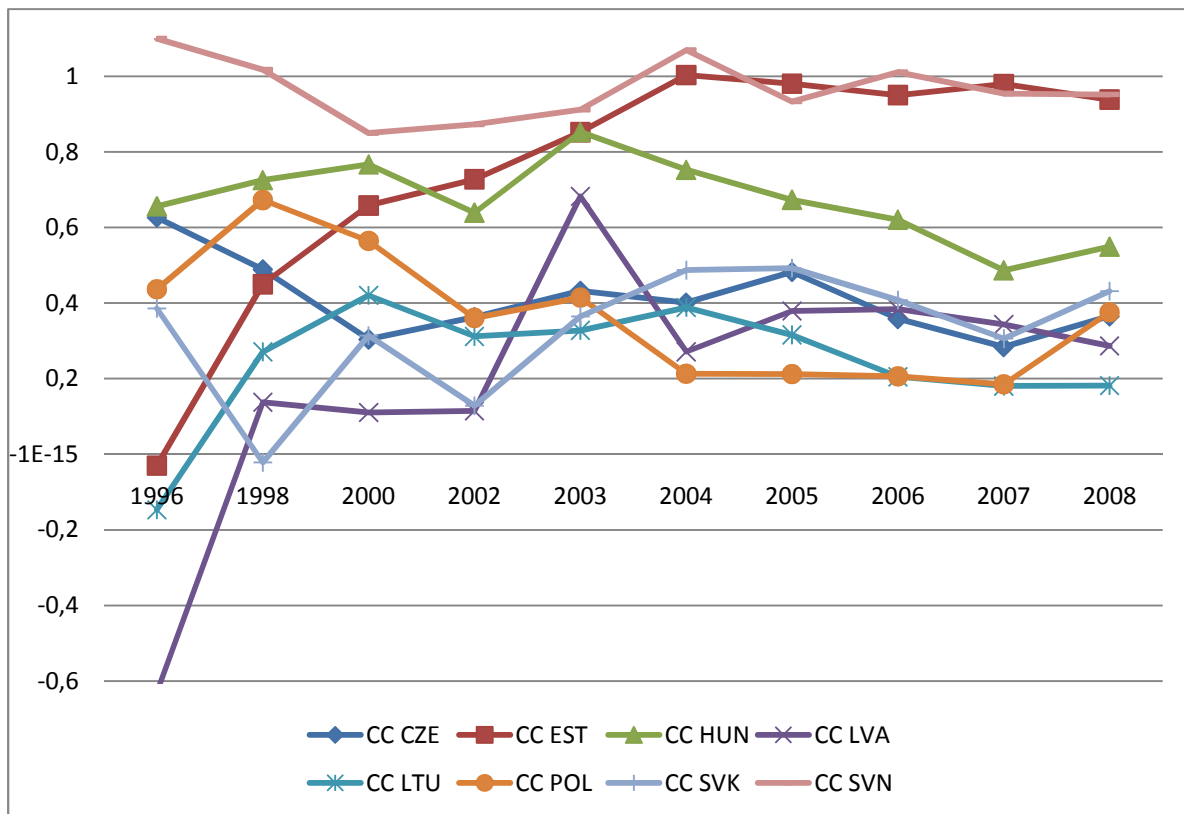
The range of CC is -2,5-2,5 when 2,5 is the best score.
Source: World Bank (http://info.worldbank.org/governance/wgi/index.asp)
The period from 1996 to 2002 is disrete because data for 1997, 1999 and 2001 are not available. These are aproximated by mean value.

We have tested the Czech CPI and CC and the Slovak CPI and CC by Pearson chi-square test. The correlation coefficient between Czech CPI and CC in period from 2002 to 2008 was -0,561. The correlation coefficient between Slovak CPI and CC in period from 2002 to 2008 was 0,315. These results demonstrate the variability in the development of the Czech and Slovak CPI and CC in period from 2002 to 2008. It is likely that variability is caused by different perception-based sources which are aggregated in the composite indexes. It is understandable that subjective evaluation of the state of corruption in society is influenced by the respondent's personal perceptions of what corruption exactly is and his experiences. These are in many cases influenced by information provided by media or other indirect sources. Thus, even though the state of corruption in the society could be better, uncovering the secret information can negatively influence the perception-based composite indexes score. In the previous section it was argued that it is realistic to assume that with fast transition reforms and deeper integration to EU the state of corruption in the Czech and Slovak Republics became better so that it is likely that variability of CC is the result of influenced perceptions.

More importantly, Graph 3 and Graph 4 show the comparison of the perception-based composite corruption indicators collected in Central European and Baltic states. This comparison is useful for demonstration of the progression of perceived state of corruption in institutionally similar countries. Despite the fact that the development of perceived corruption in Central European and Baltic states is different from the perspective of CPI and CC (the visible example is the development of perceived state of corruption from the perspective of CPI and CC in Poland), the convergence of the Czech Republic, Hungary, Latvia, Lithuania, Poland and Slovak Republic could be recognized. The more important fact is, however, that the convergence tendency is stabilizing at the level of CPI and CC score that could be hardly considered as satisfying. Thus despite the fact that these results are perceived,[15] the evidence supports the hypothesis that the pressure of EU institutions is not enough in the short run. Assuming that the corruption of public officials approximates the quality of legal enforcement the improvement of the quality of legal enforcement in the Czech and Slovak Republics will thus more likely happen after removal of barriers to entry and deeper legal reforms.

2.3. Corruption Malfeasance and Composite Indexes: Statistical Test

We provide an additional empirical prove of our hypothesis demonstrating that even if formal institutional changes took place corruption perceptions remained almost unchanged. Our econometric analysis represents the additional illustration of our institutional description. The econometric analysis is based on the study of yearly data from the fourteen-year period 1996–2009 for the Czech Republic and eleven-year period for the Slovak Republic. We used above mentioned data to estimate our model. The total sample contains 104 yearly records, including data on CPI, revealed malfeasance, and number of corruption articles presented in Czech and Slovak media.

The first step of our analysis is based on the estimation of a linear function of CPI. According to a theory (Becker and Stigler 1974) the CPI should improve when a number of revealed malfeasance increases, i. e. the institutional framework and its enforcement is well established and executes its tasks well which is reflected in better position when evaluating corruption.[16] As it was argued above, we thus assume that corruption perceptions approximate perceived quality of legal enforcement.

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[15] There is no better kind of corruption measurement that provides us with comparable time series.

[16] At this point, it must be stressed that CPI measures perception of corruption thus the increased number of revealed malfeasance connected with corruption might decrease the CPI score. Revealed malfeasance connected with corruption includes both political and petty corruption so that its negative influence is distributed. We accept that corruption of public officials (even if non-promoted) affects the CPI score. It is, however, usually assumed that publically presented affairs negatively influence corruption perceptions. For this reason we distinguish revealed malfeasance that need not to be necessarily promoted (and stays for public officials' initiative), and the influence of the media that spread the knowledge about corruption and so it makes more visible (represented by the number of contributions related to corruption in all media). This idea is developed later on in the second versions of the models.

The second step regards the study of a system of simultaneous equations on a panel of data considering both the Czech and the Slovak republic CPI.

In our first model we consider the CPI as a function of revealed malfeasance. The initial model, therefore, assumes the following form:

$$CPI\_cr_t = \alpha_1 + \beta_1 \ln(mal\_cr) + \gamma_1 \ legal\_change\_cr + \varepsilon_{1t} \qquad (1)$$

$$CPI\_sr_t = \alpha_2 + \beta_2 \ln(mal\_sr) + \gamma_2 \ legal\_change\_sr + \varepsilon_{1t} \qquad (2)$$

where *cr* or *1* and *sr* or *2* represent each country, respectively, *t* indicates year, and *mal* the revealed malfeasance. We use a *legal change* dummy to control for the (in)efficiency of legislative changes of institutional environment and its enforcement.[17]

The second step of the econometric analysis regards the estimation of a simultaneous equation model. In particular, a seemingly unrelated regression (SUR) method is used. For the SUR model the relationship between the dependent variables is indirect; it comes through correlation in the errors across different equations. Estimation combines observations over both equations and countries. When we use the SUR method our model takes the following form:

$$\begin{cases} CPI\_cr_t = \alpha_1 + \beta_1 \ln(mal\_cr) + \gamma_1 \ legal\_change\_cr + \varepsilon_{1t} \\ \\ CPI\_sr_t = \alpha_2 + \beta_2 \ln(mal\_sr) + \gamma_2 \ legal\_change\_sr + \varepsilon_{1t} \end{cases} \qquad (3),$$

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[17] We choose only the legislative changes that are comparable with the Slovak ones. However, more detailed citation of legislative and other changes of institutional environment and its enforcement can be found in the study of Volejníková (2003).

The reason of this choice is that we have two different CPI functions and we study the malfeasance and legislative changes effects taking into account the simultaneous influence of these variables.

In order to distinguish a possible effect of corruption promoted in the media and so its potential negative impact on CPI from the public officials' initiative the model is extended with a variable that controls for the media influence. A number of contributions on corruption in all media is used for this purpose. The new versions of the models are then formalized as follows:

$$CPI\_cr_t = \alpha_1 + \beta_1 \ln(mal\_cr) + \gamma_1 \ln(media\_cr) + \delta_1 \text{ legal\_change\_cr} + \varepsilon_{1t} \qquad (4)$$

$$CPI\_sr_t = \alpha_2 + \beta_2 \ln(mal\_sr) + \gamma_2 \ln(media\_sr) + \delta_2 \text{ legal\_change\_sr} + \varepsilon_{1t} \qquad (5)$$

and

$$\left\{ \begin{array}{l} CPI\_cr_t = \alpha_1 + \beta_1 \ln(mal\_cr) + \gamma_1 \ln(media\_cr) + \delta_1 \text{ legal\_change\_cr} + \varepsilon_{1t} \\[2em] CPI\_sr_t = \alpha_2 + \beta_2 \ln(mal\_sr) + \gamma_2 \ln(media\_sr) + \delta_2 \text{ legal\_change\_sr} + \varepsilon_{1t} \end{array} \right. \qquad (6),$$

respectively, where *media* stands for the number of contributions on the topic of corruption.

2.4. Results

Given that we are using time series the first difficulty is that spurious results can arise if the series are not stationary (Enders 1995). In this study, the ADF (Augmented Dickey-Fuller) test is used to check for the unit roots of the time series variables. The results are shown in Table 1. In all cases except for the CPI variable and media_cr, the null hypothesis of no stationarity cannot be rejected at the 1 or 5% level of significance. Media_cr is stationary at first difeferences and CPI at second differences.

Applying the OLS method to the first model both revealed malfeasance and dummy variable are negative so that it seems that they worsen the situation of corruption in both countries. In other words, an increase of public official's efforts makes the corruption more visible and so it lowers the CPI ranking.[18] Nevertheless, the variables are not always significant (see Table 2). Because of a strong correlation among errors both in the Czech and Slovak data that is revealed by Durbin-Watson d-

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[18] In fact, we need to distinguish public officials' initiative and spreading the knowledge about corruption. This rationale takes place later in the extended version of the model.

statistic (Durbin-Watson d-statistic_cr (3, 14) = 1.217563, Durbin-Watson d-statistic_sr (3, 11) = 1.827637[19], respectively), estimation of parameters is continued with GLS applying Cochrane-Orcutt regression AR (1). It supports the previous results that both revealed malfeasance and legal changes have only a minor impact on state of corruption in the Czech and Slovak Republics. The estimations present a quite high R squared.

Probably because of a low number of observations we face of low statistical significance. These results improve considerably when we consider the second model estimations. At the end of Table 2 the test for model specification (RESET test) tells us that there are no omitted variables in the model.

The purpose of the second model of this paper is to study more carefully the relationship between Czech and Slovak CPI indexes. In the previous part of the text we have found that Slovak CPI adjusted the development of the Czech one. The same institutional framework before the fall of Berlin wall and now the close cooperation imply the corruption may be also interrelated.

The seemingly unrelated regression method involves one dependent and one dummy variable that, in our case, are the malfeasance and legislative institutional changes. The estimated results are shown in Table 2.

The estimation presents a quite low R squared for the Slovak CPI, while the statistical significance of regressors increases for both countries. Moreover, the correlation matrix of the residuals (not shown in the table) indicates statistically significant correlation between the errors in the two equations, as should be expected.

The next step lies in extending the models with a *media* variable for the reason of a control for a possible negative impact of corruption promoted in the media on the corruption perception. Running the Durbin-Watson test a strong correlation among errors is revealed: Durbin-Watson d-statistic_cr (4, 11) = 1.163067 and Durbin-Watson d-statistic_sr (4, 11) = 1.321539. As a consequence, the estimation is again continued with GLS applying Cochrane-Orcutt regression AR (1) and with SUR.

Interpreting the results we can say that the media really have a moderate negative impact on the CPI, as expected, that specifies originally negative impact of public officials' initiative. In this way we distinguish a negative effect of the media and the public officials' (in)efficiency . The inefficiency of the formal changes is again demonstrated. Legal changes have nearly zero effect on the CPIs in both countries (see Table 3).

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[19] Null hypothesis: errors are serially independent.

As for the resulting constants, it is interesting to interpret them in the basic models implying that without the institutional reforms among which mainly legal changes CPI would be even higher. This suggests that the formal changes are not efficient probably because of an unchanged informal institution that prevent from an efficient execution of new laws. The results, thus, show again the inefficiency of external pressures on institutional changes because of institutional enforcement rigidity. Both public officials' initiative and legislative changes that were mainly called for by EU does not reduce corruption perception in both countries. As it can be seen in Graph 5, the Czech initial legislative changes seem to have a possible positive (short run) effect, however, a very weak, if any, effect can be observed in the long run.

Graph 5: The Czech CPI development and trends
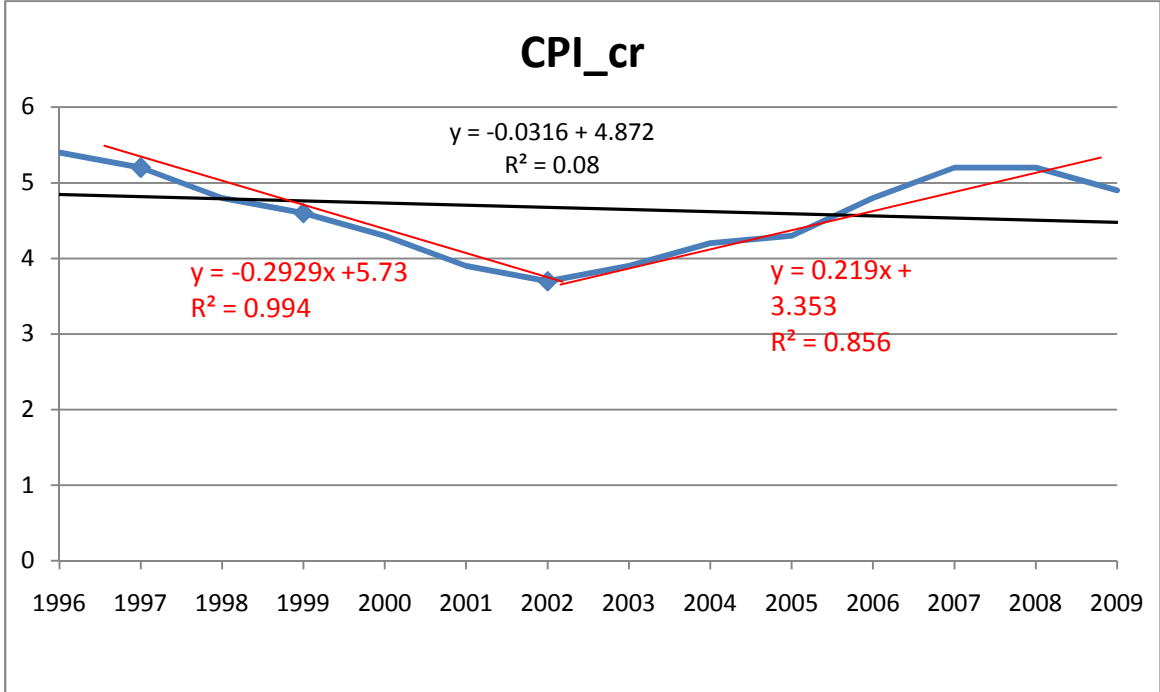
Source: Transparency International (http://www.transparency.org/policy_research/surveys_indices/cpi/2009)

When considering the whole period of CPI measures in the Czech Republic, it is demonstrated that during the period in which new anti-corruption laws were established the CPI has a gently decreasing trend. Focusing us, however, on the pre-entrance and post-entrance period more in detail, we can observe a possible delay in effects of newly established changes in formal institutional framework (1997, 1999, and 2002 in the case of Czech Republic) with a consequence of a slight CPI growth. It implies a positive and statistically highly significant (at the 1% level) mild effect of formal institutional changes in the short run during a period 2002-2007 (not shown in tables, available upon request).

Having a short time-series, however, the future CPI development and the long run effect of formal institutional changes is quite unclear. Observing the recent development it shows its possible declining trend, hence a CPI stagnation followed by a new fine decline took place. A short increase of the CPI after EU accession is, thus, followed with a suggestion of a new decrease. It implies again that the pressure of EU institutions is not enough in the long run. Assuming that the corruption of public officials approximates the quality of legal enforcement we stress the necessity of removal of barriers to entry and deeper legal reforms to improve of the quality of legal enforcement in the Czech Republics.
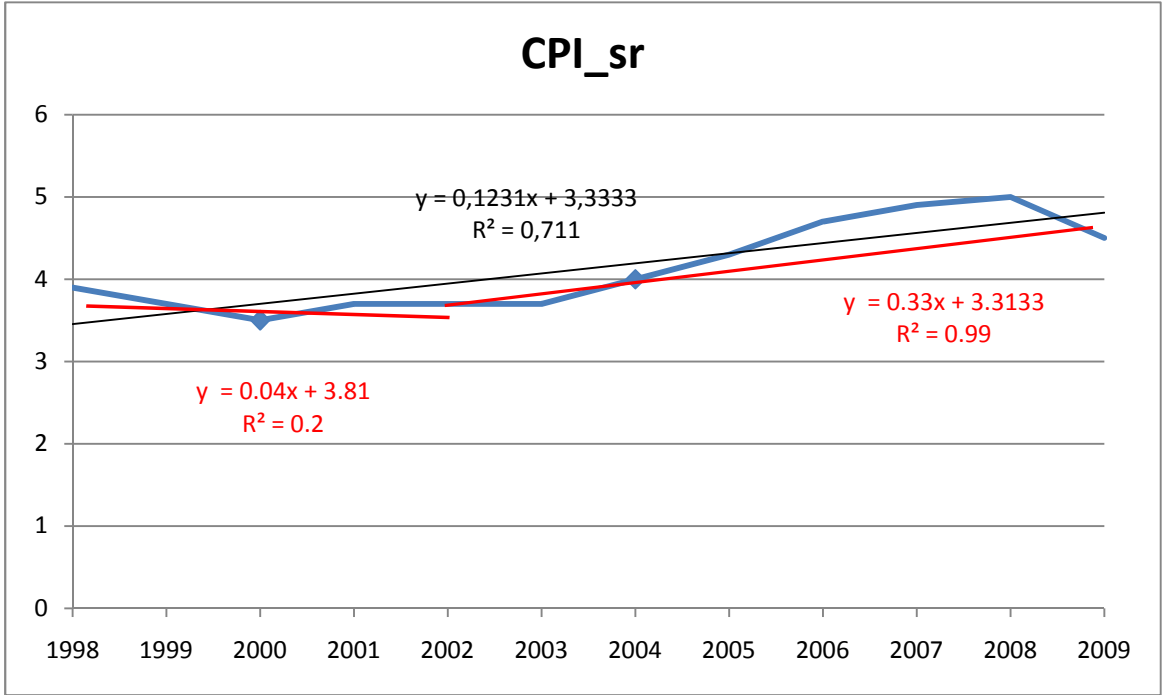
Graph 6: The Slovak CPI development and trends

Source: Transparency International (http://www.transparency.org/policy_research/surveys_indices/cpi/2009)

The Slovak CPI development had a positive trend in whole observed period. After 2000, when the corruption problem was reflected in legislative changes we can observe an increasing development of CPI deducing these changes to be efficient. The positive parameters of CPI development result to be significant both in the whole period and in post-entrance period in the estimation (not shown in tables, available upon request).

Nevertheless, after 2008 the data foreshadows a possible decline and adjustment to the Czech CPI development and, thus, inefficiency of legal changes in the long run. As a consequence, in order to make the EU pressure on legal enforcement efficient and to reduce corruption in both countries we recommend to reduce barriers to entry and to realize deeper legal reforms.

Conclusions

The corruption of public officials approximates the quality of the legal enforcement in the country. In this paper, we compared the state of corruption progression in the Czech and Slovak Republics with the help of several corruption indicators assuming that they approximate the quality of the legal enforcements in both countries.

The comparison of the selected perception-based composite corruption indexes measuring the progression of the state of corruption suggests that the development of corruption in the compared countries remained almost on the same level throughout the period from 1998 to 2006. With reference to this evidence we have suggested that the pressure of EU institutions did not significantly improve the quality of the legal enforcement approximated by different kinds of corruption measurement. Since the legal enforcement system did not experienced a deeper legal reform similar to privatization, the legal enforcement remains same corrupt despite of changing its parameters.

The theoretical explanation is supported with results of empirical study in which we demonstrate a really weak, if any, influence of formal institutional framework that was mainly forced by EU institution both before and after EU accession. These, however, have had only slight temporary impact on corruption perceptions and no important impact from a long run view. However, our illustrative empirical analysis suffers from a very short time-series that is given by a short history of existence of both countries.

One can ask what the precise link between an improvement of legal enforcement and the results of different kinds of corruption measurements is. We have assumed that perceived corruption situation approximates the trust of citizens in formal legal setting, which is also responsible for reduction of both political and petty corruption. Thus when corruption situation in a country is perceived as bad the responsibility of legal enforcement should be lifted.

Some authors also argue that institutions and institutional environment are path dependent (i.s. North 2002). The social rigidities, source of path dependency, can hinder the process of legal enforcement improvement, in case of deeper reforms in particular. Path dependency thus leads to the fact that a deeper reform can take some time to realize it. Thus we can not exactly say that the pressure of EU institutions has not any positive effect on the quality of legal enforcement in the Czech and Slovak Republics. On the other hand, we can say that if there was any positive effect, it was not visible on presented evidence. Therefore we argue that in order to be sure that the Czech and Slovak Republics will experience visible positive effect of EU institutions pressure on legal enforcement the reduction of barriers to entry and deeper legal reforms must be realized. We thus

believe that the path dependency is the reason why the positive effect of the EU institutions pressure on the legal enforcement in the Czech and Slovak Republics will not occur in long run without the reduction of barriers to entry and deeper legal reforms.

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Appendix

Table1: Unit roots tests

Variable	Variables		Variables in first differences		Variables in second differences	
	ADF	Critical Value	ADF	Critical Value	ADF	Critical Value
mal_rev_cr	-3.934	-3.750 (1%)				
		-3.000 (5%)				
		-2.630 (10%)				
cpi_cr	-1.110	-3.750 (1%)		-3.750 (1%)	-2.960	-3.750 (1%)
		-3.000 (5%)		-3.000 (5%)		-3.000 (5%)
		-2.630 (10%)		-2.630 (10%)		-2.630 (10%)
media_cr	-1.772	-3.750 (1%)	-3.294	-3.750 (1%)		
		-3.000 (5%)		-3.000 (5%)		
		-2.630 (10%)		-2.630 (10%)		
mal_rev_sr	-5.210	-3.750 (1%)				
		-3.000 (5%)				
		-2.630 (10%)				
cpi_sr	1.058	-3.750 (1%)	-1.202	-3.750 (1%)	-3.662	-3.750 (1%)
		-3.000 (5%)		-3.000 (5%)		-3.000 (5%)
		-2.630 (10%)		-2.630 (10%)		-2.630 (10%)
media_sr	-3.294	-3.750 (1%)				
		-3.000 (5%)				
		-2.630 (10%)				

Table 2: Basic models – the CPI estimation: OLS, First stage regression

	OLS		AR (1)		SUR	
	CPI_cr	CPI_sr	CPI_cr	CPI_sr	CPI_sr	CPI_sr
mal_rev_cr	-0.002		-0.001		-0.004	
	-0.002		-0.001		(0.002)**	
legal_change_cr	-0.036		-0.011		0.199	
	-0.399		-0.118		-0.295	
mal_rev_sr		-0.003		-0.006		-0.003
		-0.005		-0.004		(0.001)**
legal_change_sr		-0.06		-0.187		-0.126
		-0.211		-0.161		-0.14
Constant	5.565	5.254	5.173	7.11	5.883	5.477
	(0.862)***	-2.983	(0.538)***	(2.039)**	(0.703)***	(0.304)***
Breusch-Pagan	2.45	4.55				
	(0.29)	(0.10)				
White's test	9.63	6.81				
	(0.05)	(0.15)				
Reset test	0.52	0.59				
	(0.68)	(0.72)				
R-squared	0.31	0.26	0.81	0.79	0.3553	0.758

Standard errors in parentheses

* significant at 10%; **significant at 5%; *** significant at 1%

Table 3: Extended models – the CPI estimation: OLS, First stage regression

	OLS		AR (1)		SUR	
	CPI_cr	CPI_sr	CPI_cr	CPI_sr	CPI_sr	CPI_sr
mal_rev_cr	-0.002		-0.02		-0.003	
	-0.002		-0.069		(0.002)***	
media_cr	-0.0002		-0.008		-0.001	
	0.001		-0.06		0.001	
legal_change_cr	-0.11		0.054		0.115	
	-0.007		(0.026)***		0.206	
mal_rev_sr		-0.082		-0.131		1.562
		-0.032		(0.088)*		(0.479)***
media_sr		1.885		-0.01		-0.082
		-0.954		-0.018		(0.018)***
legal_change_sr		-0.585		0.142		-0.584
		-0.284		(0.034)***		(0.145)***
Constant	-0.007	0.255	0.005	0.023	0.700	0.252
	0.132	-0.127	-0.031	(0.015)*	0.097	(0.068)***
Breusch-Pagan	1.98	0.48				
	(0.58)	(0.92)				
White's test	9.34	2.06				
	(0.23)	(0.96)				
Reset test	1.58	0.71				
	(0.33)	(0.59)				
R-squared	0.20	0.81	0.4	0.91	0.3553	0.758

Standard errors in parentheses

* significant at 10%; **significant at 5%; *** significant at 1%