How is Corruption Affected by Global Integration? A Quantitative and Qualitative Analysis

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Abstract

Corruption, defined as the misuse of public office for private gains, is a great impediment to economic growth and development. International integration, in the form of increased trade, FDI, communications and organizational involvement, is likely to influence domestic corruption through three channels: economic, political and social. The hypothesis of this study is that higher level of international integration is related to lower national corruption. The relationship between corruption and globalization may be non-linear and this assumption is tested. In addition to international factors, the domestic determinants of corruption are also explored. Two different methodologies are used: multiple OLS regression and factor analyses. Empirical analyses of data from 182 countries strongly confirm the hypothesis, even after development level, regional effects, education, religion, democracy and other institutional characteristics and norms are controlled for. Corruption is found to be lower when integration is higher in the whole data set and among developed countries under the first methodology. The results from the second methodology also revealed that greater involvement in global networks of exchange, organization and communication is associated with lower abuse of public office for personal benefit. This is true for both developing and developed countries and the effect of international integration is stronger for developing countries. A case study of Macedonia as a transition and developing country further confirms that increased integration goes hand in hand with lower public office abuse.

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1. Introduction

In today's complex and advanced world, corruption is still a wide spread phenomenon which has negative consequences in many countries. Corrupt activities in the public sector can be very costly and lead to many inefficiencies. According to the World Bank report (in Shabbir and Anwar, 2007) corruption is the biggest obstacle to social and economic development as it weakens the institutional foundation and distorts the role of law. And Transparency International claimed that corruption damages the private sector, leads to resources misallocation, weakens good government, and distorts public policy (Shabbir and Anwar 2007). Moreover, Rose-Ackerman (1999) argued that high levels of corruption constrain development and growth, and lead to ineffective and inefficient governments. She observed that corruption is prevalent among developing countries but developed countries are also at risk. Corruption is indeed an economics issue as it impacts the competitiveness of the global economy and the efficiency of investments and development projects. Blackburn et al. (2008) identified several costs of corruption. They claimed that the primary losses from corruption come from: favoritism towards inefficient firms and misallocation of skills away from productive firms; insufficient protection of property rights; and the corruption created impediments to invention, skill acquisition and technological transfer. Therefore, corruption might force firms to expand more slowly and to shift savings towards the informal sector.

Corruption is especially present among transitional and developing countries. Macedonia and other countries from the Balkan region have been in a long transition period since the fall of communism. Even twenty years after the separation of Yugoslavia, some of the legacy of the system still has an impact on economic conditions and social rules. Being faced with low income and low living standards as well as high poverty, inflation and unemployment levels, subsistence was difficult, especially in Macedonia and Serbia. Besides, low savings and thus low investment rates, low economic growth and high corruption levels have hugely hampered the overall development of those countries. Corruption causes many inefficiencies and resources misallocation, so it is very important to reduce or eliminate it. It is of crucial importance to examine the determinants of corruption, especially among developing countries, in order to develop anti-corruption policies which will attack the roots of bribery and fraud. Many of the factors which influence corruption have domestic roots, such as democratic principles and institutions, income level and degree of state control (Aslanov, 2008). Nevertheless, many international factors are also likely to influence domestic corruption levels of any country. Countries which are more exposed to international flows of goods, services as well as capital are more likely to import social norms and institutional rules from other countries.

Since the beginning of the 21st century the importance of globalization has largely increased and it seems to impact economic growth, corruption and other economic phenomena. Due to the increased levels of international trade, capital flows, advanced technology spread and migration the world has become more and more integrated or globalized. As countries become more internationally integrated, it is expected that they will accept and implement stricter international norms and standards, and will strive towards reducing corruption levels. Thus, more globalization in a country is likely to be related with lower corruption and this is the hypothesis which I test empirically and also investigate qualitatively in this thesis. However, the relationship between international integration and corrupt activities might be nonlinear and may be different depending on the level of development of the country or other institutional settings. My contribution to the existing literature is the exploration of this nonlinear relationship while using a larger and a more recent data set. Moreover, the effect of globalization on corruption is

investigated separately for developing and for developed countries. In addition, I also test for the domestic determinants of corruption. Furthermore, I qualitatively analyze the case of domestic corruption and globalization in Macedonia as an example of developing and transition country.

I use two empirical methods to test my hypothesis: one is a multiple regression with OLS estimation and the other is factor analysis together with a multiple regression. The results of the two different methodologies reveal that globalization is one of the determinants of corruption and that the two variables are indeed negatively correlated for the whole data sample. Moreover, higher globalization contributes to lower corruption levels in both developing and developed countries, and the effect is stronger for developing countries. The results in this study disclose the following domestic determinants of corruption among developed and developing countries: inequality, Catholic population, Protestant population, economic and press freedom, democracy, development level, and education levels. The Macedonian case study reveals that as the country is becoming more internationally integrated, corruption levels start to decrease. But as in any other transition and developing country there are many other domestic factors which influence corruption, so addressing the domestic roots is an important anti-corruption measure.

The thesis is organized as follows. In the next chapter, I outline the definitions of corruption, its measurement and determinants. Then, in the third chapter I define international integration and list the ways in which the level of globalization can be measured. Moreover, the effects of globalization on other variables are summarized. The following chapter describes the data used and the two different methodologies I employed in the analyses. The empirical results of my study are outlined in the fifth chapter. After that, the corruption situation in Macedonia and the impact of international integration on corruption levels are analyzed. Finally, I summarize the main results of my research and their implications.

2. Corruption

2.1 Definition of Corruption

Several definitions of corruption exist in the Economics literature. The Oxford Dictionary of Economics (2011) defined it as the use of bribery (cash or in-kind) in order to influence politicians, civil servants and other officials. In some situations, officials must be bribed to do things which are their legal obligation in any case. In other instances they may be bribed to neglect their duties. Transparency International (TI) has chosen the following definition of corruption: "the abuse of entrusted power for private gain". TI distinguished between two types of corruption: "according to rule" and "against the rule". When a bribe is paid in order to receive preferential treatment for something that the bribe receiver is required to do by law, this is a corruption "according to the rule". "Against the rule" corruption is a bribe paid to obtain services, which the bribe receiver is prohibited by law to provide. Shleifer and Vishy (1993) defined corruption in the government as the sale of government property by officials for their own personal gain. Rose-Ackerman (1998) identifies corruption as an exchange between two actors; a buyer from the private sector who pays a bribe to the seller from the public sector in order to get some benefit. According to her, these corrupt buyers and sellers develop systems which are mutually reinforcing and time persistent. In addition, corruption introduces inefficiencies which reduce competitiveness in the system. In this study, I use the definition of corruption as misuse of public office for private gains.

Laffont (2006) claimed that corruption opportunities appear when there is a need for delegation of duties from the principal to the agent in today's complex societies. This type of delegation creates discretion and room for side-contacting between the intermediary and the agents, which can be detrimental for the principal. It is precisely the asymmetry of information between the principal and the intermediary which creates scope for corruption and asks for

institutional response. As Laffont (2006) stated, the principal must provide the intermediary with some incentives to report misbehavior, which will be more valuable to the intermediary than the value of taking bribe. In that way side-contracting could be avoided.

2.2 How to measure corruption levels

Because of its illegality and secrecy, corruption is very difficult to measure. One way to measure it is to conduct different surveys and questionnaires and combine these results in order to get the perceived level of corruption in a specific country. This method is employed by Transparency International (TI). The Corruption perceptions Index (CPI) is calculated according to the level of perceived corruption among public officials and politicians. CPI is determined from data on corruption coming from expert assessments, polls and opinion surveys. Data on the Corruption Perceptions Index (CPI) has been collected since 1995 and the index includes data from 14 different sources. The CPI data is very reliable because of high correlation between sources. Corruption data for the previous two years is controlled for in the current year index so that to smooth out the effect of the survey outcomes. The CPI today ranks almost 200 countries by their perceived levels of corruption. The value of the index ranges from 1 to 10, with higher values indicating better governance and less corruption in the society of that country.

In addition to the CPI, Blackburn et al. (2008) brought up three other ways in which corruption is measured: the International Country Risk Guide (ICRG) index, the KKM index constructed by Kaufman et al. (2006) and the DKM index constructed by Dreher et al. (2007). The ICRG index comprises 22 variables in three subcategories of risk: political, economic and financial. The overall index score ranges between zero and 100, including Very Low Risk countries (80 to 100 points) to Very High Risk countries (zero to 49.9 points). ICRG provides ratings for 160 countries on annual basis. The Political Risk Rating encompasses 12 weighted variables covering political and social characteristics, among which is corruption. Corruption is

assessed within the political system. It is stated on the ICRG website that "such corruption is a threat to foreign investment for several reasons: it distorts the economic and financial environment; it reduces the efficiency of government and business by enabling people to assume positions of power through patronage rather than ability; and, last but not least, introduces an inherent instability into the political process" (ICRG methodology, 2011).

A cardinal index of corruption was derived by Dreher et al. (2007) for approximately 100 countries. Corruption was treated as a latent variable that is directly related to its underlying causes. They claimed that this type of framework is useful for estimating corruption. First of all, their model was explicitly causal in nature such that the country's ranking is tied to the causal variables which were used to estimate the model. So, the model constructed a cardinal index of corruption rather than ordinal. Moreover, depending on data availability, the model could be estimated over different periods in order to assess how corruption has changed over time in different countries. The DKM index allowed them to compute a measure of the losses caused by corruption as a percentage of GDP per capita and they empirically proved that the losses due to corruption were generally high. Kaufmann et al. (2006) reported a version of the worldwide governance indicators, covering 213 countries for the period 1996- 2005. Many dimensions of governance were measured in the KKM index: voice and accountability, political stability and absence of violence, government effectiveness, rule of law, regulatory quality, and control of corruption. The latest indexes were based on plenty of variables and are a reflection of the views of many experts, citizens and company survey respondents. Blackburn et al. (2008) found that the correlations of ICRG with CPI, KKM and DKM are highly positive (close to 1), which means that the results of any analysis should be very similar regardless of the corruption index

used. Consequently, in my quantitative analysis I use the CPI index as it has a wide coverage of many countries and plenty of data is available.

2.3 Determinants of Corruption

Shleifer and Vishy (1993) claimed that the structure of government and political processes are crucial factors that affect the level of corruption. Corruption is indeed especially high in countries with weak governments which do not control their agencies. The illegality and secrecy of corruption make it very distortionary and costly, and that is why in less developed countries high corruption is detrimental to development. Developing countries often have weak governments and institutions, so these facts are important for finding the causes and consequences of corruption in the Macedonian case. Mauro (in Shleifer and Vishy, 1993) discovered that after controlling for GDP, countries with more corruption have lower ratio of total and private investment to GDP and this is in favor of the view that corruption is bad for development. The demand for secrecy can divert funds away from high value projects into useless projects. This is indeed one cost of corruption, as identified by Shleifer and Vishy (1993). Managers and bureaucrats in poor countries want to import the goods on which bribes are easiest to take. Consequently, poor countries end up with advanced equipment, which is way beyond their needs. The secrecy of corruption entails yet another cost — hostility towards change, preventing new entrants and innovation.

Laffont (2006) listed development and institutional innovation as potential sources of corruption. As the level of development of a country increases, the number of transactions which might be affected by corruption increases and the amount of corruption should increase or may decrease as the resources necessary to fight corruption become more abundant. The author identified the level of per capita GDP as a rough measure of the activity open to corruption. For the level of development, per capita GNP could be used as proxy variable. New opportunities

for corruption arise when new institutions are added and this is consistent with increasing corruption in transitional countries when large institutional change occurs. It was precisely the introduction of new rules and institutions at the beginning of transition in Macedonia and other transitional countries which created more opportunities for public officials to take bribes. However, as the level of development further increases, the government has more resources to fight corruption and as the agents become richer it is easier to threaten them with larger penalties and the costs of fighting corruption and corruption itself decrease. I also investigate this type of relationship between development level and corruption. In addition, I expect that similar type of non-linear relationship exists between globalization levels and corruption, and I test this presumption as well.

There are a couple of characteristics in each country which are relevant in explaining and understanding corruption levels. Laffont (2006) argued that openness of the country reduces corruption but high level of ethnic diversity or high level of natural resources exports can lead to higher corruption levels. A crucial variable that explains corruption levels is the legal system of the country. We can generally distinguish between two families of laws: civil law and common law. Civil law countries can have Scandinavian, French and German traditions. As La Porta et al. (1998) reported the French tradition countries have the worst quality of law enforcement while the Scandinavian countries have the best record of enforcing the rights established by law. Hence, the legal system of the country has to be considered in the analysis of the impact of development levels, the one which has a Scandinavian-type law system will have lower corruption levels. Both the high level of ethnic diversity and the weak rule of law appear to explain corruption in Macedonia and other countries in the region. In my quantitative analysis, I also tried to test this assumption and explored whether the legal system and rule of law influence corruption levels.

Sandholtz and Gray (2003) distinguished between two types of domestic factors which influence national corruption levels: economic and normative. Among the domestic economic factors are: economic development, level of government intervention in the economy, and democratic institutions. First of all, economic development is expected to have negative relationship with corruption. In contrast, higher level of government intervention is likely to provide greater scope for corrupt activities. The presence of more democratic institutions, taking the form of free elections, freedom of press and speech, and more political competition, is expected to put constraints on corruption. The domestic normative factors include continuous democracy, religion and colonial heritage. Countries with higher proportion of citizens with Protestant affiliation tend to have lower corruption levels perhaps because such societies have strong sense of responsibility and individualism. In addition, a British colonial heritage is likely to negatively impact corruption because in such societies there is respect and adherence to rules and norms. When democratic norms such as equal opportunity before the state, transparent management of public businesses and duty for the public good are high, the people perceive corruption as wrong and illegitimate. Thus, countries with high democratic norms should face lower corruption levels. Moreover, continuous democratic rule should imply that democratic values and norms are deeply rooted into the society and corruption should be lower in such societies (Sandholtz and Gray, 2003). The democracy is not so strong in Macedonia and as a result this may be one of the underlying causes of corruption in the public sector. Economic development, democracy and religion are also included in the empirical analysis of this study.

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3. Globalization

3.1 Globalization- definition and measurement

I have encountered two similar definitions of globalization. One is "the process by which the whole world becomes a single market" (The Oxford Dictionary of Economics). Vujakovic (2011) defines globalization as the process of increasing interaction and interdependence between societies, economies and nations across large distances. Throughout this paper, I will use globalization and international or global integration interchangeably. The fact that many diverse cultures and economic and political systems around the world are becoming similar to each other is fascinating. International integration has largely increased because of improved communication in terms of cell phone usage and internet access, as well as increased international travel and migration opportunities. Enterprises have also contributed to more globalization by expanding worldwide through exporting, investing, franchises or physical presence in foreign countries.

Globalization is important in this study as it is expected that it is one of the determinants of corruption levels. Countries which are more involved in international trade and investment, accompanied by the communication and travel are expected to be more integrated. As countries become more integrated, they are more likely to accept and implement the better norms and institutions of other countries. Such norms may involve more transparent institutions, better governance, greater accountability and lower corruption. Moreover, anti-corruption rules and policies are likely to be suggested and enforced on countries which are members of international organizations such as the IMF, WTO, UN or TI. Thus, the increased interdependence between countries is very likely to have influence on national corruption levels.

Two ways to measure the level of globalization were identified. The first is the KOF Index of Globalization constructed by Dreher (2006), which includes political, social and economic integration factors. At the time of its invention, the KOF was calculated for 123 countries for the period 1970-2000. Sub-indexes were used for those three categories and 23 variables were used to measure the extent of globalization. The weights for the sub-indexes were obtained by using principal component analysis. To measure the degree of political globalization, the following variables were used: number of IO memberships, number of embassies, and number of peace making mission in which a country took part. In order to capture social integration, data on international tourism, internet users, number of radios and number of McDonald's restaurants was used. Trade, FDI and portfolio investment, as well as restrictions on trade and capital were used to measure the level of economic integration. The author wanted to investigate the impact of international integration on economic growth. He claimed that including the different dimensions of globalization in a regression will induce collinearity problems as these dimensions are correlated. But exclusion of some dimensions which are not of interest could lead to bias. Besides it is not clear whether all globalization factors influence economic performance in the same direction. Those statements are very relevant and applicable to my research as well because including all globalization variables can cause multicollinearity and omission of some important variables would make the estimates biased. I try to control for such a problem by employing factor analysis as one of my empirical methods and by including most of the variables relevant in explaining national corruption levels.

The second measure of globalization was constructed by Vujakovic (2010). The purpose of creating a new composite index was to measure the extent of global integration by considering some factors which were not considered before. The New Globalization Index (NGI) consisted of 21 variables, which include economic as well as other indicators. The NGI was calculated for 70 countries for the period 1995- 2005. The economic variables were: trade in goods (weighted by geographical distances), trade in services, FDI stock and FDI flow, portfolio investment stock, income payments to foreigners, trademark applications by non-residents, and patent applications by non-residents. The social variables included: migration stock, international tourism, outbound student mobility, international phone calls, international internet bandwidth, international trade in newspapers and books, and transfers. The political variables were: environmental agreements, international organization membership, embassies in a country, and participations in the UN peace keeping missions. This new index could be used to further research the relationships between globalization and economic growth, corruption, poverty, etc. In my empirical analysis, I use the KOF globalization index as a measure of the level of international integration under the first methodology. The choice of KOF index was mainly due to its availability and coverage of around 180 countries, most of which are included in this research. In addition, I believe that the index includes all the dimensions relevant for explaining and measuring the extent of international integration.

3.2 The effects of globalization

Economidou et al. (2006) empirically investigated the correlation between international integration and economic growth using panel data. They used several variables in order to measure the level of international integration: Foreign Direct Investment (FDI), volume of trade as a share of GDP, membership of a trade bloc and characteristics of the trade bloc. First of all, FDI was considered as a major channel for transferring advanced technology among countries. Secondly, the volume of trade was used to measure the openness of the country to the rest of the world. Their results showed that more trade leads to higher economic growth rates and that international trade is more important than international investment flows for the welfare in developing countries. Therefore, more trade openness as part of international integration can have huge impact on growth and development of any country. Increased trade can thus bring

welfare improvements and lead to higher development and growth in Macedonia and the countries of the region. Moreover, empirical results in Blackburn et al. (2008) showed that corruption does not affect growth directly, but only through inefficient investment decisions. On the one hand, international integration level is related to economic growth rates, which are negatively affected by corruption. On the other hand, more international trade can contribute to higher level of integration, which in turn will lead to higher economic growth and standards of living and might help in fighting corrupt activities.

The relationship between international financial integration (IFI) and growth was explored in Edison et al. (2002). In particular, the authors empirically assessed how the relationship depends on the level of legal system development, government corruption, economic and financial development. They used a couple of IFI measures: Quinn measure of capital account restrictions; IMF restriction measure; FDI, portfolio and total capital flows; and stock measures of foreign assets and liabilities. The authors found that countries with well-developed financial markets, legal systems and low government corruption experience greater capital account openness. In order to examine whether the IFI has different influence on growth in countries with certain institutional or economic conditions, the authors used interaction terms between IFI and such variables (example rule of law). In this thesis, I also examine whether globalization has different effects under specific country characteristics. To eliminate country specific effects, Edison et al. (2002) have used first difference of the main regression equation. They found that IFI is positively related to growth when they controlled for institutional development and included interaction terms. The authors concluded that IFI is positively related with educational attainment, per capita GDP, banking sector and stock market development, law tradition of the country and government integrity (low corruption). The fact that international

integration was found to be positively related with government integrity made me more confident about the confirmation of my hypothesis.

Laffont (2006) tried to find a theory which would link corruption and the level of countries' development. He discovered that at low stages of development it might be hard to fight corruption because financial resources needed to reward the intermediary might be moderate; the auditing resources (both technical and human) might be scarce; and financial penalties for corruption might be limited as most economic agents are poor. Analyzing cross sectional data, the author found the expected inverted U-shaped relationship between development and corruption: at low development levels total corruption increased but as development reached some specific level, corruption decreased. This type of relationship is expected to be important for development level is reached. Moreover, for every level of development, corruption was found to be lower in Scandinavian law tradition countries than in others. Those findings appear to be interesting and confirmed the non-linearity of the relationship between GDP per capita and corruption levels.

3.3 The relationship between corruption and international integration

More open economies in terms of international trade tend to import norms, ideas and information besides the importation of goods and services. Shabbir and Anwar (2007) argued that international integration has impact over the political-economic framework of opportunities and cultural values of the society. More free trade would tend to remove the power of the public official over licenses, quotas, permits and the like, and will thus reduce the chances of abuse of public power for private gains. In their paper, the authors listed several studies which have found empirical support for the negative relationship between the level of country's openness and corruption. Ades and Di Tella (in Shabbir and Anwar, 2007) found negative relationship between

openness and corruption. Three other studies: Brunnetti and Weder, Treisman and Herzfeld and Weiss (in Shabbir and Anwar, 2007) have found negative correlation between imports and corruption. So, more international trade, as one of the globalization indicators, was empirically proven to be negatively related with corruption levels. More free trade can thus play an important role for reducing corruption among developing countries.

Sandholtz and Gray (2003) identified two types of international factors which influence national corruption levels: economic and normative ones. The foreign economic factors involved foreign investment, international trade and IMF credits. International trade and corruption levels appear to be inversely related. The more open the country is in terms of trade and financial flows, the higher are the costs of corruption. So, it would be detrimental to the whole society if an international investor decides not to invest because of risk and marginal costs of corrupt activities or if national producers are less competitive on international markets because they have to pay bribes. Therefore, countries with greater engagement in global trade and investment together with the related cross border communication and travel are expected to experience lower corruption levels. Among the foreign normative factors the authors listed the following: international organization (IO) memberships and corruption levels of neighboring countries. Firstly, many international organizations actively publicized norms and incorporated institutional policies against corruption. Countries which are more involved into international organizations are more likely to absorb those anti-corruption norms. Secondly, there should be a positive relationship between the corruption levels in one country and those of its neighboring country. If one corrupt country interacts a lot with a second country, which has very low corruption, the first country will have to reduce it corrupt activities. In the quantitative analysis of this paper, many

of the above factors are included in order to investigate the relationship between corruption and globalization.

The results of the analyses by Shabbir and Anwar (2007) of corruption determinants in 41 developing countries are quite interesting. The authors divided the determinants of corruption into economic and non-economic. The economic factors included globalization, economic freedom, education level, income distribution and average income. The non-economic factors were: democracy, press freedom and share of population having particular religion. All the economic factors except for the income distribution were found to be negatively related to corruption levels. The non-economic factors were not found to be statistically significant and so did not explain variations in the perceived level of corruption. The most corrupt countries were those with weak political norms, low economic freedom and less openness towards the world economic freedom and were more economically integrated (in terms of international trade openness). These empirical results are especially relevant for identifying the roots of corruption in Macedonia and other developing and transition countries.

Sandholtz and Gray (2003) explored the relationship between international integration and national corruption. Several channels through which global factors can produce domestic effects were identified: international economic crisis, shifts in relative price in international markets, the openness of international markets, transnational networks of activists and international and supranational organizations. As in other studies, international factors were expected to affect national corruption levels through two channels: economic and normative influences. The economic modes of national impact on domestic results are those which operate through price change and rational actors, who faced with choices of changing benefits and costs, attempt to maximize their welfare. The normative modes function through social standards of appropriateness and fit. Sandholtz and Gray (2003) argued that international norms, which are an important part of any international society, have different impact on domestic norms depending on the level of international integration. So, countries which were more internationally integrated were expected to have lower corruption levels. Empirical analysis on data on 150 countries for the period 1995-2000 confirmed their hypothesis that corruption levels tend to be lower if a country is more tied into international networks of exchange, organization and communication. This finding is remarkable and it is in support of my main hypothesis.

A variety of variables were included in the Sandholtz and Gray (2003) study. As dependent variables, they use CPI and Graft-CPIA, an adjusted measure of corruption. Development level, international flows, international memberships, IMF credit per capita, long term continuous democracy, democracy score, average CPI of bordering countries, government economic intervention, British heritage, religion and population were used as explanatory variables. OLS estimation was used for the cross section of countries. As the variables affecting international integration were expected to be correlated with each other, factor analyses were used. Three independent factors were identified; the factor scores were saved as explanatory variables and used in the main regression equation. The results of the authors using CPI reveal that international factors mattered even after controlling for democracy, development, religion and other factors. International flows and international memberships were negatively related with corruption, thus more globalization led to lower corruption. Similar results were obtained with respect to magnitude and statistical significance of coefficients when Graft-CPIA was used as left hand side variable. When the sample was restricted to non-OECD countries the outcomes were similar to those obtained from the whole sample, so the model appeared to be robust across

data sub-samples. Those results are very significant and I expect to obtain some similar results using more recent data and employing some alternative variables.

Aslanov (2008) investigated the correlation between international integration and corruption using data on 182 countries for the period 2002-2007. Many international factors have influence on corruption levels through social norms and values as well as political factors. So, he tested the hypothesis that more integrated countries are expected to have lower corruption levels. The effect of international integration factors on national corruption levels was measured mainly through FDI. The CPI was used as a measure of corruption levels and it was the dependant variable in the regressions. In order to control for reversal causality, he also employed change in corruption as a left hand side variable. To prevent simultaneity in the analysis, he used 2003-2005 averages of the explained variable and 2002-2004 averages of the explanatory variables. The methodology used in the analysis is OLS, which included factor analysis. He constructed a factor in order to control for international economic integration. The factor includes: trade openness, FDI, tourism receipts and air freight.

After controlling for development, historical, geographical and other factors the hypothesis of negative correlation between corruption and international integration in Aslanov (2008) was confirmed for the whole sample, but not for the non-OECD sample. He concluded that corruption may be efficient short term solution in countries with weak rule of law such as most of the developing countries. According to his results, more global integration did not help those countries in their fight with corruption. In the whole sample, IO memberships, general development and international economic integration had positive effect on corruption score (higher score means less corruption and better governance). Trade openness and democracy had negative effect on CPI which was a surprising result. Another unexpected result was that more

inflation tended to improve the corruption situation. Countries with more Protestant and Muslim population were found to be less corrupt. Regional factors and literacy rate did not appear to influence the national corruption. The non-OECD sample brought weaker effects and less convincing results for the impact of international integration on corruption (Aslanov, 2008). Again, the empirical results of this study are in favor of my view that globalization tends to reduce corruption levels and the methodology used is quite attractive and appropriate given my data sample.

4. Data and Methodology

Cross sectional data for 182 countries of the world is used in this study. The period included in the analyses is 2004-2010. The empirical question of interest required some specialized data, and the data gathering process was long and complex. I had to consult many different data sources in order to obtain the necessary variables. The major sources were Transparency International, World Bank with its Development Indicators, United Nations, CIA World Factbook and others. Another difficulty I encountered was that data was lacking for certain variables for specific countries and specific years. Therefore, it was impossible to do any time series or panel data analysis. Besides, data on corruption levels is only available for limited time period and only recently it started to cover more countries. Table 1 in the Appendix contains all the variables with data sources.

As a measure of corruption, I use the Corruption Perceptions Index (CPI) as provided by Transparency International. This is the dependent or the left hand side variable in the regression equation. As data on CPI is not available for every country in every year, averages are used in order to maximize the amount of information. Using CPI data for 182 countries, I have calculated the average CPI score for five years period. Table 2 in the Appendix contains results of these calculations and the countries are arranged according to CPI score, ranging from 1 to 10. New Zealand and Denmark had an average CPI of 9.4 in the period 2006-2010, which means that corruption was negligible and rule of law and governance were close to perfect. In contrast, Somalia, with an average CPI of 1.2 in the same period, was an example of poor governance and widespread corruption.

A detailed description of all the variables can be found in Table 1 in the Appendix. Again, for the independent variables, I use five years averages (with one year lag) in order to smooth our random variations across all the different measure and to extract as much information as possible. The explanatory variables include several determinants of corruption and globalization. The factors which have been found in previous studies to be negatively associated with corruption are: GDP per capita, Democracy, Protestant religion, Economic freedom and Press freedom. I have collected those measures for my study and also gathered data on some others for which I expect that would influence corruption levels. I have also gathered the data for several indicators which will explain the international integration levels. The economic integration measures include FDI stock and flow and international trade openness. The social integration measures include number of internet users, international tourists' arrivals, and airport departures. The political integration is measured by IO memberships and years of membership in organizations such as the WTO and the UN. All of the above mentioned variables are part of international integration and are thus expected to have negative effect on corruption levels.

I use two different methodologies in this study. The first is a multiple OLS regression using corruption level (CPI) as dependent variable and several factors affecting corruption as explanatory variables. From the economic determinants of corruption, I include economic freedom, GDP per capita, globalization, education and income inequality measure. First, globalization under this methodology is measured with the KOF Globalization index and it is expected to be negatively related with corruption levels. Second, higher level of economic freedom is likely to lower corruption. Also the GDP per capita, as proxy for development, is likely to be inversely related to corruption activities. In contrast, more income inequality is likely to bring higher abuse of public office. Last, but not least, education is expected to be inversely related with corruption. As non economic factors I include press freedom, democracy and religion. Greater press freedom would lead to lower corruption levels. The share of population having certain religious affiliation (Catholic, Muslim or Protestant) is expected to be negatively related with corrupt behavior. The sample may suffer from heteroskedasticity, so White heteroskedasticity consistent standard errors are estimated. Regressions are run for the whole sample, as well as for the subsamples of developed and developing countries separately. The effect of international integration on corruption levels is expected to be larger for developing countries, as it is likely that most developed countries already have better norms and institutions. Moreover, the impact of globalization may be non linear so I include quadratic terms as well. Besides, the globalization effect may be different for different countries depending on different institutional characteristics so interaction terms are also included. In order to control for simultaneity, 2006-2010 average is used for the CPI and 2005-2009 averages are used for the independent variables. In addition, as globalization is expected to affect corruption levels more slowly, change in corruption level is used as dependant variable. In this way the problem of reverse causality can be addressed and treated.

The second methodology is a multiple OLS regression with factor analysis. Principal component analyses (PCA) are used because it was expected that some of the variables which affect globalization and corruption levels might be correlated. As Jolliffe (2002) claimed, the goal of PCA is to reduce the dimensionality of a data set, which consists of a large number of interrelated variables, while preserving as much as possible of the variation present in the data set. By employing this method the potential problem of multicollinearity is thus resolved. PCA find the correlations between the variables included in the investigation. The components which have highest correlations are retained and are given weights according to these correlations and are later used to calculate a specific factor (global integration for instance). The factors obtained are uncorrelated, are saved as separate variables and are included as independent variables in the

regressions. Similarly as in the first method, the data set is divided into developing and developed countries. International integration factors are used squared and are also used for constructing several interaction terms. Both CPI and change in CPI are used as dependant variables. As explanatory variables under this methodology I use democracy index, Gini index, trade openness, education, religion and population in addition to the three independent factors: international flows, international organization membership (both of which measure international integration levels) and development level.

5. Empirical Results

5.1 Methodology 1

The findings obtained by using the first empirical methodology are mainly in favor of the main hypothesis. Table 3 in the Appendix contains the regressions output: coefficients with standard errors, goodness of fit measures and sample size for five different sub-samples. The coefficients have to be interpreted with caution because the data is purely cross sectional. The results from the whole data set (including all countries) reveal the following. First, the globalization variable is highly significant and is negatively related to corruption levels. Similarly, greater economic and press freedom contribute to reducing corruption. In addition, the level of democracy is also inversely related to national corruption. Higher income level is also associated with lower corruption levels. In contrast, religion and education levels do not seem to matter for corruption levels. Furthermore, higher inequality as measured by Gini coefficient and bigger population seem to increase the amount of corruption in the country but these effects are statistically insignificant. The goodness of fit as measured by the \mathbb{R}^2 and the F-statistic shows that the independent variables explain most of the variability in corruption scores (86.6%).

When the sample is restricted to developing countries using the \$3,600 threshold (the sample median), globalization do not seem to affect corruption. Economic freedom and GDP per capita are negatively related with bribery. However, if greater proportion of the population is associated with Catholicism, this seemed to lead to more corrupt activities. The goodness of fit of this regression is much lower (46.3%). This may be an indicator that some of the variables which explain corruption in developing countries were not considered in the analyses. Using the developing countries whose income was below the \$11,000 threshold (the sample mean) again shows that globalization is insignificant. Greater economic and press freedom, as well as democracy contribute to reducing corruption. Catholic religion again seems to cause more

bribery and corrupt activities in developing counties. This regression fits the data a bit better than the previous one (\mathbb{R}^2 is 60.6%). When the sample is restricted to developed countries, whose income per capita was above \$3,600, globalization plays positive role in reducing corruption. In the same way, economic and press freedom, and democracy contributed to lowering misuse of public office for private gain. Higher income affects corruption in the same direction. The \mathbb{R}^2 of this regression equation is 86.8%, which is close to that of the whole sample. If the second income threshold is used, only globalization, economic freedom and GDP per capita explain the variance in CPI. All of those variables affect corruption score positively (where higher CPI score indicates lower corruption).

The effect of globalization on corruption levels might not be strictly linear. Consequently, a quadratic term is introduced in the regression equations. For the whole sample, both international integration and international integration squared are statistically significant. The data suggests that the impact of globalization on corruption is negative only after KOF Globalization index reaches 38.9 units. Similarly, using the thresholds for income in developing countries brought the same results with a bit higher cut-off (48.4). However, in the sub-sample with GDP per capita below \$11,000 both globalization and the squared term are insignificant. For developing countries, economic freedom, press freedom and democracy are significant in all three cases and impact corruption negatively. When the sample is restricted to developed countries, globalization squared is significant only under the first threshold and globalization is insignificant in both models. Nevertheless, higher levels of democracy, economic freedom and GDP per capita appear to significantly improve governance and reduce corrupt activities among developed countries. Moreover, the relationship between development level and corruption might also be quadratic. When GDP per capita squared is introduced in the regression equations

together with GDP, they are only significant in the sample containing all countries. However, they do not have the expected sign. In developing countries they have the expected sign suggesting that until specific development level, corruption increases with GDP per capita and falls afterwards. So, the inverted U-shaped relationship was obtained between development and corruption for developing countries but it was unfortunately insignificant.

Different development levels, institutional settings and social standards can make the impact of globalization different among different countries. I test for such presumptions by using interaction terms between globalization and GDP per capita, economic freedom, press freedom, democracy index and rule of law. The interaction term between globalization and GDP per capita is only statistically significant in the whole sample but not in any of the subsamples. Moreover, the interactive term between globalization and economic freedom is statistically significant, which is an indication that the impact of globalization is even stronger when a country is more economically liberalized. Also the interactive term between rule of law and globalization is significant meaning that globalization impact is stronger when the rule of law is better. For the very poor developing countries (GDP per capita below \$3,600) the interactive term between democracy and globalization is significant, but it seemed that more democracy lead to higher abuse of public office for private gain. In the sample of developing countries with income below \$11,000 only the interactive term between economic freedom and globalization matters, and its impact on corruption is negative. In both of the developed countries sub-samples, none of the interactive terms is statistically significant showing that development level or institutional settings do not make the impact of globalization on corruption stronger or weaker. The results of the regressions for the whole sample, as well as for the developing and developed countries subsamples, are insignificant when the change in corruption is used as a dependent variable.

All in all, the data suggests that the variable of interest in this study –globalization– is negatively related to corruption in all countries. In addition, among developed countries more globalization does lead to lower public office abuse. However, corruption does not seem to be lower for more integrated developing countries. Furthermore, globalization seems to influence corruption negatively only after certain level of globalization was reached in developing countries and also in the whole data set. In addition, it appeared that globalization had stronger influence on corruption levels when development was higher and when rule of law was stronger.

5.2 Methodology 2

The correlations between some of the independent variables are found to be too high and these variables could not be simultaneously included in the estimation. By using principal factor components, three independent factors are identified in the data. The first factor is named "International Memberships" and includes international memberships in absolute number and duration in years. The second factor includes GDP per capita and economic freedom, which measured the "General Development" of the country. The third factor is labeled "International Flows" and includes communication, travel and investment measures. The first and the third factor determine the overall level of international integration. The detailed factor scores and the variables included can be found in Table 4 in the Appendix. In addition to the three factors, some other variables, which were expected to impact corruption levels, are included in the regressions. Table 5 in the Appendix contains the results from the regressions when the second methodology is used. The results are more favorable for my hypothesis than under the first methodology. They are probably also more robust and less biased as factor analyses were used to tackle any multicolinearity between the right hand side variables. The regression outcomes of the different subsamples confirm the main hypothesis that globalization tends to have negative influence on corruption holding everything else constant and assuming exogeneity.

Using the whole data sample, the first and the third factor are highly significant and their influence on corruption is negative and large in magnitude. The general development of the country also seems to contribute to less abuse of public office for private gains. More Catholics in the population appears to contribute to more corrupt activities. Other religious affiliations do not seem to matter. The country size as measured by the logarithm of population has a positive influence on corruption (leads to higher corruption levels). Regional effects which are calculated using the CPI of neighboring countries also have a positive effect on corruption but this effect is statistically insignificant. Similarly, more inequality should have led to more corruption but the impact is insignificant. Democracy and education do not appear to contribute in explaining corruption levels. Another surprising result is that trade openness does not play role in determining the magnitude of bribes. The R² of this regression is 83% and the F-statistic is also pretty high which suggests that the most of the variance in CPI can be explained by the independent variables.

In the developing countries subsample (under the \$3,600 threshold), international organizations memberships and international flows have a large, negative and significant impact on corruption. Thus, more international integration seems to reduce bribes holding everything else constant and assuming exogeneity. The effect of development on corruption levels is also negative and significant, implying that greater development levels led to less corruption among developing countries. A greater proportion of Catholic population is positively related with corruption. Regional effects and trade openness are not significant in explaining corruption. Moreover, democracy, education and inequality do not appear to influence the level of public office abuse. Among the developing countries, whose income was below the \$11,000 threshold, the international integration factors are positively and significantly related with CPI score, but

the effect appears to be a bit smaller that under the lower income threshold. So, globalization appears to have a stronger influence on corruption in poorer developing countries. In other words, corruption is more negatively related with international integration in the least developed countries. In the same way, development has a negative relationship with corruption levels which is again less pronounced than the effect for poorer or least developed countries. More inequality tends to lead to higher level of corrupt activities. A surprising result is the positive and significant influence of Protestant religious affiliation on public office abuse. It is usually the case that countries with higher Protestant population have better governance and lower corruption levels. Furthermore, bigger countries seem to experience more corruption.

For the developed countries, whose income per capita was above \$3,600, globalization contributes to lower corruption and better governance. In addition, development level is also negatively related to bribes, meaning that higher GDP per capita and more economic freedom brought better incentives and less abuse of public office. Similarly, a higher education level tends to reduce corrupt activities probably because better educated people have higher morale and better understand the consequences of their unethical behavior in developed countries. Democracy, inequality and regional effects do not appear to be statistically significant. Neither trade openness nor country size seems to matter in explaining corruption. In the sub-sample with income above \$11,000 the three factors have a large, negative and significant effect on corruption. Education is again negatively related to bribes levels. Furthermore, Protestant religion has the expected sign for richer developed countries and it appears that higher proportion of Protestants leads to lower use of public office for extracting private gains.

In order to investigate for the nonlinear effects of globalization, quadratic terms of the Internationals Flows and International Memberships are included in the regression. Besides, interaction terms of those two factors with development level are included. Only the interaction term between international memberships and development is significant and is negatively related with corruption in the whole data sample. This would indicate that at higher development levels international memberships have a greater effect on reducing corruption. Also the term development squared is significant and negatively related to corruption levels, but only in the whole data sample. Besides, the expected U-shape relationship is not detected. None of the other quadratic or interaction terms are statistically significant in the developing and developed countries sub-samples. When change in CPI was used as dependent variables, the results are not significant.

In conclusion, international flows and international membership factors as measures of globalization are negatively related with corruption in all countries, as well as in developing and developed countries sub-samples. The results thus suggest that higher global integration does lead to lower public office use for private gains. Moreover, the impact of globalization appears to be higher for the poorer and least-developed developing countries. Last, but not least, the effect of globalization is stronger when the general development of the country was higher. The results of the two different methodologies are in favor of my main hypothesis. Both methods revealed the negative influence of globalization on corrupt activities in all countries and in developed countries. Moreover, as the interaction term between development and international integration was negative and significant it seems that the influence of globalization on public office abuse was more negative at higher development levels. This might suggest that as developing countries become more developed globalization will start to play a bigger role in the reduction of corruption.

6. Case study: Corruption and international integration in Macedonia

The aim of this case study is to qualitatively investigate the relationship between international integration and abuse of public office in transition and developing countries. In developing countries corrupt politicians and public servants take between \$20 and \$40 billion in bribes annually, which is 20-40% of development aid, and also 40% of directors are asked for a bribe when contacting public institution (Transparency International Press Release, 2010). The prevalence of corruption and its financial costs are striking evidence of resources misallocation. Macedonia, as a developing and transition country, is analyzed in detail in order to answer the question of whether more international integration contributes to lower corruption levels. The transition period and legacy, overall economic conditions, domestic and outside corruption determinants have to be carefully considered to get a clear picture of the corruption situation in the country. This also provides insights about the impact of international norms and institutions on decreasing corruption and implementing anti-corruption policies.

Similarly to other former Yugoslavian countries, Macedonia has been through a long transition period since 1991. Large efforts had to be made in order to transform a planned system into a market oriented system. As Nikolov (2004) pointed out, at the start of transition in Macedonia, there was a large inflow of legal regulation and other types of rules concerning work and tasks, and these required large amounts of flexibility from all economic agents, citizens and institutions. The structural reforms involved liberalization, stabilization, privatization, restructuring and regulation. However, the different agents were not prepared for so large flexibility and the Macedonian state institutions were not ready to undertake many of these reforms. The role of the state apparatus increased especially when it came to public procurement, permits, licenses, contingencies, quotas and other (Nikolov 2004). I believe that it was precisely the huge power vested to public officials, accompanied by non-transparency, unaccountability,

and lack of regulations and strong institutions which gave them the opportunity to abuse it for private gains. Table 6 in the Appendix describes the causes of corruption relevant to the Macedonian society and their consequences. The transition, together with its legacy, has left many marks on the Macedonian economic, political and judicial system and the overall society.

Macedonia today is still faced with many problems which prevent its economic growth and its global integration. First of all, there is a lack of investment in the enterprise sector, which is one of the main engines of growth. Nikolov (2004) claimed that the lack of physical, human and social capital investment is mainly due to the change in the system of values from the beginning of transition and the inability of institutions to maintain competitiveness and credibility. Second, high corruption levels seemed to negatively impact growth through inefficient investment decisions. Moreover, living standards are quite low, and they are diving even lower due to increasing food and utilities prices. Unemployment and income inequality are at high levels and the income distribution is highly asymmetric. Many of the above mentioned factors can contribute to higher corruption levels and worse governance. Moreover, the fact that Greece is still not recognizing Macedonia under its constitutional name and prevents Macedonia's accession to the EU and NATO prevents the country's further global and regional integration. The EU integration is especially important as the EU can generate regional stability on the Balkans.

Macedonia has nevertheless made substantial progress in many fields. The level of international trade has increased and the economy is nowadays considered to be pretty open. Most of trade is in merchandise so there is still room for more trade in the services sector. Then, a more favorable business climate was created in order to help domestic enterprises as well as to attract foreign investments. The reforms in the tax system like the introduction of a flat tax and lowering of tax rates were favorable for both domestic and foreign investors, so some FDI flowed in the country. In addition one-stop shop system was introduced in order to make start of business operations easier, transfer of property faster and many other processed more efficient. Still, reforms are needed in the legal system so that laws and contacts can be more easily enforced. In addition, ownership rights protection should be stronger, which would make investments less expensive for both domestic and foreign investors in Macedonia.

Corruption in the private sector can also be very damaging because it can lead to diversion of FDI. As it was mentioned in "Macedonia: Corruption destroys business relations and decreases economic growth" (Transparency International Press Release, 2010) corruption is bad for enterprises and workers as it can damage business relations and it can hamper economic growth. Macedonian companies which had corruption problems could not attract FDI, which is an important element of global integration and plays a large role in improving firms efficiency and competitiveness, and growth overall. Foreign investors are usually aware that the marginal cost of such payments is large and that these bribes can lead to many inefficiencies, and will try to avoid such companies as potential investment targets. Fystro (in Transparency International Press Release, 2010) considered that the main problems in Macedonia may be inadequate amount of transparency in enterprises, lack of business culture and lack of training or other programs which will teach workers how to handle corruption situations.

Corruption in Macedonia not only hampers economic growth but also helps organized crime, which leads to political and communal instability. The outrage and fast evolution of civil war in 2001 between the Ethnic Macedonians and Albanians was hugely helped by organized crime, money laundering and arms trafficking. The war was quickly ended by party leaders with the signing of the Ohrid Agreement in August, 2001. As pointed out in "Macedonia's Public Secret: How Corruption drags the country down" the viability of the agreement depends on further development of democratic institutions and market economy (International Crisis Group, 2002). However, currently the administration system is highly autocratic and the judiciary system has become highly politicized and inefficient. Moreover, Macedonia is a different transitional country as it is inherently weak state with internal and external challenges to its existence (International Crisis Group, 2002). This means that the country can not have high corruption and stability at the same time as they contradict with each other.

In his paper, Kurze (2008) confirmed the hypothesis that weak state structures slow down the democratization process and institutionalization, which can be largely influenced by globalization. In particular, he explored Macedonia, Serbia, Kosovo, and Bosnia and Herzegovina. Moreover, the author discovered that nationalism in those countries fosters ethic democracies which are prone to instability and insecurity. Thus, the shaken Macedonian democracy perhaps prevents globalization from having a more positive impact on the overall society, economic growth, political stability and corruption reduction. So, strengthening of the institutions from within as well from outside is necessary in order for higher integration levels to be achieved.

A look at the economic determinants of corruption in Macedonia can provide some useful insights. The level of economic freedom is similar to the countries in the region and also to that of developed economies. Greater economic freedom is expected to mean less dependence on public authorities and lower corruption. Concerning the level of globalization, Macedonia scored 60.1 in 2009 and it outperformed Albania. (KOF Index of Globalization, 2010). The globalizations scores of Macedonia, as well as of the countries in the region are shown on Figures 1 and 2 in the Appendix. Throughout the years, Macedonia has improved greatly on

international integration (35% in the past 8 years) but is still somehow lagging behind its neighboring countries (Greece and Bulgaria). Perhaps, accession to the EU and NATO would contribute to greater global integration of the country, which in turn would further improve institutions and governance, and lead to lower corruption. If income is considered, the only conclusion is that it is still too low and incommensurate with productivity, so many public officials see bribes as a way to increase their financial income. And the culture is such that there is tolerance towards corruption. Moreover, the mean number of schooling is indicating that a large portion of the population has not finished high school. The literacy rate is lower than that of neighboring counties but it is pretty high in comparison to other developing countries. Higher educational levels should indicate that people are better informed and knowledgeable, and better understand the illegality and consequences of corrupt activities and so should be negatively related with corruption. Furthermore, income inequality in Macedonia is high which can lead to higher corruption levels.

The non-economic determinants are also informative about the misuse of public office for private gain in the Macedonian society. According to the level of democracy Macedonia is a "flawed democracy". This is probably because of not so free and fair elections as well as not so strong protection of minorities. In its rankings the country is similar to other countries in the region. Press freedom is relatively high, which means that corruption scandals are more likely to be released by the press, and thus influences corruption levels negatively. Macedonia is a multiethnic country and the presence of many different religions makes it more prone to corruption. Besides Macedonians, there are Albanian, Turkish, Serbian and Roma minorities in the country.

The separate influence of the international integration variables in Macedonian society brings us to several interesting facts. Since its independence in 1991, Macedonia has been a member of important international organizations which is indicative of the level of political integration. As Kurze (2008) claimed, Macedonia's integration into organizations such as the UN and WTO consolidated the state from the outside. First, the IO memberships were also important because they had huge influence over the country's institutions, norms and policies. Secondly, the economic integration level can be measured by FDI stock and flows, international trade and trade restrictions. As I mentioned earlier, Macedonia as a small economy is pretty dependent on importing goods and so it is pretty open in terms of international trade. Next, the FDI flow as measure of globalization shows that the country managed to attract many foreign investments but still not as many and not and large as those which went into some of the neighboring countries, like Bulgaria and Serbia. If the level of FDI stock is considered, the Macedonian economy improved in recent years but managed to outperform only Albania when it comes to attracting foreign investors. Moreover, internet and cell phone users, international tourists as well as airport departures are all indicators of the social integration. The number of internet users in Macedonia is pretty high due to improved and more affordable technology, but also because of the government projects to introduce computers and internet into education. Also the number of phone users is high, contributing to higher social integration. Concerning the number of international tourists' arrivals, Macedonia attracted very few tourists. Moreover, the number of airport departures also indicates lower level of social integration in the country.

Both the domestic detrminants of corruption as well as the international factors have to be considered in order to understand the corruption levels in Macedonia. The country has made a substaintial progress in reducing corrupt activities which can be discerned by the CPI increasing from 2.3 in 2003 to 4.1 in 2010 (see Graph 3 in the Appendix). The state has managed to improve the corruption score by 78.3% during the past 8 years. Still, much more has to be done

about improving transparency, rule of law, accountability and governance, and thus reducing corruption in the public sector. As a comparion with the corruption levels in the Balkan region counries, Macedonia had a similar trend and score as Sebia and Albania but did better than them in 2009 and 2010. Surprisingly, Macedonia also outperformed the two EU members (Greece and Bulgaria) in terms of perceived corruption in 2010 (see Graph 4 in the Appendix).

It appears that in the long run the country may be on the right track of establishing stronger and more transparent institutions and ethical norms of behavior. As it was mentioned before, in the same period the country has experinced incressing international integration. It appears that more globalization and lower corruption go together in the Macedonian case. On the one hand, Macedonia may be similar to other developing countries in the region and elsewhere. This case study suggests that improving neworks and connections with the outside world in the form of international trade, investment, travel and IO memberships can bring in more ethical norms, stronger institutions and implementation of anti-corruption policies. Higher integration would thus play a big role in reducing corruption in developing countries. But the domestic determinants of corruption also have to be considered and attacked at their roots in order for public office abuse to be reduced or eliminated. On the other hand, Macedonia is unique developing country as it is characterized by ethnic democracy, and inside and outside threats to its very existence. So improving on democracy and stability as well as integration in the EU are more than neccesary in the Macedonian case.

7. Conclusion

In a world with constantly increasing globalization it is important to undestand what drives it and what impacts it has on other economic and social outcomes. International integration in its political, social and economical forms can have large effects on countries' institutions and rules. In particular, the question of interest in this study was whether countries tend to import and implement better regulations and stronger organizations, which would lead to lower corruption levels. In addition, it is of cruicial importance to investigate the domestic roots of corruption. Corruption is damaging not only for the economy but for the overall society. It leads to inefficient investment decisions which hamper economic growth and it prevents innovation. Corruption is an impediment to economic and social development as it weakens the government and the role of law. Moreover, it undermines the credibility of institutions and leads to resources misallocation.

The emirical results in my analysis confirmed the expected negative relationship between globalization and corruption levels. The first methodology revealed the significance of international integration, as measured by the KOF Index of Globalization, in explaining corruption. After controlling for several other factors and assuming exogeneity, it was found that globalization has a negative impact on corruption for the whole data set. Economic and press freedom, and democracy level all negatively impacted the corruption levels. Moreover, GDP per capita as proxy for development level was also inversely related with abuse of public office for private gain. For the developing countries sub-samples integration did not seemd to matter, but higher development level was related to less corruption. In developed countries subsamples, globalization was negatively related with corruption levels. Simlarly, higher development appeared to bring less bribes and fraud. A higher level of democracy and more Protestant population were inversely related to corruption among developed countries. The second methodology was more robust and took care of potential collinearity problems. Factor analyses were used in order to predict the levels of international integration and development. In the whole sample, the two measures of globalization (International Organization memberships factor and International flows factor) had a negative relationship with corruption levels. Higher development level was also related with less corruption. Surprisingly, Catholic population had a positive correlation with bribes. Among developing countries, the international integration factors had a sigificant, negative and larger impact on corruption levels than for developed countries. Overall development was negatively related with public office abuse. More globalization and higher development contributed to lower corruption levels. Protestant population percentage was inversly related with corruption among developed countries.

The findings of the two different methodologies were in favor of my hypothesis that more globalization has led to lower corruption levels. Both methods revealed the negative relationship between international integration and public office abuse in all countries and in developed countries. Moreover, it seemed that the influence of globalization was stronger once the country became more developed. I am confident about the results because international integration was significant and negatively related with corruption levels in all sub-samples under the second methodology. Thus, increasing international integration can be one anti-corruption policy for developing countries. However, it has to be accompanied by improvements in democracy, economic freedom, income inequality, rule of law and education. So, tackling the domestic roots of corruption is as important as achieving greater involvement in international networks.

At the beginning of transition Macedonia was lacking some of the the necessary institutuions and regulatory bodies, and on top of that many institutions and agents were not ready to undertake the required reforms, which would make the economy more market oriented. A lot of power was given to public officials in terms of public procurement, permits, lisences, and the like. In addition, the lack of transparency, inadequate legal rules and weak institutions gave them chance to use public property for personal gain. Corruption has been detrimental for Macedonia as it prevented economic growth, living standards improvement and FDI inflow. Many of the domestic determinants like low income, high income inequality, inadequate democracy and low education level seem to contribute to higher corruption levels. The international integration factors like FDI inflow, trade and international tourism can contribute to increasing the integration of the country within Europe and within the world. The qualitative analysis of the Macedonian case thus also confirmed that international integration is negatively related to corruption. Higher international integration will make the Macedonians import better norms and institional settings which would improve governance and lead to lower public office abuse. In order to lower corruption it is necessary to attack at the domestic roots of corruption, together with increased globalization.

This paper presented a topic which may be interesting for future analysis. The potential availability of time series data for corruption as well as for the other national and global determinants of corruption would provide results which are more precise, relevant and long-term oriented. A more extensive study of the interaction between local and regional corruption factors is also needed. Last, but not least, a qualitative analysis of another developing country or region might present the similarities and differences among developing countries in terms of the corruption determinants and globalization effects.

8. Appendix – Tables and Graphs

8.1 Tables

8.1.1 Table 1: Description and sources of variables

Variable name	Description	Data source	
	Number of domestic takeoffs and takeoffs	World Don't development indicators	
Airport Departures	country	(2011)	
	Percentage of population identified as		
Catholic Population	Catholic	CIA World Factbook (2011)	
	Number of mobile cellular telephone	World Bank development indicators	
Cell Phone Users	subscriptions per 100 people	(2011)	
Corruption	CPI, ranging from 1-worst(most corrupt) to		
Perception Index	10-best(perfect governance)	Transparency International (2011)	
CPI of neighboring	Author's own calculation of average CPI of	Transparancy International (2011)	
Control of	CCL ranging from -2.5 (worst governance)		
Corruption Index	to $+2.5$ (best governance)	World Bank Institute (2011)	
	DL ranging from 1-authoritarian regime to		
Democracy Index	10-full democracy	Economist Intelligence Unit (2011)	
Economic Freedom	EFI, ranging from 1-repressed to 100-free,		
Index	averaged for 2005-2009	Vision of Humanity (2011)	
	Mean number of years of completed		
Education	education	Vision of Humanity (2011)	
		United Nations Conference on Trade and	
FDI flow	FDI flow in USD, averaged for 2005-2009	Development (2010)	
FDI stock	FDI stock in USD averaged for 2005-2009	United Nations Conference on Trade and Development (2010)	
	GDP per capita in USD, averaged for 2005-	World Bank development indicators	
GDP per Capita	2009	(2011)	
	GII, showing the extent (in %) to which the		
Gini Inequality	income of households deviates from	United Nations Development Program	
Index	perfectly equal distribution	(2011)	
	GI, ranging from 1-least integrated to 100-		
Globalization Index	most integrated, averaged for 2005-2009	KOF Globalization Index (2011)	
	Exports plus imports of merchandise in	$\mathbf{U}_{\mathbf{u}}^{\prime} = 1 \mathbf{N}_{\mathbf{u}}^{\prime} = \mathbf{u}_{\mathbf{u}}^{\prime} (2 0 1 1)$	
Goods Trade	USD, averaged for 2005-2009	United Nations (2011)	
Conito	2005 2000	International Monotary Fund (2011)	
International	2003-2009	World Bank development indicators	
Tourism Arrivals	Number of international tourists arrivals	(2011)	
i ourisin i irrivuis		World Bank development indicators	
Internet Users	Number of internet users per 100 people	(2011)	
	Absolute number of international		
IO Memberships	organizations memberships	CIA World Factbook (2011)	
	Percentage of adult population being able to	World Bank development	
Literacy Rate	read and write, averaged for 2005-2009	indicators(2011)	
	Percentage of population identified as		
Muslim Population	Muslim	CIA World Factbook (2011)	
	Logarithm of number of people, averaged for	World Bank development indicators	
Population	2005-2009	(2011)	

Press Freedom	PFI, ranging from 0-free press to 105-no	
Index	freedom, average for 2005-2009	Reporters Without Borders (2011)
Protestant	Percentage of population identified as	
population	Protestant	CIA World Factbook (2011)
	RLI, ranging from -2.5(worst governance) to	
Rule of Law Index	+2.5 (best governance)	World Bank Institute (2011)
	Services exports plus imports in USD,	World Bank development indicators
Services Trade	averaged for 2005-2009	(2011)
	Exports plus imports over GDP, averaged for	
Trade Openness	2005-2009	Vision of Humanity (2011)
Years UN Member	Cumulative years of UN membership	United Nations (2011)
Years WTO		
Member	Cumulative years of WTO membership	World Trade Organization (2010)

1	New Zealand	9.4	37	Taiwan	5.7	73	Romania	3.6
2	Denmark	9.4	38	Dominica	5.7	74	Georgia	3.6
3	Singapore	9.3	39	Botswana	5.6	75	Brazil	3.5
4	Sweden	9.2	40	Macau	5.6	76	Peru	3.5
5	Finland	9.2	41	Brunei	5.5	77	China	3.5
6	Iceland	9	42	Bahrein	5.4	78	FYR Macedonia	3.5
7	Switzerland	9	43	Bhutan	5.4	79	Trinidad and Tobago	3.5
8	Netherlands	8.9	44	Korea(South)	5.3	80	Montenegro	3.5
9	Canada	8.7	45	Oman	5.3	81	Thailand	3.5
10	Australia	8.5	46	Mauritius	5.2	82	India	3.4
11	Norway	8.5	47	Hungary	5.1	83	Morocco	3.4
12	Luxemburg	8.4	48	Cape Verde	5.1	84	Suriname	3.4
13	Hong Kong	8.3	49	Costa Rica	5	85	Mexico	3.4
14	Austria	8.1	50	Jordan	5	86	Serbia	3.4
15	Germany	7.9	51	Czech Republic	4.9	87	Panama	3.3
16	United Kingdom	7.9	52	Lithuania	4.8	88	Lesotho	3.3
17	Ireland	7.7	53	Malaysia	4.8	89	Jamaica	3.3
18	Japan	7.6	54	South Africa	4.8	90	Burkina Faso	3.3
19	United States	7.3	55	Slovakia	4.7	91	Senegal	3.2
20	Belgium	7.2	56	Latvia	4.7	92	Swaziland	3.2
21	Barbados	7.2	57	Italy	4.6	93	Vanuatu	3.2
22	France	7.1	58	Poland	4.6	94	Sri Lanka	3.2
23	Chile	7	59	Seychelles	4.5	95	Rwanda	3.1
24	Saint Lucia	7	60	Kuwait	4.4	96	Bosnia and Herzegovina	3.1
25	Uruguay	6.7	61	Namibia	4.4	97	Kiribati	3.1
26	Quatar	6.6	62	Samoa	4.4	98	Albania	3.1
27	Estonia	6.6	63	Tunisia	4.3	99	Madagascar	3.1
28	Slovenia	6.5	64	Turkey	4.3	100	Gabon	3
29	Spain	6.4	65	Greece	4.2	101	Guatemala	3
30	Saint Vincent and The Grenadines	6.3	66	Croatia	4	102	Moldova	3
31	Portugal	6.2	67	Cuba	4	103	Algeria	3
32	United Arab Emirates	6.1	68	Saudi Arabia	3.8	104	Egypt	3
33	Israel	6	69	Bulgaria	3.8	105	Malawi	3
34	Cyprus	6	70	El Salvador	3.8	106	Djibouti	3
35	Puerto Rico	5.8	71	Ghana	3.8	107	Dominican Republic	3
36	Malta	5.8	72	Columbia	3.7	108	Belize	3

8.1.2 Table 2: Average Corruption Perception Index for 2005-2010

109	Lebanon	2.9	134	Togo	2.5	159	Laos	2.1
110	Argentina	2.9	135	Ukraine	2.5	160	Papua New Guinea	2.1
111	Tanzania	2.9	136	Kazakhstan	2.5	161	Central African Republic	2.1
112	Mongolia	2.8	137	Honduras	2.5	162	Cote D'Ivoire	2.1
113	Solomon Islands	2.8	138	Libya	2.5	163	Burundi	2.1
114	Bolivia	2.8	139	Syria	2.5	164	Tajikistan	2.1
115	Armenia	2.8	140	Nepal	2.4	165	Congo-Brazzaville	2
116	Mali	2.8	141	Timor-Leste	2.4	166	Guinea Bisau	2
117	Benin	2.8	142	Philippines	2.4	167	Angola	2
118	Kosovo	2.8	143	Nigeria	2.4	168	Venezuela	2
119	Sao Tome and Principe	2.8	144	Comoros	2.4	169	Cambodia	2
120	Zambia	2.8	145	Tonga	2.4	170	Kyrgistan	2
121	Liberia	2.7	146	Pakistan	2.4	171	Democratic Republic of Congo	1.9
122	Maldives	2.7	147	Paraguay	2.3	172	Equatorial Guinea	1.9
123	Eritrea	2.7	148	Yemen	2.3	173	Turkmenistan	1.9
124	Mozambique	2.7	149	Iran	2.3	174	Guinea	1.8
125	Mauritania	2.7	150	Cameroon	2.3	175	Uzbekistan	1.8
126	Vietnam	2.7	151	Russia	2.2	176	Haiti	1.8
127	Niger	2.6	152	Ecuador	2.2	177	Chad	1.7
128	Uganda	2.6	153	Azerbaijan	2.2	178	Sudan	1.7
129	Guyana	2.6	154	Belarus	2.2	179	Iraq	1.5
130	Indonezia	2.6	155	Bangladesh	2.2	180	Afganistan	1.5
131	Ethiopia	2.6	156	Zimbabwe	2.2	181	Myanmar	1.5
132	Gambia	2.6	157	Siera Leone	2.2	182	Somalia	1.2
133	Nicaragua	2.5	158	Kenya	2.1			

Source: Author's own calculation, using TI data on CPI

	Model 1:	Model 2:	Model 2:	Model 3:	Model 3:		
	all countries	developing	developing	developed	developed		
Economic freedom	0.0750***	0.0489***	0.0496***	0.0842***	0.0934***		
	(0.0166)	(0.0156)	(0.0187)	(0.0194)	(0.0263)		
GDP per capita	0.0003***	0.0002**	0.0002**	0.0004**	0.0003*		
	(0.0001)	(0.0001)	(0.0001)	(0.0002)	(0.0002)		
Globalization index	0.0182***	-0.0007	0.0054	0.0187**	0.0421**		
	(0.0077)	(0.0200)	(0.0075)	(0.0092)	(0.0214)		
Press freedom	0.0203***	0.0057	0.0168**	0.0326**	0.0268		
	(0.0076)	(0.0065)	(0.008)	(0.0138)	(0.0200)		
Catholic population	-0.3416	-0.6940**	-0.3315	-0.3341	-0.6619		
	(0.2645)	(0.3040)	(0.2594)	(0.3677)	(0.6442)		
Muslim population	0.0148	0.0047	0.1949	0.2753	-0.1471		
	(0.2613)	(0.2654)	(0.2449)	(0.4410)	(1.2243)		
Protestant population	0.5766	-0.7058	-0.8712	0.5658	0.9153*		
	(0.4553)	(0.6431)	(0.5565)	(0.5210)	(0.5566)		
Education	0.0051	-0.0203	-0.0362	0.0565	0.0631		
	(0.0342)	(0.0299)	(0.0277)	(0.0474)	(0.0523)		
Democracy index	0.2907***	0.1052	0.2755***	0.4432***	0.2107		
	(0.0834)	(0.0829)	(0.0869)	(0.1308)	(0.1829)		
Gini index	-0.0066	0.0116	0.0167	-0.004	-0.0037		
	(0.0086)	(0.0119)	(0.0087)	(0.0116)	(0.0287)		
Log(Population)	-0.0946	-0.0449	-0.1332	-0.1041	-0.0088		
	(0.0651)	(0.0769)	(0.0845)	(0.0878)	(0.1079)		
Constant	-2.4890***	-0.1396	-0.2689	-4.8894***	-6.8188***		
	(1.3149)	(1.2913)	(1.5982)	(1.5502)	(2.5375)		
Adjusted R ²	0.866	0.4627	0.606	0.8683	0.8658		
Number of observations	136	60 94 76 42					
*p<0.1,**p<0.05,***p<0.	The dependent	variable is corrupt	ion score. The tab	le reports coeffici	ents, with HSK		
01	consistent standard errors in parenthesis.						

8.1.3 Table 3: Empirical results from method 1

8.1.4 Table 4: Rotated Component matrix in method	2
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	Factor 1: International Memberships	Factor 2: General Development	Factor 3: International Flows		
Years WTO member	0.6859	0.1192	0.1518		
Years UN member	0.7982	-0.1219	-0.0416		
IO memeberships	0.7528	0.2488	0.0942		
Economic freedom	-0.0659	0.6488	0.2239		
GDP per capita	0.0589	0.8169	0.1027		
Cell phone users	-0.0031	0.6190	-0.0388		
Airport departures	-0.1353	-0.0015	0.7538		
International tourist arrivals	0.2683	0.0246	0.4374		
Internet users	0.1170	-0.0887	0.6235		
FDI flow	0.1449	0.0507	0.5191		
Eigen values	4.3389	1.9496	1.2664		
Results produced with Varimax rotated principal component analyses. Factors scores obtained by Kaiser-Guttman method					

	Model 1:	Model 2:	Model 2:	Model 3:	Model 3:
	all countries	developing	developing	developed	developed
Factor1 IO	1.1368***	0.9373***	0.8809***	1.0889***	0.9861*
Membership	(0.2143)	(0.2173)	(0.1944)	(0.3559)	(0.5090)
Factor2 General	2.2591***	1.9814***	1.6757***	1.8111***	2.3505***
Development	(0.3711)	(0.3936)	(0.4616)	(0.6750)	(0.8721)
Factor3 International	1.0384***	1.1343***	1.1838***	0.9627***	0.8497**
Flows	(0.1695)	(0.2360)	(0.2301)	(0.2694)	(0.3675)
CPI of neighbor	0.1556	0.0071	-0.1782	0.1254	0.1422
countries	(0.1252)	(0.0917)	(0.1194)	(0.1577)	(0.1925)
Gini index	-0.0005	0.0065	0.0245*	0.0190	0.0466
	(0.0142)	(0.0146)	(0.0148)	(0.0213)	(0.0513)
Trade openness	0.0022	0.0019	-0.0003	0.0072	0.0073
	(0.0032)	(0.0018)	(0.0025)	(0.0055)	(0.0057)
Democracy index	0.0807	0.0337	0.1259	0.1840	0.3322
	(0.0816)	(0.0686)	(0.0860)	(0.1397)	(0.2367)
Education	0.0499	-0.0438	0.0429	0.1861***	0.1315**
	(0.0480)	(0.0387)	(0.0597)	(0.0708)	(0.0660)
Catholic population	-0.8336***	-0.6103**	-0.2820	-0.9884*	-1.0474
	(0.3444)	(0.2735)	(0.2951)	(0.5550)	(0.8777)
Muslim population	-0.1526	0.2545	0.1921	0.4354	1.4283
	(0.3868)	(0.3527)	(0.3524)	(0.8288)	(1.8235)
Protestant population	0.5688	-0.3959	-1.2370**	0.6325	1.1590*
	(0.5271)	0.4651	(0.5874)	(0.6877)	(0.6110)
Log(Population)	-0.1480*	-0.0978	-0.1690*	-0.2198	-0.0234
	(0.0884)	(0.0648)	(0.1038)	(0.1687)	(0.2409)
Constant	5.0815***	5.3412***	5.0910***	2.8920	-2.0646
	(1.7639)	(1.5707)	(1.8360)	(2.6426)	(4.6505)
Adjusted R ²	0.8296	0.6019	0.5608	0.7483	0.7644
F-statistic	40.9839	4.6627	6.3853	12.6323	7.5699
Number of observations	114 50 73 64 41			41	
*p<0.1,**p<0.05,***p<0.01	The dependent variable is corruption score. The table reports coefficients, with White HSK consistent standard errors in parenthesis.				

8.1. 5 Table 5: Empirical results from method 2

8.1.6 Table 6: Corruption determinates in Macedonia and consequences of corruption

Change of the economic system: The beginning of transition						
Enterprises	Citizens	Institutions				
1. Firms faced with increase in	1. Citizens lose the benefits of	1. Faced with fast changing				
the average taxation and growth	low relative service prices	rules				
in the financial costs specific to	2. They face decreased	2. Influx of new legal solutions				
market economy	purchasing power	3. Low quality of legislation due				
2. Banks begin to charge	3. Unemployment risk as many	to frequent legislative				
risk premium and start	companies go under	changes				
taking market economy		4. Loosing ability for efficient				
function		monitoring				
3. Enterprises are not		5. They face competition				
flexible enough and cannot		from informal lobby				
adjust quickly		groups				

Consequences: loosing investment ambience and fight for redistribution of the social wealth						
Enterprises	Citizens	Institutions				
 Two groups of businesses, both in conjunction with informal groups in the institutions One in the privatization of capital Other as aspirants for rights and licenses as contingents, quotas and like 	 Theory of "To make my way through" Those that do not fall under the two business groups are financed from the budget by means of social programs (severance pay and welfare) This group of budget transfer beneficiaries practically hold this equilibrium without steady economic growth 	 Emergence of Government- political party Recruitment of people suitable for informal lobbying groups that would maintain this equilibrium condition without economic growth Strengthened conjunction with the two business groups that control the private capital and those using rights and licenses 				
		using rights and licenses				

Source: Nikolov (2004)

8.2 Graphs





Source: Author's creation using KOF Index of Globalization data

8.2.3 Graph 2: Globalization in the region



Source: Author's creation using KOF Index of Globalization data





Source: Author's creation using TI data on CPI

8.2.4 Graph 4: Corruption in the region



Source: Author's creation using TI data on CPI

9. References

- Aslanov, Fuad. 2008. "The Effect of International Integration on The Level of Corruption: A Theoretical- Empirical Approach". MA Thesis. Central European University.
- Blackburn, Keith, Haque, Emranul and Neanidis, Kyriakos. (2008). "Corruption, Seigniorage and Growth: Theory and Evidence". CES ifo- Delphi Conferences on Government, Institutions and Macroeconomic Performance in Munich, Germany.
- Corruption Perceptions Index. 2011. Transparency International. <u>http://www.transparency.org/policy_research/surveys_indices/cpi</u> (accessed 23 March, 2011).
- **Dreher, Axel.** 2006. "Does Globalization Affect Growth? Evidence from a new Index of Globalization". *Applied Economics 38*, 10: 1091-1110.
- **Dreher, Axel, Kotsogiannis, Christos and McCorriston, Steve.** 2007. "Corruption Around the World: Evidence From A Structural Model." *Journal of Comparative Economics*, 35: 443-466.
- **Economidou, Claire, Lei, Vivian and Netz, Janet.** 2006. "International Integration and Growth: A Further Investigation on Developing Countries". *International Advances in Economic Research* 12: 435-448.
- Edison, Hali, Levinee, Ross, Ricci, Luca and Slok, Torsten. 2002. "International Financial Integration and Economic Growth". *Journal of International Money and Finance* 21: 749-776.
- ICRG Methodology. 2011. The Political Risk Services Group. http://www.prsgroup.com/ICRG_Methodology.aspx (accessed 29 April, 2011)
- International Crisis Group. 2002. "Macedonia's Public Secret: How Corruption drags the country down". Balkan Report Nr. 133.
- Joliffe, Ian. 2002. Principal Component Analysis. London: Springer.
- Kaufmann, Daniel, Kraay, Aart, and Mastruzzi, Massimo. 2006. "Governance Matters V: Aggregate and Individual Governance Indicators for 1996-2005". The World Bank Policy Research Working Paper 4012.
- **KOF Index of Globalization.** Swiss Federal Institute of Technology Zurich. <u>http://globalization.kof.ethz.ch/</u> (accessed 15 April, 2011).
- **Kurze, Arnaud.** 2008. "State, Society and Globalization in the Balkans: Problems of Democratic Consolidation in Bosnia and Herzegovina, Kosovo, the Former Yugoslav Republic of Macedonia and Serbia". Global Studies Working paper Nr. 3.
- Laffont, Jean- Jacques. 2006. "Corruption and Development" In *Understanding Poverty* eds. Banerjee, Abhijit Vinayak, Bénabou, Roland, and Mookherjee, Dilip. Oxford : Oxford University Press.
- La Porta, Rafael, Florencio Lopez-De-Silanes and Andrei Shleifer. 1998. "Law and Finance." *Journal of Political Economy*, 106(6): 1113-1155.
- **Nikolov, Marjan.** 2004. "Corruption's Economic and Political Implications in The Republic of Macedonia". Paper presented at the Conference: Macedonia and the Corruption-Situation and Changes. Skopje, Macedonia.
- **Rose-Ackerman, Susan.** 1999. *Corruption and Development*. Cambridge: Cambridge University Press.
- **Rose-Ackerman, Susan.** 1998. "Corruption and the Global Economy". Corruption and Integrity Improvement Initiatives in Developing Countries.

- Sandholtz, Wayne and Gray, Mark. 2003. "International Integration and National Corruption". *International Organization*. Vol. 57, No. 4: 761-800.
- Shabbir, Ghulam and Anwar, Mumtaz. 2007. Determinants of Corruption in Developing Countries. Hamburg Institute of International Economics Research Program Paper 2-11.
- Shleifer, Andrei and Vishy, Robert. 1993. "Corruption". *The Quarterly Journal of Economics*, Vol. 108, No. 3: 599-617.
- The Oxford Dictionary of Economics. 2011. E-notes. <u>http://www.enotes.com/econ-</u> encyclopedia(accessed 02, May 2011).
- Transparency International Press Release. (2010) "Macedonia: Corruption Destroys BusinessRelationsandDecreasesEconomicGrowth".http://www.transparency.org/news room/latest news/pressreleasesnc/2010/20100602nacedoniabusiness(accessed 22 April 2011).10101010
- **Vujakovic, Petra.** 2010. "How to Measure Globalization? A New Globalization Index (NGI)". *Atlantic Economic Journal*, vol. 38, issue 2: 237-237.