

Income Inequality And The Level Of Corruption In Europe: Specifics Of Post-Communist Countries

Abstract

This paper analyses the relations between income inequality and corruption (measured by Control of Corruption) in Europe. It looks specifically on post-communist European countries. It argues that in the case of post communist countries, the associations between corruption and income inequality are more complicated than in the rest of Europe and thus different approach in combatting corruption must be taken.

Keywords: corruption; Europe; Gini coefficient; post-communist countries;
quantitative

Introduction

Many social scientists have tried to discover and describe the root causes of corruption. This task is complicated by the fact that corruption is a clandestine activity, which makes it very difficult to measure and to detect its true effects, as well as its underlying causes. In fact, the real level of corruption is impossible to measure; therefore the dependent variable used in this paper does not measure corruption per se, but rather proxies. Therefore in this paper, the term “corruption” is used even though it is rather perception of corruption or notion of corruption than the real corruption.

Moreover, corruption is in this paper analysed only on the European level as opposed to including all the world countries into the analysis. Authors discussed in this paper suggest several variables as being connected to the level of corruption in a country. However, most of these authors conducted their research on a global level and they did not take into account different cultural backgrounds of the countries. Corruption is a very complicated phenomenon, and probably behaves differently in different cultural contexts. Cross-country analysis, which includes only European countries that share common culture, could show the validity of previous research. This paper therefore looks at whether the variables, which influence the level of corruption on a global level, behave similarly when tested only on a European level. Taking into account only European countries also allows for a more specific focus on a special case of post-communist countries, which were the last countries to have undergone the transition to democracy in Europe.

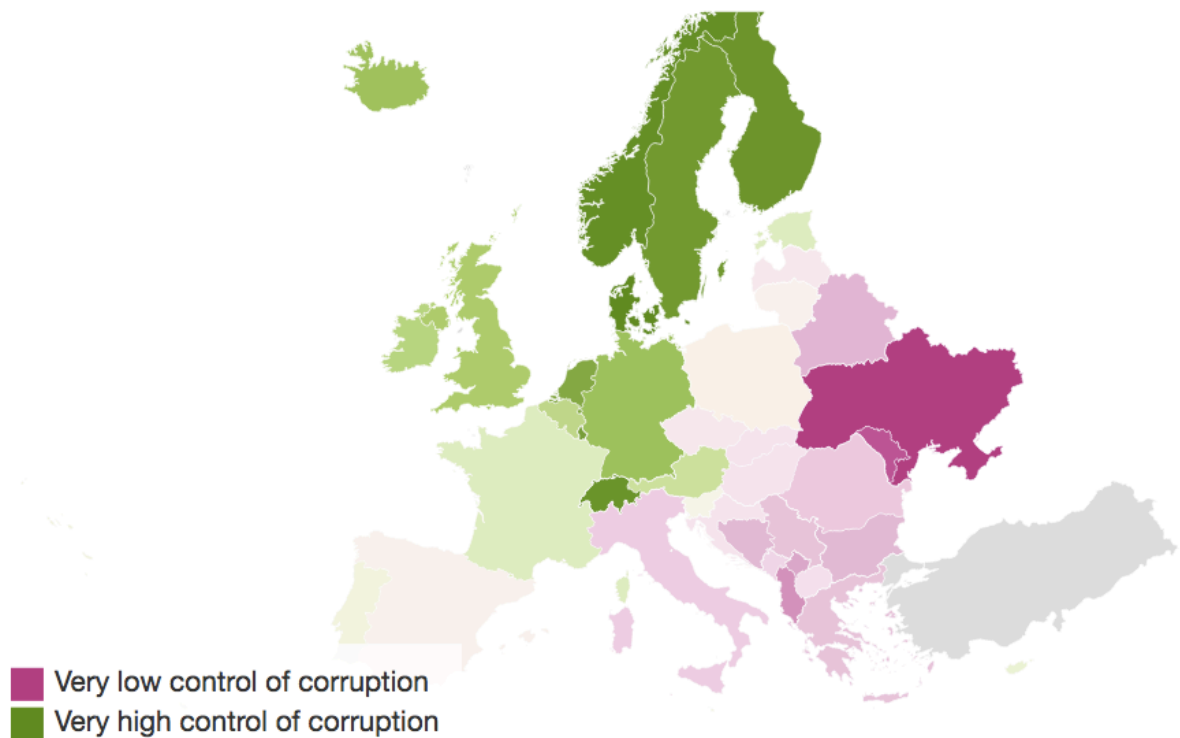
One would expect that European countries could have similar development of corruption, being culturally similar and geographically very close to each other. However, political and economic development of European countries was interrupted when communist regime divided Europe into west and east for almost half of century. States under communist regime developed under very different conditions. Today, 25 years after the fall of the iron curtain when Europe was reunited, thanks to the

European Union and to globalization the countries are influenced by each other and united as never before. However, even after 25 years, European countries with a communist history have in general higher levels of corruption (Shleifer, 1997) than the rest of Europe and political corruption is there in fact a serious problem (Karklins, 2005; Kostadinova, 2012). It is suggested (Rose, 2001, p. 105; Rose-Ackerman, 1999) that corruption is the greatest obstacle to progress and to democratization in post-communist societies and that corruption may damage the public trust in the government and consequently may erode the legitimacy of the newly established democratic institutions (Kostadinova, 2012). The reason behind this phenomenon is still not clear and even though there is literature explaining corruption on a global level, the application of these theories on the European level with a special focus on a difference between post-communist countries and the rest of Europe is underdeveloped. Moreover, literature focusing on the differences among post-communist countries concerning the reasons behind the corruption levels remains deficient (Karklins, 2005). That is therefore the crucial question, which remains unanswered until today. Hypotheses set by previous social scientists will be therefore tested on a dataset divided by the country's history. The results will show if post-communist countries today, more than a quarter of a century after the collapse of communism, behave as European countries which never experienced the rule of communism, or if there is a different pattern concerning corruption in these countries, which remains a puzzle not solved until today. Are post-communist countries different in their development and nature of corruption from the rest of Europe or can corruption be explained by classical theories, which work on the global level? As nobody has answered this question yet, this research is crucial not only from the academic point of view but also for policy reasons. If it is the case that classic theories do not work, it is pointless to base the policies on these theories. This paper therefore wants to fill the gap in research of corruption in the case of post-communist countries and answer the question whether post-communist countries behave similarly as European countries, which never had communist rule or if the corruption reality is significantly different.

1.1. Corruption in Europe

This chapter uses descriptive statistics to show and discuss the development of corruption in European countries. Specifically, it discusses the differences between countries that experienced communist rule and the rest. Corruption in European countries is on a much lower level compared to the most of the world; especially Scandinavian and Western European countries consistently hold the top places as countries with the lowest levels of corruption. However, even though corruption in Europe in general is very low, post-communist European countries are an exception with levels of corruption consistently high as warns for example the World Bank through its indicator Control of Corruption (Figure 1).

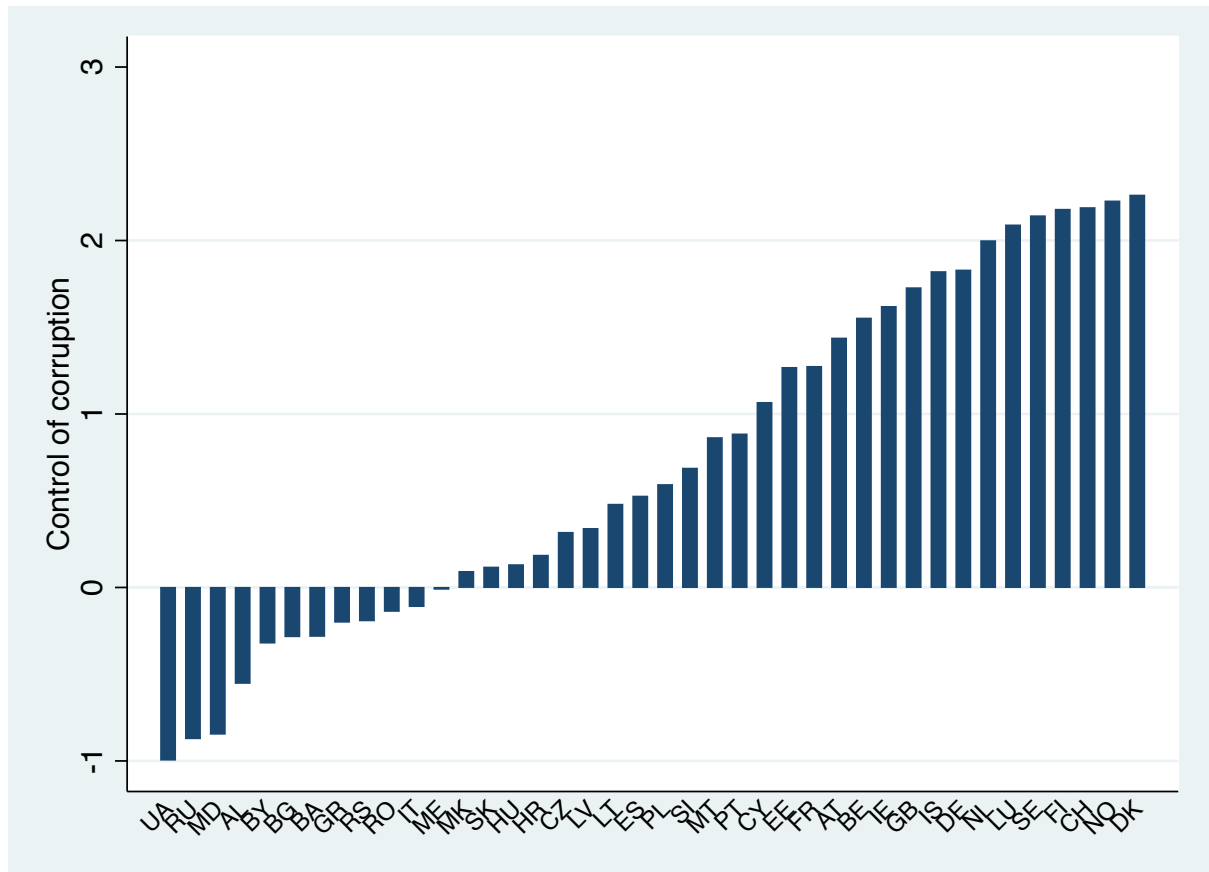
Figure 1: Control of Corruption, map - 2014



Source: World Bank. Control of Corruption shows how the countries are successful in controlling corruption, the indicator goes from -3 to 3, while 3 indicates that country is successful in controlling the level of corruption.

Figure 1 shows that indeed, even today, there is a difference between post-communist countries and countries, which have never had communist rule. Figure 2 is a different visualisation of the same data showing more straightforwardly the ranks of countries in Control of Corruption.

Figure 2: Control of Corruption, 2014

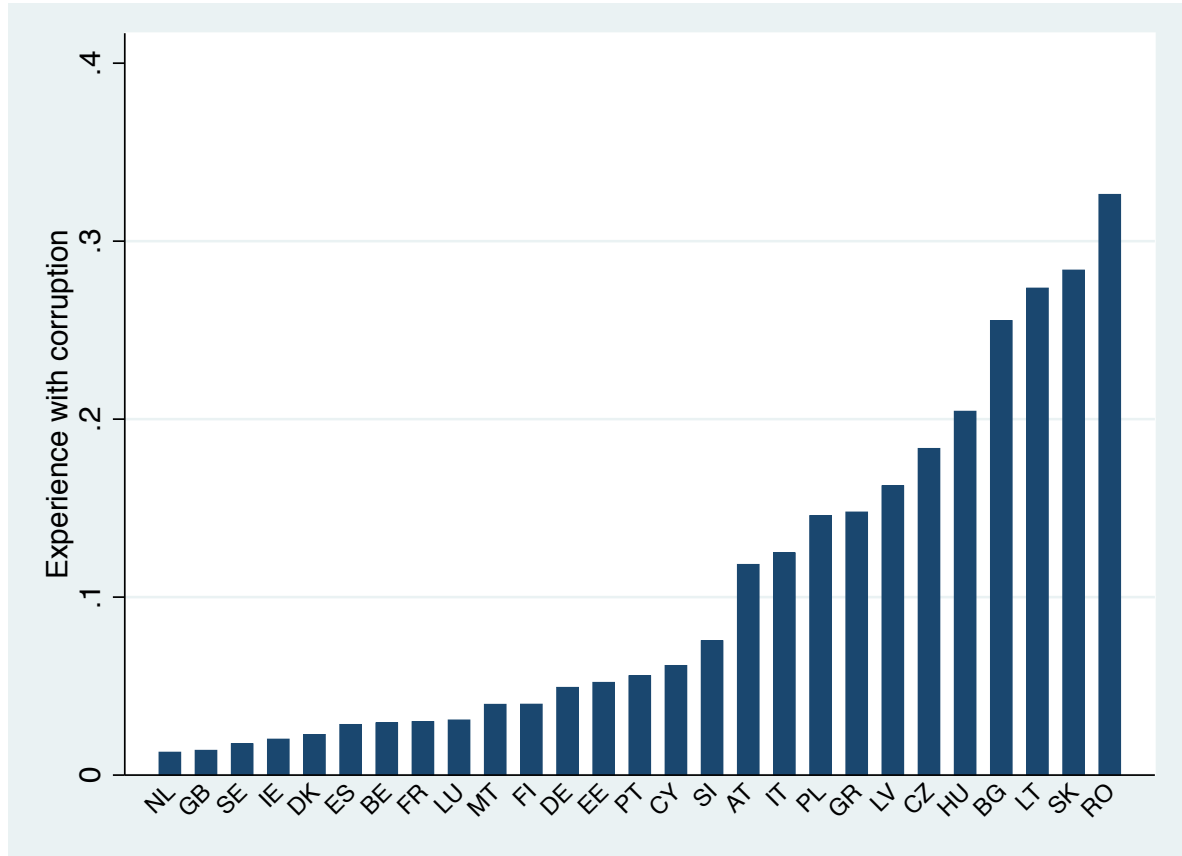


Source: World Bank. Control of Corruption shows how the countries are successful in controlling corruption, the indicator goes from -3 to 3, while 3 indicates that country is successful in controlling the level of corruption.

In general, post-communist countries have Control of Corruption around or below zero, which means they have relatively low Control of Corruption. The rest of European countries have Control of Corruption over zero, meaning in general higher control over corruption. Of course the division is not perfect, Greece is doing very poorly as being eighth from the bottom, followed by Italy, which is eleventh from the bottom. On the other hand, Estonia is clearly the winner of post-communist countries

and Slovenia and Poland are not doing badly either. Similar results can be observed through direct experience with corruption (Figure 3).

Figure 3: Direct experience with corruption, Eurobarometer 2011



Source: Eurobarometer 2011, Share of respondents who were in touch with bribery

One of the surveys measuring direct experience with corruption conducted on the European level is a survey done by the Eurobarometer in 2011. The question was worded: “Over the last 12 months, has anyone in [your country] asked you, or expected you, to pay a bribe for his or her service?” Figure 3 shows the answers for this question as average of each country. One can observe that the experience with corruption varies quite a lot among countries, out of 27 countries; in 12 countries less than 5 % of the respondents experienced a request for bribery. However, on the other hand in Romania, more than 30 % of respondents experienced corruption. Also, we have to keep in mind that Eurobarometer surveys only member states of the EU, therefore the most corrupt countries such as Ukraine or Belarus are not included here. The line between post-communist countries and the rest of the countries is quite clear with exception of Greece and Italy on one side and Estonia on the other.

1.1.1. Structural approach

First set of theories explain corruption from the top to down, meaning that structural or governmental factors can explain the extent of corruption, and also the success of the fight against corruption. These theories argue that these factors are more important in influencing corruption than cultural factors. There exist two main theoretical areas in the literature, one is governance or the institutions and their quality and second is the economic situation, in our case GDP per capita and income inequality. Obviously, these different influences are interconnected, the quality of institutions can influence economic performance and vice versa (Acemoglu & Robinson, 2008; Lomborg, 2004), it is therefore impossible to define precisely the amount of influence of each variable on corruption and also which variable came first in the chain of influences.

There are several other structural variables which were empirically observed to be correlated with corruption, such as common law legal system (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1999), Britain's former colonies (Treisman, 2000), or country oil reserve (Arezki & Bruckner, 2009). However, none of these variables are relevant in the case of European countries, because there is very low variability; it is often only one or two countries, which differ from the others, which would hinder the analysis.

1.1.2. Cultural approach

Theories in this approach focus on culture and its influence on the level of corruption in a country. The authors of this approach look at different cultural traditions and values as sources or reasons for corrupt activities. The idea is that some societies have such culture factors, which are related to behaviour promoting corruption (Wraith & Simpkins, 1963). As discussed in this chapter, these factors might be very different, from values to trust. One of the most prominent examples is for example Banfield's concept of amoral familism (1958), which is a concept inspired by Italian village where inhabitants lacked completely the notion of social capital and put the interests of their own family much higher than those of society, or Weber's Protestant spirit (1920) discussed in detail below.

It seems that cultural factors might be very helpful in explaining different levels of corruption in different countries, and they might be equally helpful in explaining the boost of corruption in post-communist countries. Does communism bring different culture, which gives incentives to people to start behaving corrupt? The problem is that cultural factors change very slowly, however, was communist rule long enough in order to change culture? Moreover, due to the low variance of cultural factors over time, it is perceived that cultural factors influence corruption, and not the other way around (Rose-Ackerman & Soreide, 2006, p. 17). There are several cultural factors, which are found to be plausible in explaining the level of corruption, and those are religion, interpersonal trust, and values.

Methodology

There is an on-going academic debate on how to measure corruption and whether it is even possible to measure it. Corruption is a clandestine activity and there are no official statistics on the number of corruption cases. Unlike most other criminal activities, in the case of corruption, there is no motivation to report the cases to the police. Both the parties involved in corruption have an incentive to hide this activity (unlike theft, etc). Due to the hidden nature of corruption there are no direct ways to measure it, nevertheless there are several indirect ways of getting information on the level of corruption in a country (Tanzi, 1998). Disadvantage of indirect measurement is that it is not clear whether these indirect measures are correct, whether they measure the real level of corruption or something else.

Measuring corruption have undergone a long process of evolution, today, we can talk about first, second, and third generation of indicators measuring corruption. The first generation includes composite indices, which are based primarily on expert opinions, which first appeared in the mid-90s of the 20th century. Composite indicators are until today the most widely used method of studying corruption, but they are heavily criticized from a methodological and theoretical point of view, such as wrong selection method or free-riding. In response to this criticism, some institutions began to publish opinion polls and surveys of companies where the respondents are surveyed on direct experience with corruption and their views on widespread

corruption. Direct experience with bribes may seem as an objective method to detect the prevalence of corruption, but there are also major problems. Experience with corruption of citizens and among businesses shows only a small section of corruption. Moreover, corruption is a sensitive subject and respondents may lie or, in the case of corruption perception, respondents might be influenced by the peers or the media. Given that neither of these methods is able to reliably capture corruption, in recent years indicators called the third generation are appearing. These indicators do not aim to describe corruption in its whole range, but rather seek to find hard data in a specific area of corruption. The method is to capture a real level of corruption or a risk of corruption in a specific area with the help of already existing data. Indicators of the third generation is a new method of measuring corruption, these indicators are thus so far limited to a certain area in a certain country and the possibility of international comparisons are still very limited (but first attempts have already appeared as discussed below). Table 1 shows the three generations of the most widely used measurement of corruption and example of that generation¹ and further characterizes advantages and disadvantages of each method.

Table 1: Methods of measuring corruption

| Generation | Example | Advantages | Disadvantages |
|-------------------|--|--|---|
| First generation | Composite indices (TI, WB) | Oldest, highest number of countries | Unclear, non transparent methods, validity |
| Second generation | Public opinion polls (Eurobarometer, ESS, ISSP) - experience | Real experience with bribery | Respondents might lie, higher non-response, only measures bribery |
| | Public opinion polls (Eurobarometer, ESS, ISSP) - perception | Influence on policies, micro-analysis | Might measure public's content with polit. Or econ. situation |
| | Company surveys (BEEPS, Eurobarometer) | Relevant, objective, measure real experience | Only one area of corruption, respondents might lie |

¹ This paper presents only the most used and well known indicators and indices measuring corruption on the European level, for an overview of wider selection of indicators on the world scale please see for example Malito (2014).

| | | | |
|------------------|------------|---|--|
| Third generation | IPI, Olken | “Hard data”, measure real risk or level of corruption | So far only first attempts for international comparison |
|------------------|------------|---|--|

Until now the most widely used indicators have been composite indicators either by the WB (CC) or TI (CPI). Even though CPI is older by one year and has more time points, CC uses more data sources, it covers more European countries, and it also has not changed the methodology over the years as CPI has, therefore the indicator is comparable over time. CC is also more user friendly as it allows downloading all the data in one excel file. For these reasons CC by the WB should be chosen over the CPI by the TI.

Data

For the analysis 40 European countries are used as being the full sample of Europe². Of the countries included, 20 do have a communist past and the rest (20) do not. Table 2 shows countries included into this analysis and their abbreviations.

Table 2: Countries and their abbreviations

| | | | |
|----------------|----|-------------|----|
| Albania | AL | Lithuania | LT |
| Austria | AT | Luxembourg | LU |
| Belarus | BY | Macedonia | MK |
| Belgium | BE | Malta | MT |
| Bosnia | BA | Moldova | MD |
| Bulgaria | BG | Montenegro | ME |
| Croatia | HR | Netherlands | NL |
| Cyprus | CY | Norway | NO |
| Czech Republic | CZ | Poland | PL |
| Denmark | DK | Portugal | PT |
| Estonia | EE | Romania | RO |
| Finland | FI | Russia | RU |
| France | FR | Serbia | RS |
| Germany | DE | Slovakia | SK |
| Greece | GR | Slovenia | SI |
| Hungary | HU | Spain | ES |
| Iceland | IS | Sweden | SE |
| Ireland | IE | Switzerland | CH |

² Turkey is not included even though it is sometimes categorized as European country.

| | | | |
|--------|----|----------------|----|
| Italy | IT | Ukraine | UA |
| Latvia | LV | United Kingdom | GB |

The hypothesis is presented below:

H1: Control of Corruption will be higher in countries with lower income inequalities

H1a: In post-communist countries this relation will be weaker

This hypothesis is based on literature and research, which found that there is relation between income inequality and corruption; specifically that high income inequality is associated with higher corruption. In the case of post-communist countries this relation might be weaker due to the low income inequality in general which is due to the history of communism.

For the analysis the European Social Survey (ESS), UNU-WIDER, Eurostat, ARDA, WVS, and World Bank (WB) data are used as the sources for the dataset. The time frame consists of all the years, which are covered by the Control of Corruption by the WB, which is 1996-2014, which is almost 20 years. It is therefore possible not only to analyse pooled data or the state of corruption today, but also the development of corruption across both European countries and time. Not all the countries were surveyed in all the waves for all the questions concerned, so the dataset is not balanced, however, in total there is 990 country waves. OLS regression analysis is performed in order to determine the effects of various variables on corruption, for this pooled data is used and data split into different waves by five years. Finally, for the analysis in time multilevel methods are used.

Structural variables

Two economic variables are tested, which have been found as being important for the level of corruption, that is GDP per capita and income inequality measured by the Gini coefficient.

For the GDP per capita the World Bank data is used (given the highly skewed nature of GDP it is important to log the indicator to have more normal distribution appropriate for the regression analysis). For the measure of inequality the Gini

coefficient measured by UNU-WIDER and also by Eurobarometer is used. UNU-WIDER takes data on income inequality from various sources and puts them together based on their reliability. The latest update in the database from UNU-WIDER is only in 2012; therefore for more recent data Eurostat's database is used. UNU-WIDER used Eurostat as one of their sources for their database as well, therefore the data is comparable. The data on income inequality and GDP per capita used in this paper cover the whole analysed period, 1996-2014.

Cultural variables

For the cultural indicators (share of Protestants, values and interpersonal trust) the data from the European Social Survey, ARDA, and WVS are used. With the exception of data on share of Protestants (ARDA database), the data is based on public opinion surveys, not on databases, they do not cover all year in the analysed period, the analysis is therefore weaker due to this point and it is also the reason why are the data grouped into the periods of five years for some of the analyses. Even though the data on interpersonal trust and values can be obtained from different datasets and potentially the coverage might be larger, this approach would not be methodologically correct. The reason for this is that different surveys use very different methods, as is was clearly shown in the methodological chapter about measuring corruption, and merging different surveys into one variable is highly problematic and the advantage of having higher coverage does not outweigh the problem of different methods across surveys.

To discover the share of Protestants in a country, the data from ARDA are used, which provides data on the percentage of population practicing religion in each state for every five years. Data for the large number of years separately exist; however, the share of Protestants is available only every five years. For the reason that this share does not change significantly from one year to another interpolation is used to fill the missing years and increase the number of observations.

Finally, ESS is used as the resource for interpersonal trust and values as the data is gathered every two years since 2002 in almost in all European countries. For the question on trust, the respondents were asked whether they believe that most people could be trusted (10), or whether they think that a person cannot be too careful in trusting others (0). The data shows the average opinion of a country's respondents in a

given year. For the data on values Schwartz security values described in chapter 2 are used. These data show which share of the country states that values such as safety, harmony and stability of society, of relationships, and of self (family security, national security, social order, clean, reciprocation of favours) are important for them. The data is weighted and analysed in line with the methodology proposed in the ESS (Schwartz, 2007). Higher number in the model means lower security values.

Results

I fitted four regression models, each one for the different wave. Table 2 shows results of 4 waves. Gini coefficient is not significant in any of the wave.

Table 3: Regression analysis - Determinants of corruption

| | 1.1. 1995-1999 | 1.2. 2000-2004 | 1.3. 2005-2009 | 1.4. 2010-2014 |
|-------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| GDP per capita (ln) | 0.45* (0.149) | 0.528* (0.111) | 0.531* (0.102) | 0.602* (0.122) |
| Gini coefficient | -0.01 (0.022) | -0.01 (0.015) | -0.017 (0.016) | -0.022 (0.02) |
| Post-communist country | -0.56 (0.312) | -0.439* (0.216) | -0.396 (0.211) | -0.267 (0.237) |
| Share of Protestants | 0.852* (0.283) | 0.929* (0.211) | 0.879* (0.249) | 0.822* (0.303) |
| Democracy | 0.06* (0.02) | 0.033 (0.023) | 0.039 (0.022) | 0.04 (0.025) |
| Intercept | -3.31 | -4.05 | -4.09 | -4.75 |
| Adjusted R² | 0.88 | 0.91 | 0.88 | 0.84 |
| Number of cases | 36 | 39 | 39 | 39 |

*p < 0.05

To understand better the associations, I fit new model, using panel data analysis. results in table 3.

Table 4: Panel data- Determinants of corruption

| | Model 3.1 | Model 3.2 |
|--|------------------|------------------|
|--|------------------|------------------|

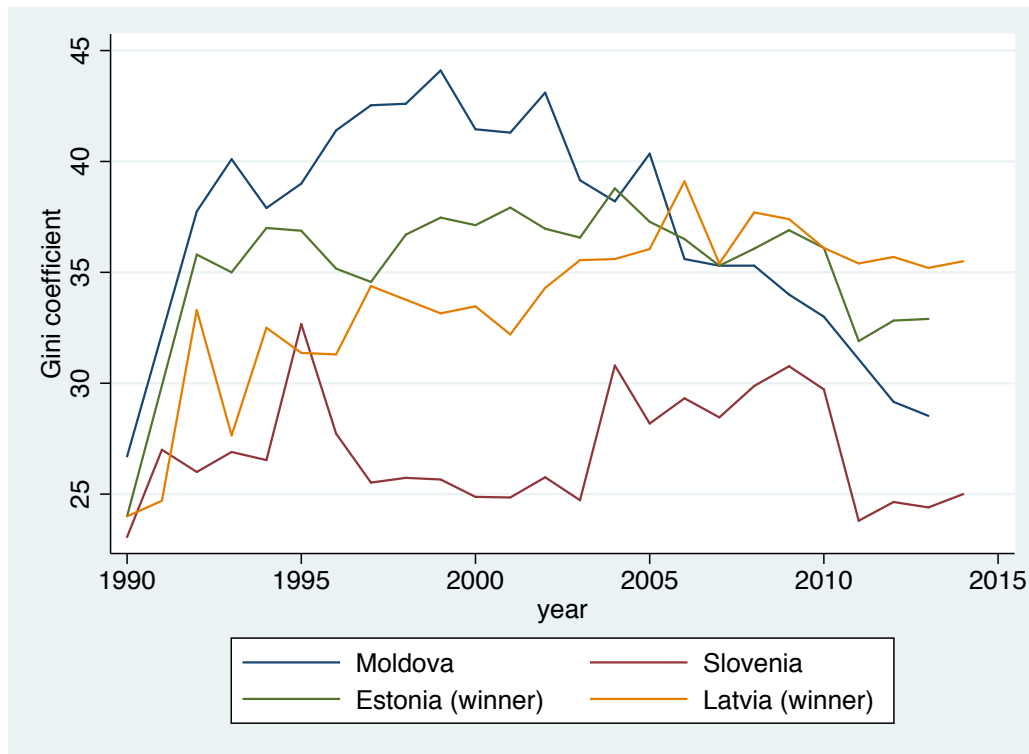
| | | |
|--------------------------------------|---------------|----------------|
| Ln GDP per capita | 0.25 (0.05)* | 0.26 (0.05)* |
| Gini coefficient | -0.003 (0.03) | -0.01 (0.004)* |
| Communist history | -0.93 (0.15)* | -1.47 (0.25)* |
| Communist history*Gini coeff. | | 0.07 (0.006)* |
| Share of protestants | 1.12 (0.204)* | 1.06 (0.207)* |
| Democracy | 0.04 (0.007)* | 0.04 (0.007)* |
| Intercept | -1.566 | -1.379 |
| sigma_u | 0.336 | 0.4 |
| sigma_e | 0.174 | 0.173 |
| rho | 0.788 | 0.795 |
| Nb of observations | 419 | 419 |
| Nb of groups | 39 | 39 |
| F (Wald chi) | 384.2 | 385.12 |
| Prob>F | 0.000 | 0.000 |
| corr(u_i, Xb) | 0 (assumed) | 0 (assumed) |

*p< 0.05

As model 3.1. in table 3 shows, Gini coefficient is not significant predictor of corruption. In order to explore more, I include interaction between Gini coefficient and being post-communist country, the results can under Model 3.2. According to theories, lower income inequality should be associated with less corruption, however, according to our results, the association is the opposite – e.g. more income inequality is associated with less corruption, however, just in the case of post communist countries.

Finally, we look into specific countries within the group of postcommunist countries. As Figure 4 shows, the winners of the race into low corruption – Latvia and Estonia – have both quite high Gini coefficients, therefore high income inequality. With the exception of the very first years after the fall of the iron curtain, when the Gini coefficient increased very quickly, there were not very significant changes in the income inequality. Latvia's Gini coefficient is slightly increasing and Estonia's decreasing. On the other hand, the Gini coefficient of Moldova and Slovenia is very low, especially in the case of Slovenia.

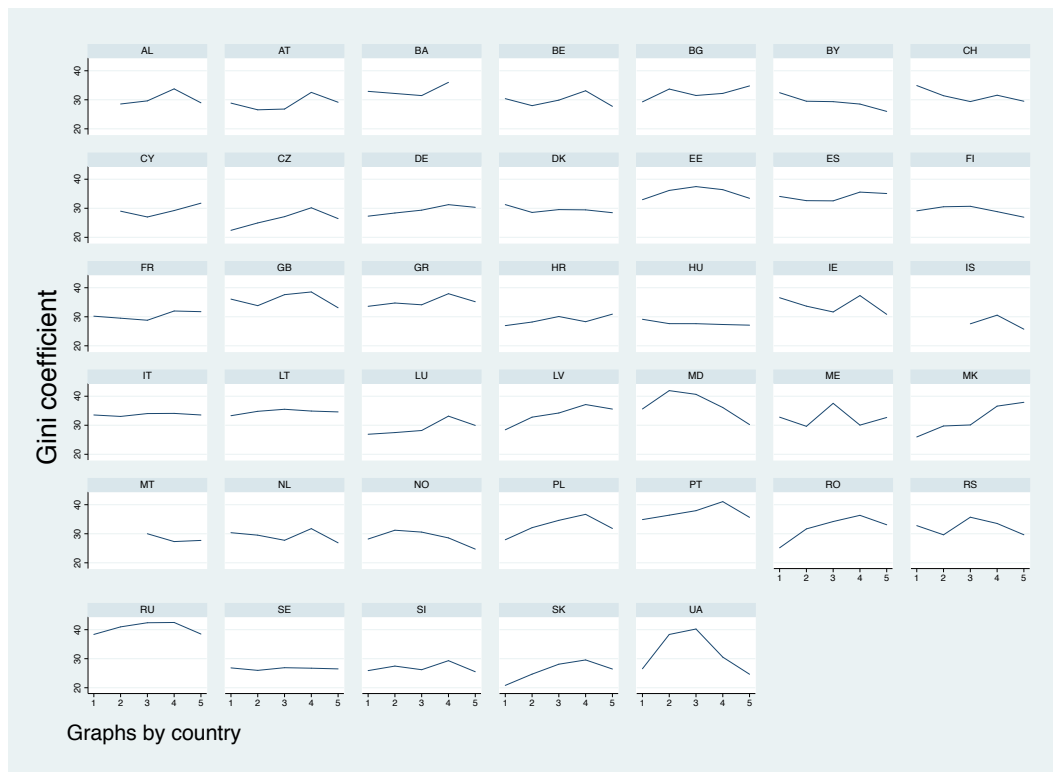
Figure 4: Winners and losers of control of corruption



These results show that indeed, in the case of post-communist countries, the Gini coefficient has very opposite influence on the control of corruption than expected based on theories and also on the results on a global and European scale.

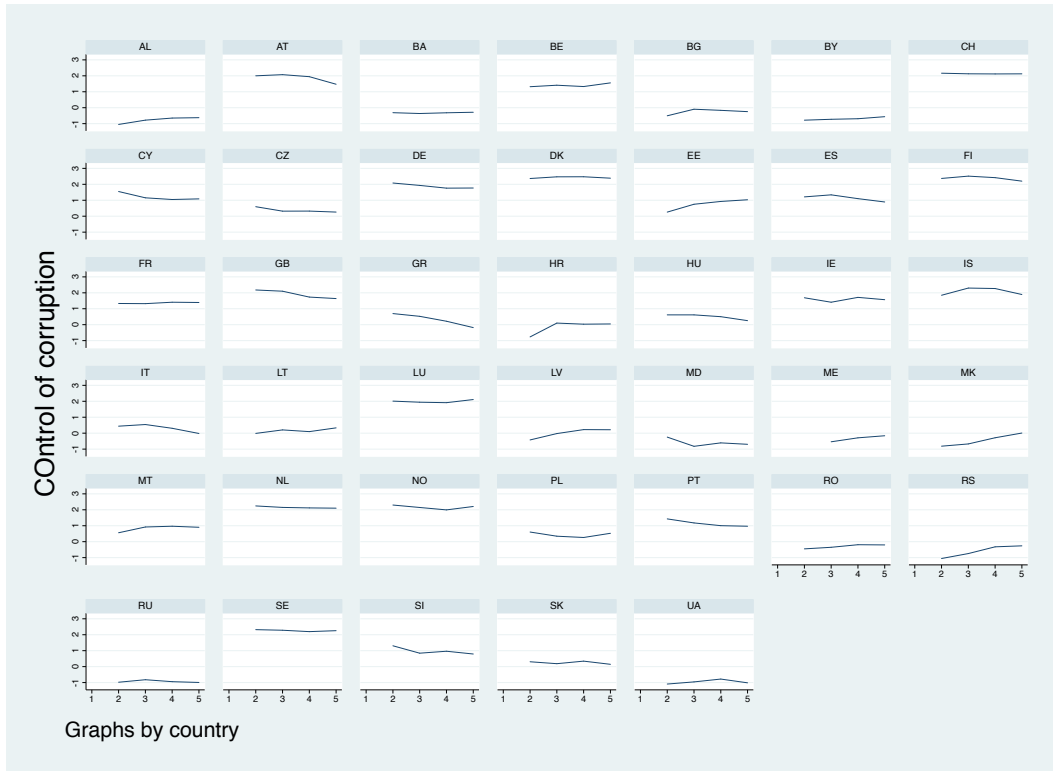
Annex

Figure 5: Development of Gini coefficient in Europe



Source: WB

Figure 6: Development of Control of corruption in Europe



Source: WB

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