Damir Piplica, Ph. D.
Ministry of Interior, PNUSKOK Department Split
Trg HBZ 9, 21000 Split, CROATIA
Phone / 385 91 75 22 661,
E-mail / damir.piplica@st.t-com.hr

CORRUPTION AND INFLATION IN TRANSITION EU MEMBER COUNTRIES

UDK / UDC: UDK: 343.352+336.748.12]:338.24
JEL klasifikacija / JEL classification: P44
Pregledni rad / Review
Primljeno / Received: 30.svibnja 2011. /May 30, 2011
Prihvaćeno za tisak / Accepted for publishing: 6. prosinca 2011. / December 6, 2011

Abstract

The aim of this paper is to investigate the impact of corruption on inflation in the EU during the specific conditions of transition of socialist economies to the modern entrepreneurial society. We used the corruption perception index as the best measure of corruption in observed countries while inflation was measured by consumer price index. The research could not be done in terms of administrative control on prices because it would not give the right results. Therefore, the success of the research assumptions was some level of liberalization of domestic economy where the cumulative liberalization index is used as an adequate measure. Investigation of seemingly unrelated social phenomena gave additional light on the causes of price increases in the observed transition countries, and also gave the possibility of finding complete and the most appropriate instruments to combat inflation. The researching paper demonstrates the positive impact of corruption on inflation while the strength of its influence is however weak. In addition too, the impact of corruption on inflation is largely indirect and occurs with a time delay because it takes some period of time in order to switch "cost of corruption" to the final holders of such costs. Indicators for the observed transition time related to Croatia, more closely fit the observed data of other transition countries.

Key words: corruption, inflation, inflation variability, payoff

1. INTRODUCTION

The particularity of this work consists precisely in the fact that the research applies to countries that were in a specific historical period of transition from planned to market economy. Comprehensiveness of the transition involved a change of almost the whole structure of national economies of the former socialist countries. Initial period of transition for those countries has meant to confront with high and variable inflation trends that have sometimes turned into hyperinflation. Furthermore, to such an initial figure of transition macroeconomic imbalances, underdeveloped financial system and the government still "hungry" loans should be added. Transitional conditions have created a unique opportunity to explore the relationship of corruption and inflation in totally different conditions from those developed in western countries. Given that the transition countries that joined the EU during the period of the reforms passed a very similar way, we included in our study just such a country with the addition of Croatia.

Until recently authors did not even looked at the economic consequences of corruption. They observed its apparent phenomenon mainly in terms of erosion of social morality and the imposition of criminal sanctions. This paper just aims to change this view, and a change in perception also helps to a broader reference literature in recent years. Such studies require a multidisciplinary character of the researchers themselves. Namely, social phenomena which are basically the same subject matter of different science still have a lot of touch points that connect them.

The research required certain prerequisites for its successful implementation. Namely, in terms of administrative price controls such research would be impossible. Therefore, it was necessary to have a minimum level of liberalization for each observed economy to do this researching. Of course, it is also necessary to make an adequate choice of methods for measuring corruption among the possible options, and explain the reasons behind the use of selected methods for measuring.

The main hypothesis in this study is that more corruption in transition countries causes higher inflation rate. In order to prove the hypotheses we have used statistical methods first, and then we pointed out the characteristics of the methods which have been obtained from the appropriate conclusions. In addition too, the ways of measuring levels of corruption and inflation, their advantages and disadvantages, require an adequate explanation of the results. Moreover, the characteristics of the index also clearly indicate the forms of their interconnectedness.

2. THEORETICAL FOUNDATIONS AND BRIEF REVIEW OF EMPIRICAL LITERATURE

So far corruption and its consequences are mainly looked at very trivial way through the criminal-law framework with the result in the punishment of immoral individuals. However, corruption has many far-reaching effects and could be, or it is associated with many other social phenomena. More and more authors are involved in researching the economic phenomenon of corruption and its impact on many macroeconomic indicators. The focal point of modern researches are on the relationship between corruption and other macroeconomic categories like level of GDP per capita, economic growth rate, market structure, investment rate international trade government revenues, expenditures, shadow economy, the quality of public infrastructure, public expenditure allocation, total investment, foreign direct investment etc. It is important to stress here the fact that in such multidisciplinary researches a large number of economists are included. Undoubtedly, only a small number of authors started to research the cause-effect relationship between corruption and inflation. In this sense, literature dealing with the impact of corruption on inflation becomes more extensive, but it is still insufficient. Corruption could be an explanation (certainly not the only explanation) for the persistence of high inflation rates in some countries.

The adverse effects of rent-seeking on economic growth have been under study approximately two decade. Baumol (1990) has presented chronological evidence on the negative effect of rent-seeking on economic growth and entrepreneurship. He also researched the negative effect of rent-seeking to the option of rent-seeking by the gifted people when remuneration structure is in opposition to production and entrepreneurship. Murphy, Vishny, and Schlifer (1991) brought in their researching paper different levels of increasing income to talent in production and rent-seeking. They presented empirical proof based on the ratio of students in law and engineering in the USA and argued that rent-seeking is to be in compliance with economic growth. Barro (1991) and Brumm (1999) also found negative relationship between rent-seeking and economic growth (and government expenditure). Acemoglu (1995), Mauro (1995) and Baumol (2004) concluded that rent-seeking and corruption lead some of the economy's resources to unproductive activities. Cole and Chawdhry (2002) concluded that rent-seeking has negative effects on economic growth, public investment and public services. They determined rent-seeking using the raw numbers of interest organizations registered to lobby in a governing body and the interest organization thickness which takes account of the numbers of organizations with regard to the volume of a national economy.

Knack and Keefer (1995), Knack and Keefer (1997), Sachs and Warner (1997), Pellegrini and Gerlagh (2004) came to the conclusion that corruption has negative effect on economic growth. Mauro (1995) has focused on the relationship between corruption and GDP per capita growth in a large cross-

section of 68 countries. He found negative effects of corruption and other adverse institutional and administrative indices on investment and economic growth. Méon and Sekkat (2005) stated that corruption has destructive effect on economic growth wherever there is a weak rule of law and the low efficiency of government. Méndez and Sepúlveda (2006) indicated that only in the "free" countries became visible the adverse impact of corruption on growth. Aidt, Dutta and Sena (2008) argued that corruption has an adverse impact on economic growth in countries with high quality institutions, and at the same time that economic growth reduces corruption, but corruption has no impact on growth in countries with low quality institutions.

Mauro (1996), Brunetti (1997), Poirson (1998), Ehrilch and Lui (1999), Kaufmann, Kraay and Zoido-Lobaton (1999), Li, Xu and Zou (2000), Mo (2001), Abed and Davoodi (2002), Leite and Weidmann (2002) and Gyimah-Brempong (2002), Neeman, Paserman and Simhon (2004) and Welsch (2004) used the level of GDP per capita growth as dependent variable and found a significant negative impact of corruption on economic growth. Aizenman and Glick (2003) in their researching paper calculated approximately that a decline of corruption by one index point impact on the rise GDP by 0.5 percentage points. Rock and Bonnett (2004) argued that corruption is much more harmful to investment and economic growth in small against to great developing countries. They also found that the reason for the existence of high levels of corruption and high sustained economic growth in the East Asia is East Asian Paradox because corruption networks are controlled by a centralized state. Guetat (2006) found significant negative effects of corruption undergoing from bad institutions on economic growth for a sample of 90 countries in the Middle East and North Africa.

Shleifer and Vishny (1993) investigated situation in Russia, Philippines, and Africa. Authors concluded that corruption has adverse effects on economic growth. They also argued that corruption may be costly because a weak central administration tolerates bureaucracies to enforce high levels of bribes on private businesses. Corruption has negative impact on GDP per capita in Islam's (2004) researching paper but it is no longer significant when author eliminated the unobserved fixed effects and reduced the correlation between exogenous variables.

Mauro (1996), Brunetti, Kisunko and Weder (1998), Brunetti and Weder (1998), Campos, Lien and Pradhan (1999), Mo (2001), Lambsdorff (2003), Pellegrini and Gerlagh (2004) argued that more corrupt countries experience considerably lower investment rates but negative effects of corruption on investment make smaller with higher preventability. Abed and Davoodi (2002) concluded that corruption considerably diminishes foreign direct investments. According to Wei (1999), Wei (2000), Wei and Smarzynska (2000) corruption is active similar to a tax discouraging foreign direct investments. If corruption index increases one point it will be the same result as an increasing 7.5 percentage points of tax rate. It is very interesting that Pellegrini and Gerlagh (2004)

considered that direct impact of corruption on growth doesn't exist. Corruption has direct impact on investment, schooling, trade policies, and political stability and like as consequence there is indirect impact on economic growth. Opposite to authors before, Barreto (2001) stressed that there is a positive direct impact of corruption on economic growth.

Tanzi and Davoodi (1997) argued that high corruption is associated with high public capital expenditures. Bandeira, Garcia, and da Silva (2001) thought that corruption reduces the productivity of capital, the productivity of effective human capital, and the total factor productivity. Rose-Ackerman (1975), Rose-Ackerman (1978), and Becker (1968) look into last two decade relationship among corruption on the one sight, and control, market structure and information on the other sight. Shleifer and Vishny (1993), Bliss and Di Tella (1997), Weinschelbaum (1999), Svensson (1999), Ades and Di Tella (1997), Ades and Di Tella (1999) and Laffont and N'Guessan (1999) also studied relationship between market structure and corruption.

Lambsdorff (1988) evidenced problems for exporters from less corrupt countries in business with importers from high corrupt countries. In addition too, Hines (1995) statistically argued that aircraft exports from USA have lower growth rates in high corrupt countries. Alesina and Weder (2002) concluded that corruption hasn't significant impact on multilateral aid flows. Tanzi and Davoodi (2002) argued in their researching paper that corruption reduces quality of roads. They also argued that corruption has negative impact on public revenues. Some authors found that high corruptive countries have also high level of the unofficial economy. According that, Friedman, Johnson, Kaufmann, and Zoido-Lobaton (2000) found that corruption has significantly positive effect on shadow economy. The same result we could see in researching paper by Johnson, Kaufmann and Shleifer (1997) after investigating countries in Latin America, the OECD, and ex Soviet Union.

Mauro (1998) argued that corruption has negative impact on education expenditures. Gupta, De Mello, and Sharan (2001) considered that corrupt government has positive impact on military expenses. Some authors like Gupta, Davoodi and Tiongson (2002) or Kaufmann, Kraay and Zoido-Lobaton (1999) showed that corruption has adverse impact on child mortality. Mo (2001) evidenced that corruption negatively impact on average years of schooling but Pellegrini and Gerlagh (2004) didn't find that relationship. Some other authors like Gupta, Davoodi and Alonso-Terme (2002), Barreto (2001), Gyimah-Brempong (2002), and Li, Xu and Zou (2000) found high positive relationship between corruption and inequality of incomes. Li et al. calculated how much an increase in corruption results in an increase of income inequality.

It is very important for our researching paper that some authors studied relationship between corruption and inflation too. There are not too many such researching papers. In this sense there was an interesting work from Al-Marhubi

(2000) including in his calculation for 41 countries per capita GDP, the degree of openness, the turnover of the central bank governor and other indices. He found high positive relationship between corruption and inflation. Abed and Davoodi (2002) also found positive impact of corruption on inflation in some transition countries while Honlonkou (2003) confirmed that corruption has strong impact on consumer price change. Bahmani-Oskooee and Nasir (2002) argued that corruption has negative impact on extern monetary stability. Of course, the depreciation of real exchange rate stimulates export oriented economies.

3. APPLIED RESEARCH METHODS AND ASSUMPTIONS

It is not easy to measure corruption because it is by its nature hidden, and its exterior may look completely legal. Moreover, the undisputed interest of corrupt individuals is that their act of corruption is never found out by a third person. Of course, the logical question is how do we measure the corruption and whether the established model of measurement will be credible? Certainly, it is impossible to have a pharmacy balance for measuring corruption. Each formed model has certain advantages and disadvantages. Corruption could be measured by different models, but almost all known models are based on measurements of corruption by perception of some categories of the population. The best known models for the measurement of corruption are bribe payers' index (BPI), global corruption barometer (GCB) and corruption perceptions index (CPI). In our study we used the corruption perception index (CPI)[1] of Transparency International, which basically shows the level of perception of corruption among government administration and politicians. CPI was formed from data obtained from the statements of business people and professionals from the countries assessed. It is important to note that CPI investigates corruption in the public sector and it is therefore defined as the abuse of public power for personal gain. This understanding of corruption may be different than the explanation of corruption in the context of the criminal law, evidencing in the individual articles of criminal law countries observed. Nevertheless, this understanding of corruption also notes the heart of problem and therefore a valid investigation using the advantage of such model for measuring corruption and its impact on inflation could be carried out.

Today it is possible to have results by CPI measures from 180 countries and territories around the world based on 13 sources from 10 independent institutions. All sources measure frequency and/or size of bribes and provide a ranking of countries from 0 to 10 points. The highest level of 10 points means that there is no corruption in country and on the other side 0 points means that

[1] Johann Lambsdorff from University of Passau developed CPI methodology for Transparency International.

country is the most corrupted. Evaluation of the extent of corruption in countries is done by country experts and business leaders. For instance, in the 2009 country reputable experts were African Development Bank - Country Policy and Institutional Assessments (AFDB 2008), Asian Development Bank - Country Performance Assessment Ratings (ADB 2008), Bertelsmann Foundation - Bertelsmann Transformation Index (BF 2009), Economist Intelligence Unit - Country Risk Service and Country Forecast (EIU 2009), Freedom House - Nations in Transit (FH 2009) Global Insight - formerly World Markets Research Centre - Country Risk Ratings (GI 2009) and the World Bank - Country Policy and Institutional Assessments for IDA Countries (WB 2008) while resident business leaders were Institute for Management Development - World Competitiveness Report (IMD 2008 and IMD 2009), Political and Economic Risk Consultancy - Hong Kong - Asian Intelligence (PERC 2008 and PERC 2009)., and the World Economic Forum - Global Competitiveness Report (WEF 2008 and WEF 2009).

Corruption perception index is measured by the answers obtained from business men based on which the corresponding average for each country is made. Subsequently, the result obtained is than calculated for each participant and than also the average for certain country. The problem is non standardised scaling system in each of the sources. The differences are standardised in two actions. The first technique is "matching percentiles". This method consists in the technique that all the results are denominated in scoring units that are mutually comparable. There is a possibility that in such process small amount of information could be lost. The next action of the rescaling method is composed of applying a beta-transformation for scoring the results obtained. The beta-transformation increases the standard deviation among all countries included in the CPI. This keeps away from the method by which the corresponding percentiles modus operandi effects in a smaller standard deviation from year to year. All of the standardised indicators for a country are then averaged in order to determine a country's level of corruption. In addition too, number of evidences, high-low scope, standard deviation and confidence range for every one country are going together with CPI range. Confidence range is established on a 90 per cent range with a five per cent probability that the score is under and a five per cent probability that the score is higher than this confidence range.

Inflation in observed countries was measured by consumer price index. The method of classification used in consumer price index is based on the classification of individual consumption by purpose. This classification divides consumer goods and services in twelve groups. Weights are signs of the relative significance of the sampled goods or services in the whole consumption of inhabitants in some country. The calculation and issuing of consumer price indices to public has a consequence in termination of calculation and issuing of retail price indices and cost of living indices. This explanation means that consumer price index doesn't include all prices in observed country. The resulting

parameters are with depreciation in the real value of money (π /1+ π) where π means inflation rate. In the posted model, price of goods or services (p) increases for a certain amount (Δp) to calculate "cost of corruption" and reaches a higher level (p^1).

In terms of administrative controls on prices this research would not produce the right results. Therefore, the assumption of success conducting research was certain level of liberalization domestic prices and abolition of state monopolies in trade, the domestic currency convertibility and liberalization of foreign trade, privatization of enterprises, banking reform, etc. That was the reason to use cumulative liberalization index (CLI)[2] as the best measure of the market liberalization. It must be greater than two which is considered a critical size after which the market is sufficiently liberalized. Transition countries mainly carry out economic reforms adopted after the stabilization program. However, Bulgaria and Romania have delayed adoption of the stabilization program in comparison to other transition countries observed, and the level of the CLI in those countries moved 2 points before their adoption.

[2] Calculation procedure is explained in de Melo et al. (1997). CLI is weighted average of the assessed level of liberalization in the internal market, foreign trade and privatized economy, and shows the depth of structural and institutional reforms in transition countries. The index is the sum of the liberalization of previous years because it is expected that previous reforms have an effect on economic performance in the current period

Table 1

Stabilization program in transition countries and cumulative liberalization index

Country	Stabilization program	Cumulative liberalization index		
		1992	1993	1994
Bulgaria	July 1997.	1,6	2,26	2,9
Croatia	October 1993.	2,37	3,16	3,98
Czech R.	January 1991.	1,84	2,74	3,64
Estonia	June 1992.	1,23	2,04	2,93
Hungary	Mart 1990.	2,43	3,25	4,11
Latvia	June 1992.	0,97	1,64	2,45
Lithuania	June 1992.	1,05	1,83	2,72
Poland	January 1990.	2,46	3,28	4,14
Romania	February 1997.	1,03	1,61	2,29
Slovakia	January 1991.	1,81	2,64	3,47
Slovenia	February 1992.	2,52	3,34	4,16

Source: national legislations and MMF, Till (1995): de Melo et al. (1996)

4. THE DATA, THE ESTIMATION AND THE RESULTS

The research paper covered a total of ten transition countries, EU members: Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia, including Croatia as a future member of EU. The time frame covered by the research was from 1995th to 2008th, but the data for some years were not complete (evident from the tables attached to this research paper). Total of 126 cases are evaluated. Data for the 1995th year were related only to Hungary, and for 1996th year only for Hungary, Poland and the Czech Republic. We have added Romania to data for 1997th year, etc. All eleven transition countries have been fully covered by the survey since 1999th. The results of multiple regressions are as follows:

Table 2

Multiple Regression Results

Dependent: X2	Multiple R = 0,22861291	F = 6,838105
R2= 0,05226386	df = 1,124	
No. of cases: 126	adjusted R2= 0,04462083	p = 0,010030
Standard error of estimate: 0,076170758		
Intercept: 0,149570996	Std.Error: 0,0314727	t(124) = 4,7524 p = 0,0000
X1 beta= - 0,23		

Source: own calculation

The average value of corruption in the reference period from 1995th to 2008th calculated by the CPI method is 4.45 which is still below half the maximum level of the CPI score, which means that a country has no corruption. Without any doubt, the level of corruption in this period of transition in the EU member states (plus Croatia) is not satisfactory. The average deviation from the average (standard deviation) for the corruption perception index is 0.985794, and the measure of depreciation in the real value of money is 0.080512. The coefficient of variation for the corruption perception index of the observed countries is 22.1527 %, which means that the standard deviation is less than one third of the mean and the indicators reported can be considered homogeneous. In a given time period, more or less, each transition country succeeded to reduce inflation rate to an acceptable level although this level is not always in compliance with the terms of the Maastricht Treaty. The coefficient of variability of inflation, measured with measure of depreciation in the real value of money, is 1.128425 which means that a set of these indicators is not homogeneous. The correlation coefficient of corruption measured by the corruption perceptions index and inflation measured by the consumer price index was negative and

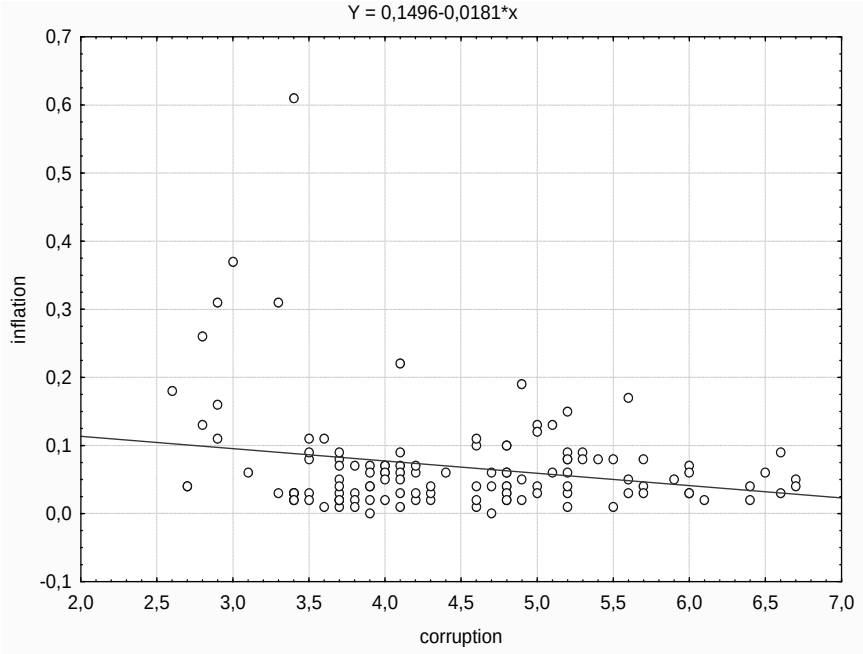
amounted to – 0.23 which means that they are readily related phenomena. Accordingly, we could argue that reducing the level of corruption in transition countries in the given time period has a negative impact on the level of inflation, but this impact is rather weak.

Table 3

Correlation	Means		Stand.	Deviations	N
1,000000	-0,228613		4,446825	0,985794	126
-0,228613	1,000000		0,069206	0,077929	126

Source: own calculation

There are several reasons for such results. First, inflation was measured by consumer price index, which means that some categories of prices are not included in the index calculation. For example, let us mention that if the effect of corruption related to some investment activities, then there would be no direct inflationary effect (only an indirect effect) measured by measure of consumer price index. As previously stated, this study partially confirms the results of research conducted by Al-Marhubi (2000), especially studies that are conducted by Abed and Davoodi (2002) in the case of some countries in transition



Graph 1. Corruption and Inflation in Transition Countries

It is important to stress that a significant part of corrupt activities in transition countries is related to various forms of privatization of enterprises that were formerly state-owned. Therefore, in such cases a direct connection between corruption and inflation was not possible, but the impact of corrupt activities on inflation may reflect indirectly. There are numerous cases of privatization of state enterprises by capital that originates from off-shore companies, shell companies, countries with tax havens etc., which have carried a high cost of financial transactions. Finally, such a "cost" is often transferred to the final consumer and stimulates prices growth. However, a number of corrupt activities relating to public procurement, the granting of concessions, building permits, investment, etc., where the corruption actors calculate “cost of corruption” in the final cost of such operations, but such prices are not included in the calculation of the consumer price index. Therefore, their impact could only be indirect. Another characteristic of such impact is that it happens with some time delay because the indirect effects need some period of time in order to switch "cost of corruption," to the final holders of such costs.

With respect to the fact that achieving and maintaining monetary stability is entrusted to the central banks in transition countries, while maintaining price stability is built into their legislation, and became the bank's primary

objective, it is in practice often lead to a unilateral view of the causes of inflation and price stability is achieved and maintained almost exclusively by manipulating monetary. Transition countries have suppressed high rates of inflation primarily by restrictive monetary policy measures. Therefore, an important part of the structure stabilization programs were provided by such measures in order to achieve price stability. But it doesn't mean that such measures are sufficiently adequate to suppress inflation and maintain an acceptable level. Unfortunately, it also meant that stabilization programs have not adequately "identified" the economic consequences of corruption or its effects on particular macroeconomic indicators, which resulted that the stabilization programs are not properly installed measures for price control. Such a view of combating the cause of inflation could lead to its pacifying in the short or medium term, without even trying to solve numerous problems that caused its appearance. Therefore, the accumulation of disparities may flare up at some opportune time in the future with the painful macroeconomic consequences.

In addition to the numerous "classic" factors that affect the level of inflation in some countries, recent studies have shown that inflation can be affected by other factors such as central bank independence, national culture of inflation etc. This indicates the growing need for research into all the circumstances of the macroeconomic environment to obtain the results of better quality, closer to the real truth, but also practically useful in the effort to complete the economic policies of each country. Indicators related to Croatia fit the observed data of other transition countries. However, data relating to the level of inflation in Croatia are more satisfactory in relation to the indicators relating to the level of corruption.

5. CONCLUSION

Corruption is so far mainly looked at the criminal-law framework with intent to punish immoral individuals. But the question is: Does corruption impact on other social phenomena? In the centre of our interest we just put a researching of prospective impact of corruption on inflation as an important macroeconomic indicator of any economy. We considered that the transition of former socialist economies provides an exceptional opportunity for understanding the relationship between these two social phenomena. Undoubtedly, conducted research has shown that there is a positive impact of corruption on inflation in transition countries, but the strength of its influence is weak. With respect to fact that corrupt activities to a large extent can relate to operations, products and services whose prices are not in the structure of consumer price index, the relation of these forms of corruption and inflation is indirect and occurs with a time lag.

Transition countries have not incorporated measures to combat corruption in the stabilization programs. Price stability was achieved primarily by monetary measures. Misunderstanding all the factors that influence the price

increase may lead to structural imbalances in measures to combat inflation and one-sided view that only by monetary manipulation is possible to create and maintain price stability as one of the conditions of macroeconomic stability. Moreover, the causes of inflation may remain suppressed only with their accumulation in a given time period and cause major economic losses in the future for transition countries.

REFERENCES

Acemoglu, D., (1995), Reward Structures and the Allocation of Talent, *European Economic Review* .

Acemoglu, D., & T. Verdier (2000), The Choice Between Market Failures and Corruption, *American Economic Review*.

Abed, G. T. and Davoodi, H. R. (2002), Corruption, Structural Reforms, and Economic Performance in the Transition Economies, in: George T. Abed and Sanjeev Gupta (Ed.): Governance, Corruption, & Economic Performance, *International Monetary Fund, Publication Services, Washington, D.C.*

Ades, A. and R. Di Tella (1997), National Champions and Corruption: Some Unpleasant Interventionist Arithmetic, Economic *Journal. 107 (443).*

Ades, A. and R. Di Tella (1999), Rents Competition and Corruption, *American Economic Review*.

Aidt, T. (2003), Economic Analysis of Corruption: A Survey, *Economic Journal*.

Aidt, T., J. Dutta, and V. Sena (2008), Governance Regimes, Corruption and Growth: Theory and Evidence, Journal *of Comparative Economics*.

Aisen, A., Veiga, F. J., (2006), Does Political Instability Lead to Higher Inflation? A Panel Data Analysis, *Journal of Money, Credit and Banking.*

Aizenman, J. and Glick, R. (2003), Military Expenditure, Threats, and Growth, *National Bureau of Economic Research, NBER Working Paper 9618, Cambridge.*

Alesina, A. and Weder, B. (2002), Do Corrupt Governments Receive Less Foreign Aid?, in: *American Economic Review*.

Al-Marhubi, F. (2000), Corruption and Inflation, *Economics Letters, Vol. 66.*

Bahmani-Oskooee, M. and Nasir, A. (2002), Corruption, Law and Order, Bureaucracy and Real Exchange Rate, in: *Economic Development and Cultural Change*.

Bandeira, A.C., F. Garcia, and M.F.G. da Silva, (2001), How does Corruption Hurt Growth? Evidences about the Effects of Corruption on Factors Productivity and Per Capita Income, *Escola de Economia de São Paulo Discussion Paper No. 103, University of Sao Paolo.*

Bardhan, P. (1997). "Corruption and Development: A Review of the Issues." *Journal of Economic Literature*.

Barreto, Raul A. (2001), Endogenous Corruption, Inequality and Growth: Econometric Evidence, *School of Economics, Adelaide University, Working Paper No. 01-2, Adelaide.*

Barro, R.J., (1991), Economic Growth in a Cross Section of Countries, *Quarterly Journal of Economics.*

Baumol, W.J., (1990), Entrepreneurship: Productive, Unproductive, and Destructive, *Journal of Political Economy.*

Baumol, W.J., (2004), On Entrepreneurship, Growth and Rent-seeking: Henry George Updated, *The American Economist.*

Becker, G. (1968), Crime and Punishment: An Economic Approach*, Journal of Political Economy*.

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

Blackburn, K., N. Bose, and M. E. Haque (2005), Public Expenditures, Bureaucratic Corruption and Economic Development, *CGBCR Discussion Paper No. 053*, *University of Manchester.*

Blackburn, K., K.C. Neanidis, and M. E. Haque (2008), Corruption, Seigniorage and Growth: Theory and Evidence, *CGBCR Discussion Paper No. 103*, *University of Manchester.*

Bliss, C. and R. Di Tella (1997), Does Competition Kill Corruption*?Journal of Political Economy*.

Braun, M. and R. Di Tella, (2000), Inflation and Corruption, *unpublished; Cambridge, Massachusetts: Harvard University.*

Brumm, H.J., (1999), Rent Seeking and Economic Growth: Evidence from the States, *Cato Journal.*

Brunetti, A. (1997), Political Variables in Cross-Country Growth Analysis, in: *Journal of Economic Surveys.*

Brunetti, A., Kisunko, G., and Weder, B. (1998), Credibility of Rules and Economic Growth: Evidence from a Worldwide Survey of the Private Sector, in: *The World Bank Economic Review*,.

Brunetti, A. and Weder, B. (1998), Investment and Institutional Uncertainty: A Comparative Study of Different Uncertainty Measures, in: *Weltwirtschaftliches Archiv*.

Campos, E. J., Lien, D. and Pradhan, S. (1999), The Impact of Corruption on Investment: Predictability Matters, in: *World Development*.

Cole, I.M., Chawdhry, M.A., (2002), Rent-Seeking and Economic Growth: Evidence from a Panel of U.S. States, *Cato Journal.*

Cottarelli, C., M. Griffiths, and R. Moghadam, (1998), The Nonmonetary Determinants of Inflation: A Panel Dana Study, *IMF Working Paper 98/23*

Dabla-Norris, E., and A. Feltenstein (2003), An Analysis of the Underground Economy and its Macroeconomic Consequences,.*International Monetary Fund Working Paper WP/03/23, (WP/03/23).*

Del Monte, A. and E. Papagni (2001), Public Expenditure, Corruption, and Economic Growth: The Case of Italy, *European Journal of Political Economy.*

Dreher A. and T. Herzfeld (2005), The Economic Costs of Corruption: A Survey and New Evidence.

Ehrlich, I., and F.T. Lui (1999), Bureaucratic Corruption and Endogenous Economic Growth, *Journal of Political Economy.*

Faal, E. (2003), Currency Demand, the Underground Economy, and Tax Evasion: The Case of Guyana, *Working Paper WP/03/07, International Monetary Fund.*

Friedman, M., (1968) The Role of Monetary Policy,*American Economic Review.*

Friedman, M., (1970), A Theoretical Framework for Monetary Analysis, *Journal of Political Economy.*

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

Ghosh S. and Kyriakos C. N., (2010), Corruption in Public Finances, and the Effects on Inflation, Taxation, and Growth, *Economics and Finance Working Paper Series, No. 10-14* Global Corruption Report Corruption Perceptions Index 1995-2008

Goel, R. and D. Rich (1989), On the Economic Incentives for Taking Bribes, *Public Choice*.

Guetat, I., (2006), The Effects of Corruption on Growth Performance of the MENA Countries, *Journal of Economics and Finance.*

Gupta, S., De Mello, L. and Sharan, R. (2001), Corruption and Military Spending, in: *European Journal of Political Economy*.

Gupta, S., Davoodi, H. R. and Alonso-Terme, R. (2002), Does Corruption Affect Income Inequality and Poverty?, in: George T. Abed and Sanjeev Gupta (Ed.): Governance, Corruption, & Economic Performance, *International Monetary Fund, Publication Services, Washington, D.C.*

Gupta, S., Davoodi, H. R. and Tiongson, E. R. (2002), Corruption and the Provision of Health Care and Education Services, in: George T. Abed and Sanjeev Gupta (Ed.): Governance, Corruption, & Economic Performance, *International Monetary Fund, Publication Services, Washington, D.C.*

Gyimah-Brempong, K. (2002), Corruption, Economic Growth, and Income Inequality in Africa, in: *Economics of Governance*

Haque, M.E. and R. Kneller (2008), Public Investment and Growth: The Role of Corruption, *CGBCR Discussion Paper No. 098, University of Manchester.*

Herzfeld, T. and Weiss, C. R. (2003), Corruption and Legal (In)effectiveness: an Empirical Investigation, in: *European Journal of Political Economy*.

Hines, J. R. (1995), Forbidden Payments: Foreign Bribery and American Business After 1977, *National Bureau of Economic Research, NBER Working Paper No. 5266, Cambridge.*

Honlonkou, A. (2003), Corruption, inflation, croissance et développement humain durable: Y a-t-il un lien?, in: *Mondes en Développement.*

Imam, P.A., and D.F. Jacobs (2007), Effect of Corruption on Tax Revenues in the Middle East, *Working Paper No.270, International Monetary Fund.*

Islam, A. (2004), Economic Growth and Corruption Evidence from Panel Data, in: *Bangladesh Journal of Political Economy.*

Johnson, S., D. Kaufmann, and A. Shleifer, (1997), The Unofficial Economy in Transition, *Brookings Papers on Economic Activity: 2, Brookings Institution.*

Johnson, S., D. Kaufmann, and P. Zoido-Lobatón (1998), .Regula-tory Discretion and the Unofficial Economy,.*American Economic Review.*

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

Knack, S. and P. Keefer, (1995), Institutions and Economic Performance: Cross-Country Test Using Alternative Institutional Measures, in: *Economics and Politics*.

Knack, S. and P. Keefer, (1997), Does Social Capital Have an Economic Payoff? A Cross-Country Investigation, *Quarterly Journal of Economics*.

Laffont, J. J. and T. N'Guessan (1999), Competition and Corruption in an Agency Relationship, *Journal of Development Economics*.

Lambsdorff, J. G. (1998), An Empirical Investigation of Bribery in International Trade, in: *European Journal of Development Research*.

Lambsdorff, J. G. (2003), How Corruption Affects Productivity, *Kyklos*.

Leff, N.H. (1964), Economic Development through Bureaucratic Corruption, *American Behavioural Scientist*, Reprinted in A. J. Heidenheimer, M. Johnston and V. T. LeVine (eds.), \Political Corruption: A Handbook" (New Brunswick: Transaction Publishers, 1989).

Leite, C. and Weidmann, J. (2002), Does Mother Nature Corrupt? Natural Resources, Corruption, and Economic Growth, in: George T. Abed and Sanjeev Gupta (Ed.): Governance, Corruption, & Economic Performance, *International Monetary Fund, Publication Services, Washington, D.C.*

Li, H., Xu, L. C. and Zou, H.F. (2000), Corruption, Income Distribution, and Growth, in: *Economics and Politics*.

Mauro, P. (1995), Corruption and Growth, *Quarterly Journal of Economics*.

Mauro, P. (1996), The Effects of Corruption on Growth, Investment, and Government Expenditure, *International Monetary Fund, IMF Working Paper WP/96/98, Washington, D.C.*

Mauro, P. (1998), Corruption and the Composition of Government Expenditure, in: *Journal of Public Economics*.

Mauro, P. (1999), Corruption and the Composition of Government Expenditures, *Journal of Public Economics*.

Mauro, P. (2004), The Persistence of Corruption and Slow Economic Growth, *IMF Staff Papers*.

Méndez, F., and F. Sepúlveda (2006), Corruption, Growth and Political Regimes: Cross Country Evidence, *European Journal of Political Economy*.

Meon, P-G. and K. Sekkat (2005), Does Corruption Grease or Sand the Wheels of Growth? *Public Choice*..

Mo, P. H. (2001), Corruption and Economic Growth, in: *Journal of Comparative Economics*.

Murphy, K. M., Shleifer, A., Vishny, R.W., (1991), The Allocation of Talent:Implications for Growth, *The Quarterly Journal of Economics.*

Murphy, K. M., Shleifer, A., Vishny, R.W., (1993), Why is Rent-Seeking so Costly to Growth? *The American Economic Review (Papers and Proceedings).*

Neeman, Z., Paserman, D., and Simhon, A. (2004), Corruption and Openness, Department of Economics, *Hebrew University, Working Paper No. 353, Jerusalem.*

Pellegrini, L., and R. Gerlagh (2004), Corruption's Effect on Growth and its Transmission Channels, *Kyklos.*

Poirson, H. (1998), Economic Security, Private Investment, and Growth in Developing Countries, *International Monetary Fund, IMF Working Paper WP/98/4, Washington D.C.*

Rahmani T. and H. Yousefi, Corruption, Monetary Policy, and Inflation: A Cross-Country Examination

Rock, M.T., Bonnett, H., (2004), The Comparative Politics of Corruption: Accounting for the East Asian Paradox in Empirical Studies of Corruption, Growth and Investment, *World Development.*

Rose-Ackerman, S. (1975), The Economics of Corruption, *Journal of Public Economics*.

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

Rose-Ackerman, S. (1999), Corruption and Government: Causes, Consequences and Reforms. *Cambridge University Press, Cambridge.*

Sachs, J. D., and A.M. Warner (1997), Sources of Slow Growth in African Economies, *Journal of African Economics*.

Shleifer, A. and R. Vishny (1993), Corruption, *Quarterly Journal of Economics*.

Salinas-Jimenez, M.d.M. and J. Salinas-Jimenez (2007), Corruption, Efficiency and Productivity in OECD Countries, *Journal of Policy Modeling*.

Smarzynska, B. K. and Wei, S.J. (2000), Corruption and Composition of Foreign Direct Investment: Firm Level Evidence, *National Bureau of Economic Research, NBER Working Paper No. 7969, Cambridge.*

Smith-Hillman, A. V. (2007), Competition Policy, Ination and Corruption: Evidence from African Economies, *Applied Economics Letters 14.*

Svensson, J. (1999), Who Must Pay Bribes and How Much, mimeo, World Bank.

Svensson, J. (2005), Eight Questions about Corruption, *Journal of Economic Perspectives*.

Tanzi, V., and H.R. Davoodi (1997), Corruption, Public Investment, and Growth, *IMF Working Paper No. 139, International Monetary Fund.*

Tanzi, V., and H.R. Davoodi (2002a), Corruption, Public Investment, and Growth, in: George T. Abed and Sanjeev Gupta (Ed.): Governance, Corruption, & Economic Performance, *International Monetary Fund, Publication Services, Washington, D.C.*

Tanzi, V., and H.R. Davoodi (2002b), Corruption, Growth, and Public Finances, in: George T. Abed and Sanjeev Gupta (Ed): Governance, Corruption, & Economic Performance, *International Monetary Fund, Publication Services, Washington, D.C.*

Van Rijckeghem, C. and B. Weder (1997), Bureaucratic Corruption and the Rate of Temptation: How Much do Wages in the Civil Service affect Corruption? *IMF working paper (WP/97/73), Washington, DC.*

Wei, S. J. (1999), Does Corruption Relieve Foreign Investors of the Burden of Taxes and Capital Controls?, *World Bank, Policy Research Working Paper No. 2209, Washington D.C.*

Wei, S. J. (2000), How Taxing is Corruption on International Investors?, in: *Review of Economics and Statistics.*

Wei, S. J. (2000a), Local Corruption and Global Capital Flows, in: *Brooking Papers on Economic Activity*.

Weinschelbaum, F. (1999), Corruption with Competition among Hidden Principals, *mimeo, Universidad de San Andrés.*

Welsch, H. (2004), Corruption, Growth, and the Environment: a Cross-Country Analysis, in: *Environment and Development Economics*.

World Economic Outlook

APPENDIX

Table 4

Corruption and Inflation in Transition EU Member Countries

Countries	Slovenia08	Estonia08	Czech R.08	Hungary08	Latvia08	Slovakia08	Lithuania08
CPI	6.7	6.6	5.2	5.1	5.0	5.0	4.6
Inflation (π /1+ π)	0.05	0.09	0.06	0.06	0.13	0.04	0.10
Predicted - Value	0,028486	0,030293	0,055595	0,057402	0,059209	0,059209	0,066438
Residual	0,021514	0,059707	0,004405	0,002598	0,070791	-0,019209	0,033562
Standard - Pred. v.	-2,28564	-2,18420	-0,76403	-0,66259	-0,56115	-0,56115	-0,15538
Standard - Residual	0,28244	0,78385	0,05783	0,03411	0,92937	-0,25219	0,44061
Std.Err. - Pred.Val	0,016986	0,016355	0,008552	0,008150	0,007789	0,007789	0,006868
Mahalanobis - Distance	5,224171	4,770744	0,583739	0,439022	0,314885	0,314885	0,024144
Deleted - Residual	0,022640	0,062592	0,004462	0,002628	0,071539	-0,019412	0,033837
Cook's - Distance	0,002197	0,015565	0,000022	0,000007	0,004611	0,000340	0,000802

Slovakia 07	Czech R.07	Hungary 07	Estonia 07	Slovenia 07	Bulgaria08	Romania08	Croatia08	Poland08
4.9	5.2	5.3	6.5	6.6	3.6	3.8	4.4	4.6
0.02	0.03	0.09	0.06	0.03	0.11	0.07	0.06	0.04
0,061016	0,055595	0,053787	0,032101	0,030293	0,084510	0,080896	0,070053	0,066438
-0,041016	-0,025595	0,036213	0,027899	-0,000293	0,025490	-0,010896	-0,010053	-0,026438
-0,45971	-0,76403	-0,86547	-2,08276	-2,18420	0,85903	0,65615	0,04750	-0,15538
-0,53848	-0,33602	0,47541	0,36627	-0,00385	0,33464	-0,14305	-0,13197	-0,34709
0,007474	0,008552	0,008990	0,015729	0,016355	0,008961	0,008126	0,006794	0,006868
0,211329	0,583739	0,749037	4,337899	4,770744	0,737930	0,430528	0,002256	0,024144
-0,041415	-0,025921	0,036724	0,029142	-0,000308	0,025847	-0,011021	-0,010133	-0,026655
0,001423	0,000730	0,001619	0,003121	0,000000	0,000797	0,000119	0,000070	0,000498

Hungary 06	Estonia 06	Slovenia 06	Romania 07	Croatia 07	Bulgaria 07	Poland 07	Lithuania 07	Latvia 07
5.2	6.7	6.4	3.7	4.1	4.1	4.2	4.8	4.8
0.04	0.04	0.02	0.05	0.03	0.07	0.02	0.06	0.10
0,055595	0,028486	0,033908	0,082703	0,075474	0,075474	0,073667	0,062824	0,062824
-0,015595	0,011514	-0,013908	-0,032703	-0,045474	-0,005474	-0,053667	-0,002824	0,037176
-0,76403	-2,28564	-1,98132	0,75759	0,35182	0,35182	0,25038	-0,35826	-0,35826
-0,20473	0,15116	-0,18259	-0,42934	-0,59700	-0,07187	-0,70456	-0,03707	0,48807
0,008552	0,016986	0,015108	0,008526	0,007197	0,007197	0,006997	0,007211	0,007211
0,583739	5,224171	3,925634	0,573939	0,123780	0,123780	0,062691	0,128353	0,128353
-0,015794	0,012116	-0,014477	-0,033118	-0,045884	-0,005524	-0,054124	-0,002849	0,037513
0,000271	0,000629	0,000711	0,001184	0,001620	0,000023	0,002130	0,000006	0,001087

Slovenia 05	Romania 06	Croatia 06	Bulgaria 06	Poland 06	Lithuania 06	Latvia 06	Slovakia 06	Czech R.06
6.1	3.1	3.4	4.0	3.7	4.8	4.7	4.7	4.8
0.02	0.06	0.03	0.07	0.01	0.04	0.06	0.04	0.02
0,039330	0,093547	0,088125	0,077282	0,082703	0,062824	0,064631	0,064631	0,062824
-0,019330	-0,033547	-0,058125	-0,007282	-0,072703	-0,022824	-0,004631	-0,024631	-0,042824
-1,67700	1,36623	1,06191	0,45326	0,75759	-0,35826	-0,25682	-0,25682	-0,35826
-0,25377	-0,44041	-0,76309	-0,09559	-0,95448	-0,29964	-0,06080	-0,32336	-0,56221
0,013288	0,011519	0,009919	0,007455	0,008526	0,007211	0,007008	0,007008	0,007211
2,812322	1,866596	1,127655	0,205449	0,573939	0,128353	0,065958	0,065958	0,128353
-0,019936	-0,034332	-0,059128	-0,007352	-0,073626	-0,023030	-0,004670	-0,024841	-0,043211
0,001042	0,002323	0,005109	0,000045	0,005852	0,000410	0,000016	0,000450	0,001442

Croatia 05	Bulgaria 05	Poland 05	Lithuania 05	Latvia 05	Slovakia 05	Czech R. 05	Hungary05	Estonia 05
3.4	4.0	3.4	4.8	4.2	4.3	4.3	5.0	6.4
0.03	0.06	0.02	0.03	0.06	0.03	0.02	0.03	0.04
0,088125	0,077282	0,088125	0,062824	0,073667	0,071860	0,071860	0,059209	0,033908
-0,058125	-0,017282	-0,068125	-0,032824	-0,013667	-0,041860	-0,051860	-0,029209	0,006092
1,06191	0,45326	1,06191	-0,35826	0,25038	0,14894	0,14894	-0,56115	-1,98132
-0,76309	-0,22688	-0,89437	-0,43092	-0,17943	-0,54955	-0,68084	-0,38347	0,07998
0,009919	0,007455	0,009919	0,007211	0,006997	0,006861	0,006861	0,007789	0,015108
1,127655	0,205449	1,127655	0,128353	0,062691	0,022183	0,022183	0,314885	3,925634
-0,059128	-0,017449	-0,069300	-0,033121	-0,013783	-0,042202	-0,052284	-0,029518	0,006342
0,005109	0,000251	0,007018	0,000847	0,000138	0,001245	0,001911	0,000785	0,000136

Poland 04	Lithuania 04	Latvia 04	Slovakia 04	Czech R.04	Hungary 04	Estonia 04	Slovenia 04	Romania 05
3.5	4.6	4.0	4.0	4.2	4.8	6.0	6.0	3.5
0.03	0.01	0.06	0.07	0.03	0.06	0.03	0.03	0.08
0,086318	0,066438	0,077282	0,077282	0,073667	0,062824	0,041137	0,041137	0,086318
-0,056318	-0,056438	-0,017282	-0,007282	-0,043667	-0,002824	-0,011137	-0,011137	-0,006318
0,96047	-0,15538	0,45326	0,45326	0,25038	-0,35826	-1,57556	-1,57556	0,96047
-0,73936	-0,74094	-0,22688	-0,09559	-0,57328	-0,03707	-0,14621	-0,14621	-0,08294
0,009427	0,006868	0,007455	0,007455	0,006997	0,007211	0,012699	0,012699	0,009427
0,922502	0,024144	0,205449	0,205449	0,062691	0,128353	2,482380	2,482380	0,922502
-0,057194	-0,056901	-0,017449	-0,007352	-0,044039	-0,002849	-0,011455	-0,011455	-0,006416
0,004318	0,002268	0,000251	0,000045	0,001410	0,000006	0,000314	0,000314	0,000054

Latvia 03	Slovakia 03	Czech R.03	Hungary 03	Estonia 03	Slovenia 03	Romania 04	Croatia 04	Bulgaria 04
3.8	3.7	3.9	4.8	5.5	5.9	2.9	3.5	4.1
0.03	0.08	0.00	0.04	0.01	0.05	0.11	0.02	0.06
0,080896	0,082703	0,079089	0,062824	0,050173	0,042944	0,097161	0,086318	0,075474
-0,050896	-0,002703	-0,079089	-0,022824	-0,040173	0,007056	0,012839	-0,066318	-0,015474
0,65615	0,75759	0,55471	-0,35826	-1,06835	-1,47412	1,56912	0,96047	0,35182
-0,66818	-0,03549	-1,03831	-0,29964	-0,52741	0,09263	0,16855	-0,87065	-0,20315
0,008126	0,008526	0,007767	0,007211	0,009951	0,012121	0,012662	0,009427	0,007197
0,430528	0,573939	0,307698	0,128353	1,141375	2,173018	2,462126	0,922502	0,123780
-0,051482	-0,002738	-0,079920	-0,023030	-0,040871	0,007239	0,013204	-0,067349	-0,015614
0,002599	0,000008	0,005723	0,000410	0,002457	0,000114	0,000415	0,005987	0,000188

Czech R.02	Hungary 02	Estonia 02	Slovenia 02	Romania 03	Croatia 03	Bulgaria 03	Poland 03	Lithuania 03
3.7	4.9	5.6	6.0	2.8	3.7	3.9	3.6	4.7
0.02	0.05	0.03	0.07	0.13	0.02	0.02	0.01	- 0.01
0,082703	0,061016	0,048366	0,041137	0,098968	0,082703	0,079089	0,084510	0,064631
-0,062703	-0,011016	-0,018366	0,028863	0,031032	-0,062703	-0,059089	-0,074510	-0,064631
0,75759	-0,45971	-1,16979	-1,57556	1,67056	0,75759	0,55471	0,85903	-0,25682
-0,82319	-0,14463	-0,24111	0,37893	0,40740	-0,82319	-0,77574	-0,97820	-0,84850
0,008526	0,007474	0,010467	0,012699	0,013251	0,008526	0,007767	0,008961	0,007008
0,573939	0,211329	1,368415	2,482380	2,790762	0,573939	0,307698	0,737930	0,065958
-0,063499	-0,011124	-0,018719	0,029688	0,032000	-0,063499	-0,059710	-0,075556	-0,065183
0,004353	0,000103	0,000570	0,002111	0,002671	0,004353	0,003195	0,006809	0,003099

Estonia 01	Slovenia 01	Romania 02	Croatia 02	Bulgaria 02	Poland 02	Lithuania 02	Latvia 02	Slovakia 02
5.6	5.2	2.6	3.8	4.0	4.0	4.8	3.7	3.7
0.05	0.08	0.18	0.02	0.05	0.02	0.03	0.02	0.03
0,048366	0,055595	0,102583	0,080896	0,077282	0,077282	0,062824	0,082703	0,082703
0,001634	0,024405	0,077417	-0,060896	-0,027282	-0,057282	-0,032824	-0,062703	-0,052703
-1,16979	-0,76403	1,87344	0,65615	0,45326	0,45326	-0,35826	0,75759	0,75759
0,02145	0,32040	1,01636	-0,79947	-0,35816	-0,75201	-0,43092	-0,82319	-0,69191
0,010467	0,008552	0,014455	0,008126	0,007455	0,007455	0,007211	0,008526	0,008526
1,368415	0,583739	3,509775	0,430528	0,205449	0,205449	0,128353	0,573939	0,573939
0,001666	0,024717	0,080309	-0,061597	-0,027545	-0,057836	-0,033121	-0,063499	-0,053372
0,000005	0,000664	0,020017	0,003721	0,000626	0,002762	0,000847	0,004353	0,003075

Romania 01	Croatia 01	Bulgaria 01	Poland 01	Lithuania 01	Latvia 01	Slovakia 01	Czech R.01	Hungary 01
2.8	3.9	3.9	4.1	4.8	3.4	3.7	3.9	5.3
0.26	0.04	0.07	0.05	0.02	0.03	0.07	0.04	0.08
0,098968	0,079089	0,079089	0,075474	0,062824	0,088125	0,082703	0,079089	0,053787
0,161032	-0,039089	-0,009089	-0,025474	-0,042824	-0,058125	-0,012703	-0,039089	0,026213
1,67056	0,55471	0,55471	0,35182	-0,35826	1,06191	0,75759	0,55471	-0,86547
2,11409	-0,51317	-0,11932	-0,33444	-0,56221	-0,76309	-0,16677	-0,51317	0,34413
0,013251	0,007767	0,007767	0,007197	0,007211	0,009919	0,008526	0,007767	0,008990
2,790762	0,307698	0,307698	0,123780	0,128353	1,127655	0,573939	0,307698	0,749037
0,166057	-0,039500	-0,009184	-0,025704	-0,043211	-0,059128	-0,012864	-0,039500	0,026583
0,071914	0,001398	0,000076	0,000508	0,001442	0,005109	0,000179	0,001398	0,000848

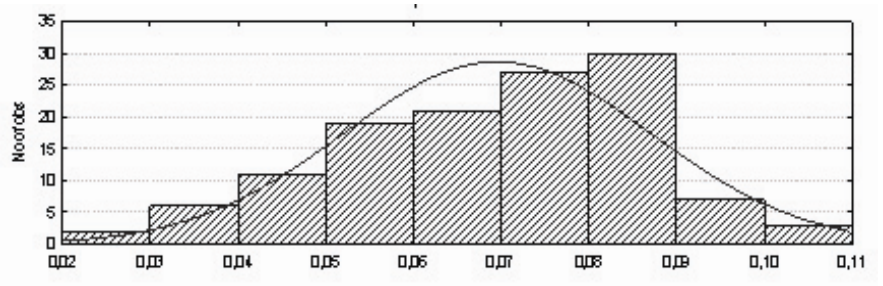
Bulgaria 00	Poland 00	Lithuania 00	Latvia 00	Slovakia 00	Czech R.00	Hungary 00	Estonia 00	Slovenia 00
3.5	4.1	4.1	3.4	3.5	4.3	5.2	5.7	5.5
0.09	0.09	0.01	0.03	0.11	0.04	0.09	0.04	0.08
0,086318	0,075474	0,075474	0,088125	0,086318	0,071860	0,055595	0,046559	0,050173
0,003682	0,014526	-0,065474	-0,058125	0,023682	-0,031860	0,034405	-0,006559	0,029827
0,96047	0,35182	0,35182	1,06191	0,96047	0,14894	-0,76403	-1,27123	-1,06835
0,04834	0,19070	-0,85957	-0,76309	0,31091	-0,41827	0,45169	-0,08610	0,39158
0,009427	0,007197	0,007197	0,009919	0,009427	0,006861	0,008552	0,011003	0,009951
0,922502	0,123780	0,123780	1,127655	0,922502	0,022183	0,583739	1,616035	1,141375
0,003740	0,014657	-0,066064	-0,059128	0,024051	-0,032120	0,034845	-0,006698	0,030345
0,000018	0,000165	0,003358	0,005109	0,000763	0,000721	0,001319	0,000081	0,001354

Lithuania 99	Latvia 99	Slovakia 99	Czech R.99	Hungary 99	Estonia 99	Slovenia 99	Romania 00	Croatia 00
3.8	3.4	3.7	4.6	5.2	5.7	6.0	2.9	3.7
0.01	0.02	0.09	0.02	0.01	0.03	0.06	0.31	0.04
0,080896	0,088125	0,082703	0,066438	0,055595	0,046559	0,041137	0,097161	0,082703
-0,070896	-0,068125	0,007297	-0,046438	-0,045595	-0,016559	0,018863	0,212839	-0,042703
0,65615	1,06191	0,75759	-0,15538	-0,76403	-1,27123	-1,57556	1,56912	0,75759
-0,93075	-0,89437	0,09579	-0,60966	-0,59859	-0,21739	0,24764	2,79423	-0,56063
0,008126	0,009919	0,008526	0,006868	0,008552	0,011003	0,012699	0,012662	0,008526
0,430528	1,127655	0,573939	0,024144	0,583739	1,616035	2,482380	2,462126	0,573939
-0,071712	-0,069300	0,007389	-0,046819	-0,046177	-0,016911	0,019402	0,218888	-0,043245
0,005044	0,007018	0,000059	0,001536	0,002317	0,000514	0,000902	0,114096	0,002019

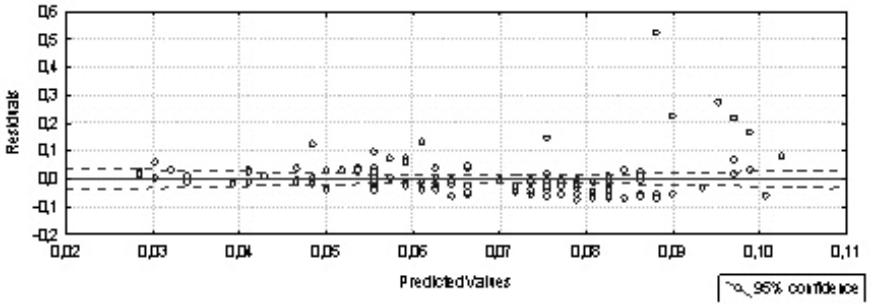
Latvia 98	Slovakia 98	Czech R.98	Hungary 98	Estonia 98	Romania 99	Croatia 99	Bulgaria 99	Poland 99
2.7	3.9	4.8	5.0	5.7	3.3	2.7	3.3	4.2
0.04	0.06	0.10	0.12	0.08	0.31	0.04	0.03	0.07
0,100776	0,079089	0,062824	0,059209	0,046559	0,089932	0,100776	0,089932	0,073667
-0,060776	-0,019089	0,037176	0,060791	0,033441	0,220068	-0,060776	-0,059932	-0,003667
1,77200	0,55471	-0,35826	-0,56115	-1,27123	1,16335	1,77200	1,16335	0,25038
-0,79789	-0,25061	0,48807	0,79809	0,43903	2,88914	-0,79789	-0,78681	-0,04814
0,013849	0,007767	0,007211	0,007789	0,011003	0,010434	0,013849	0,010434	0,006997
3,139978	0,307698	0,128353	0,314885	1,616035	1,353388	3,139978	1,353388	0,062691
-0,062853	-0,019289	0,037513	0,061433	0,034154	0,224276	-0,062853	-0,061078	-0,003698
0,011254	0,000333	0,001087	0,003401	0,002097	0,081335	0,011254	0,006032	0,000010

Czech R.96	Hungary 96	Romania 97	Poland 97	Czech R.97	Hungary 97	Romania 98	Bulgaria 98	Poland 98
5.4	4.9	3.4	5.1	5.2	5.2	3.0	2.9	4.6
0.08	0.19	0.61	0.13	0.08	0.15	0.37	0.16	0.11
0,051980	0,061016	0,088125	0,057402	0,055595	0,055595	0,095354	0,097161	0,066438
0,028020	0,128984	0,521875	0,072598	0,024405	0,094405	0,274646	0,062839	0,043562
-0,96691	-0,45971	1,06191	-0,66259	-0,76403	-0,76403	1,46768	1,56912	-0,15538
0,36785	1,69335	6,85138	0,95310	0,32040	1,23939	3,60566	0,82497	0,57190
0,009457	0,007474	0,009919	0,008150	0,008552	0,008552	0,012084	0,012662	0,006868
0,934916	0,211329	1,127655	0,439022	0,583739	0,583739	2,154070	2,462126	0,024144
0,028458	0,130237	0,530878	0,073439	0,024717	0,095611	0,281737	0,064625	0,043919
0,001076	0,014072	0,411861	0,005321	0,000664	0,009931	0,172167	0,009945	0,001351

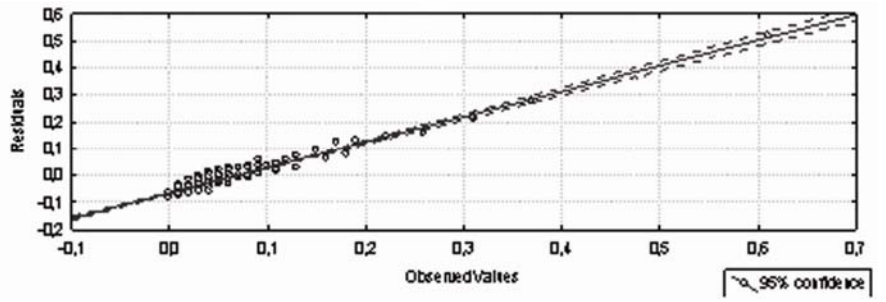
Median	Mean	Maximum	Minimum	Hungary 95	Poland 96
0,050	0,069	0,610	0,000	4.1	5.6
0,072763	0,069206	0,102583	0,028486	0.22	0.17
0,072763	0,069206	0,102583	0,028486	0,075474	0,048366
-0,013787	-0,000000	0,521875	-0,079089	0,144526	0,121634
0,19966	-0,00000	1,87344	-2,28564	0,35182	-1,16979
-0,18101	-0,00000	6,85138	-1,03831	1,89739	1,59686
0,008526	0,009260	0,016986	0,006794	0,007197	0,010467
0,573939	0,992063	5,224171	0,002256	0,123780	1,368415
-0,014130	0,000159	0,530878	-0,079920	0,145828	0,123975
0,001335	0,009347	0,411861	0,000000	0,016359	0,025012



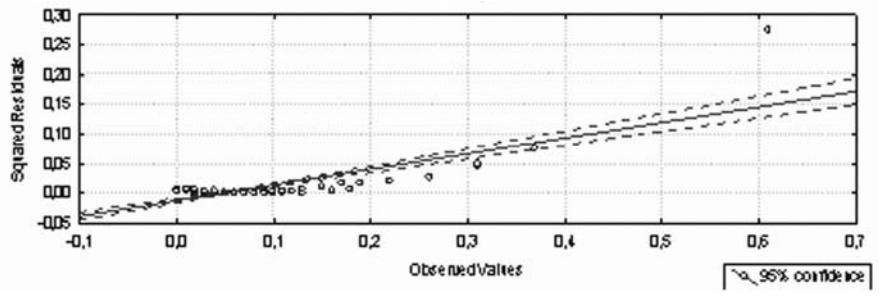
Graph 2. Distribution of Raw Predicted Values – Expected Normal



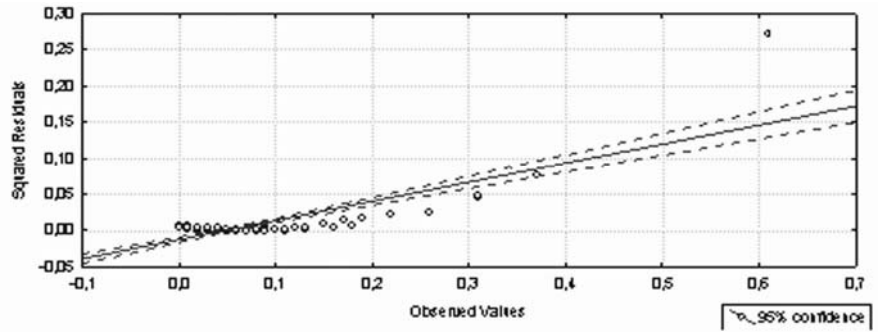
Graph 3. Predicted vs. Residual Scores



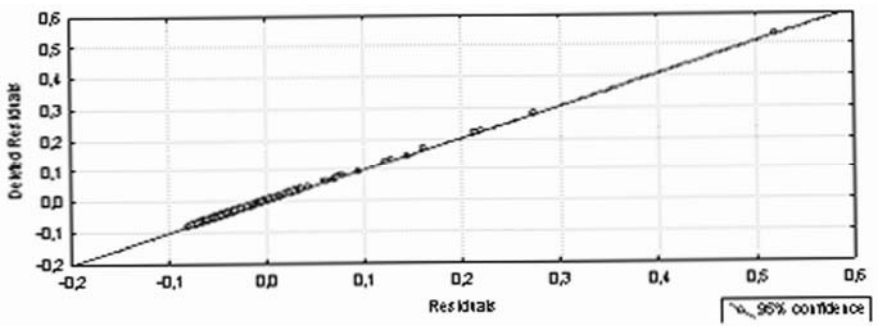
Graph 4. Observed Values vs. Residuals



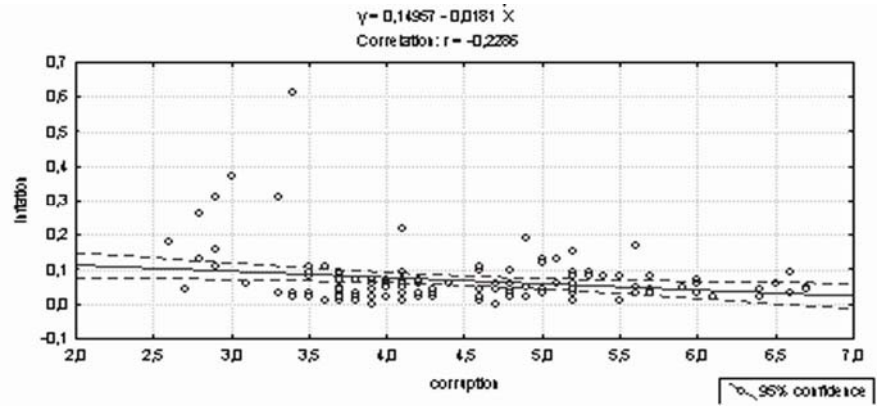
Graph 5. Observed Values vs. Squared Residuals



Graph 6. Observed Values vs. Squared Residuals



Graph 7. Observed Values vs. Deleted Residuals



Graph 8. Inflation and corruption

Dr. sc. Damir Piplica
Ministarstvo unutarnjih poslova, PNUSKOK Odjel u Splitu
Trg HBZ 9, 21000 Split, CROATIA
Telefon: / 385 91 75 22 661,
E-mail / damir.piplica@st.t-com.hr

KORUPCIJA I INFLACIJA U TRANZICIJSKIM ZEMLJAMA EU-a

Sažetak

Cilj ovog rada je istražiti utjecaj korupcije na inflaciju u Europskoj Uniji u posebnim uvjetima tranzicije u kojoj gospodarstava prelaze iz socijalizma u moderno poduzetničko društvo. Za mjerenje korupcije u zemljama uključenim u studiju koristili smo indeks percepcije korupcije, a inflaciju smo mjerili indeksom potrošačkih cijena. Istraživanje nije moglo biti napravljeno u okviru administrativne kontrole cijena jer to ne bi dalo prave rezultate. Stoga uspjeh pretpostavki na kojima se temelji ovo istraživanje je na određenoj razini liberalizacija domaćeg gospodarstva gdje se kao odgovarajuća mjera koristi kumulativni indeks liberalizacije. Istraživanje naizgled nepovezanih društvenih fenomena dodatno objašnjava uzroke povećanja cijena u promatranim zemljama u tranziciji, a također i omogućuje pronalazak potpunih i najprikladnijih sredstava za borbu protiv inflacije. Rad pokazuje pozitivan utjecaj korupcije na inflaciju dok je snaga njenog utjecaja slaba. Osim toga, utjecaj korupcije na inflaciju je uglavnom indirektan i javlja se s vremenskim odmakom jer je potrebno vrijeme kako bi "trošak korupcije" stigao do krajnjih nositelja tih troškova. Pokazatelji za promatrano vrijeme tranzicije u Hrvatskoj pobliže se uklapaju u promatrane podatke drugih tranzicijskih zemalja.

Ključne riječi: korupcija, inflacija, varijabilnost inflacije, isplata.

JEL klasifikacija: P44