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What is the contribution of the theory of
redistribution systems to the theory of corruption?

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Abstract

Milan Palát, Petr Wawrosz, Tomáš Otáhal: **What is the contribution of the theory of redistribution systems to the theory of corruption?**

Scholars making economic policy recommendations to resolve corruption problem use several approaches, the most dominant of which are the principal-agent and rent-seeking theories. In this paper, we argue that the principal-agent theory has problems accounting for the environment in which the agents offering and accepting corruption operate, as well as explaining the importance of the agents for the survival of their environment. The rent-seeking theory, on the other hand, finds it difficult to establish socially effective legislation and ways to determine the barriers to entry that motivate agents to behave corruptly. Both problems, however, are vital for solving the problem of corruption. Lacking the knowledge of the agent's environment (system) and their significance for the survival of the system, the theory cannot define incentives that would discourage the agent from acting in a corrupted way. If the rent-seeking theory does not determine the barriers to entry that motivate agents to behave corruptly, it cannot determine the proper legislation that would deter corrupt behavior and lead to economic development. For these reasons we investigate if both problems can be explained and solved within the alternative theory of redistribution systems and its part - the theory of parallel redistribution games.

Key Words

Corruption, redistribution system, parallel redistribution game, game theory

JEL: D72, D74, D82, C71

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Introduction

Corruption is considered to be one of the most serious dangers which threaten a democratic society (Bardhan 1997, Lambsdorff 2007). Therefore, many forms of corruption are regarded as criminal acts and they are penalized by police and other relevant state authorities. Nevertheless, in order to be able to fight corruption effectively, a democratic society needs not only practical methods for this fight, but also an effective theory which defines the forms of corruption, how these forms threaten the society, which methods of fighting are effective and which are not.

Corruption is one of the forms of human action (Mises 1949, Otáhal 2006). Economics as a science about human action belongs necessarily among the disciplines which should address corruption on a scientific level. In this discipline it is pointed out that corruption is a voluntary action of both, a person who is being bribed and a person who is a provider of a bribe, and it brings some benefit to both sides (Treisman 2000, Lambsdorff 2007, Colombatto 2003, Otáhal 2007b). From this standpoint there is nothing wrong with corruption. But the resources used for the corruption should not be used for anything else. Corruption harms a third party which doesn't participate in the corruption contract - the economic theory (Lambsdorff 2007) points out that corruption means no benefit to a third party. The standard economic theories explaining corruption are 1. Principal agent theory, 2. Rent-seeking theory. We think that neither of these explains the issue of corruption sufficiently. In our opinion, they both are narrow-minded and there is a need of a more general theory. The article explains why, in our view, the principal-agent and the rent-seeking theories fail. Our explanation shows that the theory, which is aimed at defining corruption effectively and at evaluating methods of the fight against it, has to: 1. describe the corruption environment and 2. define the importance of a corrupted person and of a bribed one for the survival and development of the corrupted system. An effective theory which seems to be able to do so is the theory of redistribution systems (Valenčík and Budínský 2009) and a parallel game theory (Valenčík 2008). First, the article deals with a general definition of corruption including why corruption represents a problem. The above mentioned theories are then defined in detail (principal agent theory and rent-seeking theory), including their weak points. The article also shows that by combining the above mentioned theories, their weak points can be partly removed. Then the nature of redistribution and parallel game theories are explained. Selected practical examples are then analysed. The conclusion summarizes the main findings of the paper.

1. Theory of corruption: Description and Difficulties

Corruption is a term which denotes a specific contract between at least two people - a corrupter and a person being bribed. Through such a contract a corruptor promises that he/she will provide a service (which can be of a monetary or non - monetary nature) to a bribed person, under the condition that this person gives a particular advantage to the corruptor (such an advantage can be of a tangible or non-tangible nature).

Within such a context corruption is a result of human action (Ackerman 1999, Otáhal 2006, Lambsdorff 2007). The parties of corruption are guilty because corruption brings them some benefits. From the point of human action, the aim of which is to increase some benefits, corruption does not constitute a problem - it is a mutually advantageous exchange (Kohn 2004). We condemn corruption out of a different reason: there is a third party (neither a corruptor, nor a bribed person), to whom corruption gives some harm, the corruption is not in the interest of this third party. For example, company A can be a third party – it did not obtain an order because it was given to company B – a corruptor. If there was no corruption, the order would be given to company A. In this case, due to the corruption, the income and benefits of company A (the third party) were reduced.

Let us assume that the offer (response to the public tender) of company A is more advantageous than the offer of company B. Thus there are more people affected by corruption. In the case of a public tender, where a public clerk was bribed, all citizens are harmed because if there was no corruption, the difference in the price (or quality) which is offered by company B (a corruptor) and that offered by company A (the third party) could be used for the benefit of citizens. If a manager of a private company is bribed (so the tender is not of a public nature), then all owners of the company are in harm - corruption reduces their income.

We believe that our definition is consistent with the frequently mentioned definition of corruption (Nye 1967, 418): „behaviour which deviates from the normal duties of a public role because of privately-biased (family, close private clique), pecuniary or status gains; or violates rules against the exercise of certain types of privately-biased influence. This includes such behaviour as bribery (use of reward to pervert the judgment of a person in a position of trust); nepotism (bestowal of patronage by reason of ascriptive relationship rather than merit); and misappropriation (illegal appropriation of public resources for privately-biased uses)". However, in contrast to this definition, we believe that corruption does not occur only in the public sector. We think that corruption may occur anywhere, where a corruptor and a bribed party breach duties set by some norms (from the economic point of view - by an institution), regardless of whether it is a legal norm (an official institution) or a non-legal

norm (unofficial institution). Rules set within a company represent an example of an unofficial institution.

As corruption reduces the income or benefit of a third party - it puts it into disadvantage and, on the contrary, it puts parties of a corruption contract into advantage - it is condemned and penalized. The stated attitude towards corruption can be described on the basis of the above mentioned principal-agent theory. According to this theory, one party of a contract (the principal) hires the other party (the agent) to perform some tasks according to some pre-defined rules. However, the interests of an agent may contradict the interests of the principal and the agent may not fulfill the tasks set by the principal. The agent is considered not to have fulfilled the tasks, if he/she breached the rules set by the principal (Jensen and Meckling 1974, Perloff 2008). The unfulfilment of the principal's tasks by the agent does not in itself mean corruption - such an action becomes corruption only when the agent does not fulfill tasks because he/she accepted a bribe from someone else other than the principal.

In general, it is possible to state that through corruption an agent accepting a bribe and acting against the tasks which were given to him/her by a principal, violates ownership rights of the principal. For example, if a manager of a private company puts a certain company in advantage based on corruption, he/she violates ownership rights of the company. If corruption is performed by a clerk, he/she violates rights of all citizens. We can therefore agree with the opinion of Benson and Baden (1985) who consider corruption to be an illegal market with ownership rights because corruption violates rules set by a principal in a hidden way, so that the violation is not discovered.

The relationship between a principal and an agent can be encumbered by an asymmetry of information. It may be rather difficult for a principal to monitor whether an agent follows his/her instructions (Perloff 2008). In such a case an agent can be tempted to violate the principal's instructions. However, a principal has some instruments which may eliminate an agent's temptation to violate instructions. A principal may develop a system of incentives which motivate an agent to act in accordance with his/her desires. Such incentives can be divided into two categories - rewards (an agent is rewarded if he/she acts in accordance with instructions of a principal) and punishments (an agent is punished when he/she acts against principal's instructions). However, the reward and punishment cannot be separated from each other. If principals want their agents to behave in a required way, they cannot use only one or the other. We can see a certain analogy with entrepreneurs – when doing business, they have to take into account that if they take a wrong decision, they will fail. The threat of failure forces entrepreneurs to seek for right decisions. Similarly, agents must take into account that, if they breach instructions given by a principal, they will be

punished. The threat of punishment forces agents not to deal in contradiction to instructions of a principal. On the other hand, the threat of failure itself does not sufficiently stimulate an entrepreneur to look for profit opportunities (that means to take right decisions). It is a profit - a reward, which he/she wants to attain, which represents a stimulus. Similarly, an agent must be rewarded (must obtain something which he/she would not obtain otherwise), when he/she follows the instructions of the principal.

Let us now limit the cases, when an agent acts contrary to instructions of a principal, to only those regarded as corruption. Agents and principals may be members of both - a private and a public sector. As stated above, corruption is often (Spector 2005) restricted to the corruption of agents who operate in a public sector. It is usually easy to define an agent – in most cases it is a member of a public sector institution (eg. a clerk of a ministry, of a regional or municipal authority, an MP, etc.). It is somehow more difficult to define a principal. It could be an organization with which a principal has any kind of relationship (membership, service contract, employment contract, etc.). However, such an organization can be established for a certain purpose in order to satisfy public or social needs. In other words, such an organization can be regarded as an agent of a principal. In this case the principals would be citizens of a particular territory who established it. In the case of state organizations, it is citizens of the whole territory who are principals (parliament, ministries are regarded as agents of citizens). In the case of regional organizations, only citizens who live or have a long-term residency in the given territory are principals (local councils and municipal authorities can be regarded as agents). We can also find multinational agents – eg. EU bodies can be considered as agents of all citizens of membership countries. Even though the opinion that a certain public (or international) organization is an agent of a particular group of citizens is unusual (Lambsdorff 2007), we consider it to be substantial, as it is an environment which defines how serious the corruption is. In other words, agents of various environments violate various ownership rights, while individual violations have a different significance. For example, in our opinion, the breach of duty of a policeman who accepts bribes is more serious than the breach of duty of a waiter who better serves those guests who gave him a tip, even though, according to his/her principal's instructions (an owner of a restaurant), the waiter is supposed to behave similarly to all of his/her guests.

Why do we stress the above-mentioned? We think that the principal-agent theory, by itself, is unable to define an environment (organizations) in which corruption occurs. If it is unable to define it, then it is unable to define the significance of agents for the survival and development of organizations, and thus it is unable to define a correct system of rewards and punishments which would prevent us from corruption.

The rent-seeking theory regards rent-seeking as behaviour which, in a certain institution (an environment with official and unofficial rules), supports individuals to maximize their benefit in such activities which are for the institution non-effective – they result in a loss for the institution. According to the dynamic version of this theory, it is artificial barriers to entry which stimulate such a behaviour (Buchanan 1979, Otáhal 2008a). According to the rent-seeking theory, corruption occurs in such cases where artificial barriers to entry are created by means of bribes or other undesirable behaviour (lobbying, etc.). Such barriers are created through a political process in which a group of entrepreneurs tries to make the state (or its part) create such barriers (Tollison 1982, Tullock 1996, Otáhal 2008a). It should be pointed out that corruption does not occur in such cases when an entrepreneurial subject provides a bribe so that artificial barriers to entry are removed or at least lowered.

Therefore the rent-seeking theory does not regard corruption as a voluntary exchange of two parties, in the consequence of which ownership rights of third parties are violated and their benefit lowered. The rent-seeking theory observes the consequences of a certain behaviour – corruption occurs when a certain behaviour creates artificial barriers to entry, which lowers a benefit of the society. As a solution, the rent-seeking theory suggests to reduce artificial barriers, or more precisely, to reduce the possibilities of the state to create them (Otáhal 2008a). Such a recommendation has a problem, as some barriers to entry may be socially effective and may increase a benefit to the society. As an example we can state the barriers to entry into the financial sector - these barriers may, at least partially, prevent persons who have clearly fraudulent intentions (to make gains through this action), from establishing financial institutions. As Rizzo (1979) points out, the definition of social effectivity is problematic because the effectivity can be defined only in relation to the goals which are to be achieved by an acting person. However, individuals have various goals and thus, it is not possible to state, if a certain behaviour is effective from the social point of view.

2. Theory of redistribution systems and corruption

The preceding text indicates that the two major economic theories that deal with the problem of corruption face certain difficulties. The principal-agent theory has difficulties with defining an environment in which agents offering and accepting corruption operate. Logically, it then encounters problems with defining the significance of agents for the survival and development of organizations in such an environment. The rent-seeking theory has a problem with defining effectivity of artificial barriers to entry. Then it faces a problem with defining the rules which do create artificial barriers and those which do not. In general, the rent-seeking theory has a problem with creating means (incentives) leading to a non-corrupted behaviour of individuals. In order to tackle the issue of

corruption successfully, the solution of the problems of the above mentioned theories is vital. If the principal-agent theory does not define an environment in which an agent operates and does not determine an agent's significant role for the survival of an organization, then it is unable to determine incentives which prevent an agent from acting in a corrupted way.

If the rent-seeking theory does not determine the barriers to entry that motivate clerks, politicians and entrepreneurs to act in a corrupted way, then it is unable to set correct rules which lead to economic development and which, at the same time, prevent agents from acting in a corrupted way. In this section we investigate if both problems can be solved by means of the theory of redistribution systems and its part - the theory of parallel redistribution games.

The theory of redistribution systems is based on the fact that most social systems, i.e. an environment in which people exist, have the character of a redistribution system – where estates, pensions and resources are being redistributed among individual members of the system. In other words, some members of the system gain estates, pensions or resources without having a right to gain them, as a consequence of their efficiency, and others lose them, despite the fact that they, thanks to their efficiency, have a right to get them. From this point of view, the redistribution system can be defined as a system in which individual members are rewarded differently depending on their efficiency (Valenčík 2008). We need to point out that redistribution has some objective reasons, especially in those systems where people themselves are unable to ensure sufficient resources, estates or pensions for their life. This concerns children, elderly and sick people or invalids, etc. If the society wants to ensure the life of such people, it must necessarily redistribute the benefits. The history shows that the given redistribution has occurred since the beginning of the human existence. After all, the human kind would not otherwise survive. From the philosophical point of view, the given redistribution is a manifestation of humanity, of meeting in the I-You mode, it is a type of behaviour through which people socialize – through redistribution they learn how to collaborate, cooperate, how to help and be solidary. People encounter redistribution from their birth. They take it for granted. From this standpoint, the redistribution system is immanent for an individual. Philosophically speaking, a man is born and thrown into the redistribution system. Therefore, Potůček (2005) rightly notes that all the economic and social systems are also redistribution systems. The redistribution in favour of people who need it can be called necessary (desired) (Wawrosz 2011).

It is necessary to separate the desired distribution from another type of distribution where a person, for whose benefit we redistribute, is able to ensure resources and estates for his/her living on his/her own. In other words, we do not redistribute for this person. In the case of undesired redistribution, income and property differences, which may put the system stability and

development in danger, are not levelled but, on the contrary, people for whose benefit we redistribute gain unjustified advantage. One of the reasons why the undesired redistribution occurs is that people are used to some sort of redistribution since their birth. If some redistribution takes place in the long term (this is a manifestation of the existing system of official and unofficial institutions), it may result in redistribution being taken for granted, not-in-doubt, and people don't take into account (or not enough) that the redistribution system might change. Receivers of redistribution benefits (though the redistribution is undesired) may argue that such redistribution has always been traditional and when others try hard to make the society redistribute for their benefit (which is not usual), they may point out that there are other, already existing ways of redistribution, or show analogies of already existing forms of redistribution with a newly proposed form, etc.

It is obvious that the criterion whether some redistribution is or is not needed, is always arbitrary and it is a matter of opinion. In practice, it involves discussions about social security benefits and their amounts, about which groups should be supported (eg. all families with children or just families whose income is under the certain level), about from which age can children without means start working, about which state of disability entitles you to gain a full disability pension, etc. Due to the fact that such discussions depend on different opinions on values in general, it is not possible to expect any unambiguous result.

The economic theory must have noticed that the redistribution reduces the efficiency of a system (regarding the volume of estates which can be produced with available resources) . It is quite logical - resources used to redistribute cannot be used to produce new goods. Furthermore, the redistribution demotivates people who gain and those who lose. Those who gain by means of the redistribution may not be stimulated to gain resources, estates or pensions by themselves because they will always get something. Those who lose due to the redistribution, know that a part of their resources, estates or pension will be taken away from them, and thus they don't need to take efforts to maximize their gains. The economic theory then states – the higher the redistribution within the system is, the bigger the fall of efficiency is. The given relationship is often interpreted as a relationship between equality and efficiency.¹ Let's point out that efficiency falls more in the systems of undesired redistribution (Wawrosz 2011).

¹ In theory, the dilemma is described by Okun (1975). The dilemma, including the text as shown in this figure which expresses the dependence is presented for instance in Musgrave (2004), Stiglitz (2000). Empirical studies can then mention such a study by Kuhn and Riddell (2006), which for

The desired and undesired redistribution must be adjusted by certain official and unofficial rules which define, for whose benefit and at whose expense it is to be redistributed, how much and in which way, etc. We have to stress that such rules are considered to be standards of the society and redistribution takes place in compliance with them. Such a redistribution can be then called legal, where the word "legal" means that it is done in compliance with the given standards. It should be stressed that these standards do not have to be of an official (legal) nature, that means they do not have to be in the form of acts, directions, regulations etc., but that they can have the form of unofficial rules (eg. moral rules, customs, traditions, etc.) Thus in our meaning, the word "legal" does not only concern the recognized state law.

However, besides the legal systems of redistribution, there are other forms of redistribution - the parallel redistribution systems. The basic characteristics of a parallel system of redistribution are as follows:

- In a parallel redistribution system the rules that exist within the original redistribution system are violated through the acts which are not allowed in the system of original redistribution.
- Redistribution that occurs in a parallel redistribution system is hidden and secret.
- Redistribution in favour of members of a parallel system of redistribution is happening at the expense of the original redistribution system within which the parallel system of redistribution exists.

A typical feature of the parallel redistribution system is the fact that each system of parallel redistribution game corresponds with a specific type of disruption of the institutional system - a parallel redistribution system (game) disrupts the legal institutional arrangement of a redistribution system, while such disruption is hidden, i.e. those, who disrupt, try to stay undiscovered by other subjects (players) who might find out and intervene against them. From the point of the new institutional economy (Furubotn and Richter 2005, Otáhal 2009b), parallel redistribution games can be described as a manifestation of an opportunistic behavior game – individual subjects behave differently than set by respective institutions. Thus corruption can be considered as an example of a parallel redistribution game – in contradiction to the rules, the aim of corruption is to redistribute

example different unemployment insurance systems in Canada shows that systems with higher unemployment benefits lead to more unemployment and prolonged unemployment.

resources, which should be available for a third party (not participating in the redistribution contract), for the benefit of the corruption contract participants.

3. Multidimensional analysis of corruption

The general theory of redistribution systems can describe a complex corruption environment. At the same time, it can also identify barriers to entry, which induce economic agents to corruption and which reduce the efficiency of the whole system. Generally speaking, a barrier to entry is classified as an undesired form of redistribution where certain subjects gain some advantage, and thus a higher income (or more estates or resources), while there is no reason why other subjects should not (also) have the given advantage. Barriers to entry can be then classified according to how they reduce the efficiency of the given system. According to the theory of redistribution systems the corruption itself is defined as a form of a parallel redistribution game within which a legal (official or unofficial) institutional system is disrupted.

In this section, we explain some empirical observations from the perspective of the theory of redistribution systems. We provide cluster analysis of the member states of the European Union. The cluster analysis includes all its members, except Malta and Cyprus. These two countries were excluded from the analysis because data for some indicators weren't available. Indicators used in this cluster analyses are as follows: Corruption Perceptions Index, Index of Economic Freedom and World Governance Indicators (Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of Law, Control of Corruption) - as countries' measurements of quality of institutions (formal and informal), and GDP per Capita in PPS, Unemployment Rate, Labour Productivity per Person Employed, Net Earnings in PPS - as countries' measurements of performance.

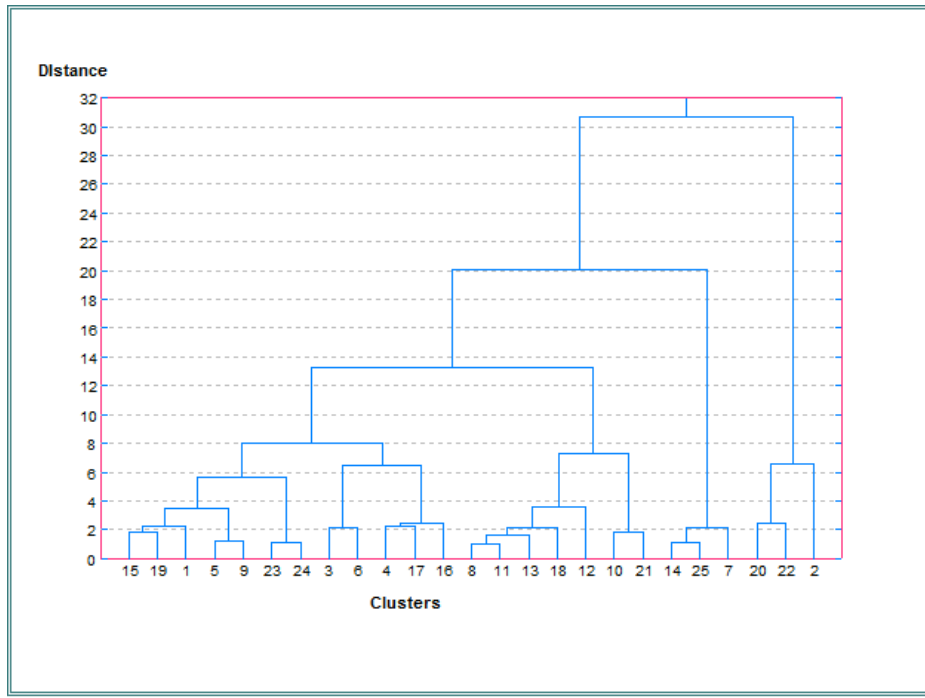
The cluster analysis is a multidimensional method that allows the division of the units based on their multidimensional similarity into homogeneous subgroups so that similar statistical units are categorized into the same group (by the specific values of the particular multidimensional property), while the statistical units in different subgroups will be as diverse as possible (by the values of the same multidimensional property). This analysis has many advantages. Such methods do not require pre-calculation adjustments of the data and they allow us to uncover extreme deviations in the registered values of the multidimensional property. At the same time, these values will form a separate cluster after the calculation. The application of the cluster analysis and other quantitative methods were explored, for example, by Jajuga et al. (2002). There is a wide choice of clustering methods available. We use the methodology of hierarchical clustering, specifically the method of the

furthest neighbour with Euclidean measure of distance, which determines the distance between clusters by the distances between two furthest units from different clusters described in Palát (2009). The results of the hierarchical clustering process can then be transparently represented by dendrograms that serve as the graphical results illustration.

Figures 1-3 present dendrograms based on cluster analysis in 2000, 2005 and 2010. It illustrates our results. Our interpretation of presented dendograms follows implications of the theory of redistribution systems and its part theory of parallel games. Theory of redistribution systems understands each country as an independent redistribution system. Institutional quality measurements (Index of Economic Freedom and World Governance Indicators like Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality and Rule of Law) approximate the quality of countries' redistribution mechanisms of formal and informal institutions. Performance measurements (GDP per Capita in PPS, Unemployment Rate, Labour Productivity per Person Employed, Net Earnings in PPS) indicate performance of countries' redistribution systems. Furthermore, corruption perceptions measurements (Corruption Perceptions Index, Control of Corruption) might be interpreted as indicators of the level of parallel redistribution games allowed by formal redistribution mechanisms (i.e. Voice and Accountability, Political Stability, Government Effectiveness and Rule of Law) (Grochová and Otáhal 2011).

The cluster analysis testable hypothesis implied by the theory of redistribution systems and its part theory of parallel games connects countries with similar qualities of redistribution mechanisms of formal and informal institutions and similar performance. Typical examples are Romania, Slovakia, and Bulgaria or Luxemburg, United Kingdom, and Ireland in 2000 (Figure 1). In 2005 good examples might be Belgium, Austria, and Spain (Figure 2). Denmark, and Germany, or Estonia, Poland, and Hungary might be typical examples of 2010 (Figure 3).

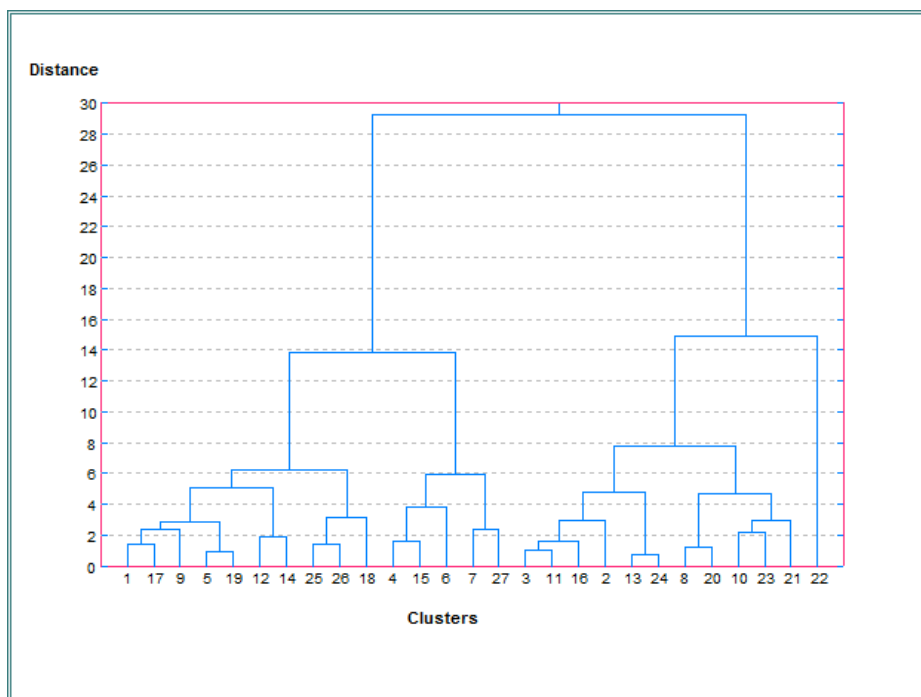
Table 1: Dendrogram from Corruption Perceptions Index, Index of Economic Freedom and World Governance Indicators (Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of Law, Control of Corruption), GDP per Capita in PPS, Unemployment Rate, Labour Productivity per Person Employed, Net Earnings in PPS in the countries of the European Union in 2000.



Note: 1 – Belgium, 2 – Bulgaria, 3 – Czech Republic, 4 – Denmark, 5 – Germany, 6 – Estonia, 7 – Ireland, 8 – Greece, 9 – Spain, 10 – France, 11 – Italy, 12 – Latvia, 13 – Lithuania, 14 – Luxembourg, 15 – Hungary, 16 – Netherlands, 17 – Austria, 18 – Poland, 19 – Portugal, 20 – Romania, 21 – Slovenia, 22 – Slovakia, 23 – Finland, 24 – Sweden, 25 – United Kingdom.

Source: Our calculations, data available from: Corruption Perception Index: http://www.transparency.org/policy_research/surveys_indices/cpi, World Wide Governance Indicators: http://info.worldbank.org/governance/wgi/sc_country.asp, Index of Economic Freedom: The Heritage Foundation: <http://www.heritage.org/index/Default.aspx>, GDP per Capita in PPS, Unemployment Rate, Labour Productivity per Person Employed, Net Earnings in PPS: http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database.

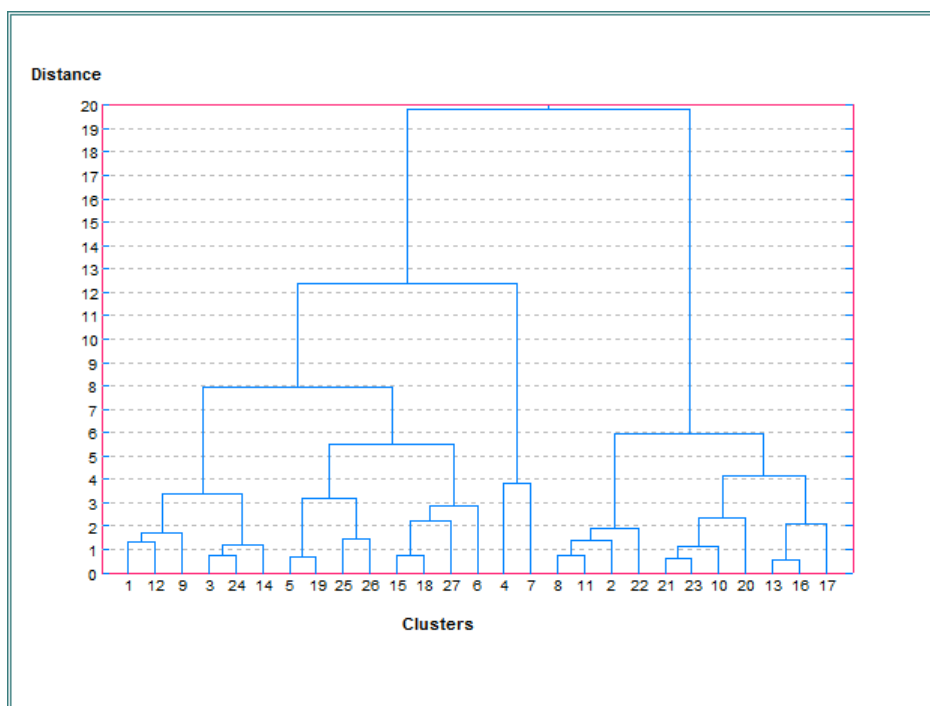
Table 2: Dendrogram from Corruption Perceptions Index, Index of Economic Freedom and World Governance Indicators (Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of Law, Control of Corruption), GDP per Capita in PPS, Unemployment Rate, Labour Productivity per Person Employed, Net Earnings in PPS in the countries of the European Union in 2005.



Note: 1 – Belgium, 2 – Bulgaria, 3 – Czech Republic, 4 – Denmark, 5 – Germany, 6 – Estonia, 7 – Ireland, 8 – Greece, 9 – Spain, 10 – France, 11 – Italy, 12 – Latvia, 13 – Lithuania, 14 – Luxembourg, 15 – Hungary, 16 – Netherlands, 17 – Austria, 18 – Poland, 19 – Portugal, 20 – Romania, 21 – Slovenia, 22 – Slovakia, 23 – Finland, 24 – Sweden, 25 – United Kingdom.

Source: Our calculations, data available from: Corruption Perception Index: http://www.transparency.org/policy_research/surveys_indices/cpi, World Wide Governance Indicators: http://info.worldbank.org/governance/wgi/sc_country.asp, Index of Economic Freedom: The Heritage Foundation: <http://www.heritage.org/index/Default.aspx>, GDP per Capita in PPS, Unemployment Rate, Labour Productivity per Person Employed, Net Earnings in PPS: http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database.

Table 3: Dendrogram from Corruption Perceptions Index, Index of Economic Freedom and World Governance Indicators (Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of Law, Control of Corruption), GDP per Capita in PPS, Unemployment Rate, Labour Productivity per Person Employed, Net Earnings in PPS in the countries of the European Union in 2010.



Note: 1 – Belgium, 2 – Bulgaria, 3 – Czech Republic, 4 – Denmark, 5 – Germany, 6 – Estonia, 7 – Ireland, 8 – Greece, 9 – Spain, 10 – France, 11 – Italy, 12 – Latvia, 13 – Lithuania, 14 – Luxembourg, 15 – Hungary, 16 – Netherlands, 17 – Austria, 18 – Poland, 19 – Portugal, 20 – Romania, 21 – Slovenia, 22 – Slovakia, 23 – Finland, 24 – Sweden, 25 – United Kingdom.

Source: Our calculations, data available from: Corruption Perception Index: http://www.transparency.org/policy_research/surveys_indices/cpi, World Wide Governance Indicators: http://info.worldbank.org/governance/wgi/sc_country.asp, Index of Economic Freedom: The Heritage Foundation: <http://www.heritage.org/index/Default.aspx>, GDP per Capita in PPS, Unemployment Rate, Labour Productivity per Person Employed, Net Earnings in PPS: http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database.

Conclusion

In this paper, we argued that the existing economic theories dealing with the issue of corruption, i.e., principal-agent theory and rent-seeking theory suffer from serious problems, so in the fight against corruption they can lead to wrong methods of fighting and conclusions. The principal-agent theory has a problem to define an environment in which agents performing corruption act and it has a problem to explain the significance of agents in the survival of their environment. On the other hand, the rent-seeking theory finds it difficult to determine the efficiency of artificial barriers to entry.

Due to the deficiencies of the given theories, we described the theory of redistribution systems and parallel redistribution games because we think that they solve the issue of corruption more efficiently. We found out that the theory of redistribution systems a) defines an environment in which corruption occurs as a legal system of redistribution b) defines a parallel redistribution system (the game) as a system in which violations of legal rules of the redistribution system occur and it

defines corruption as an example of a parallel redistribution c) based on the definitions contained in the points a) and b) concludes that by reducing the legal redistribution (especially undesired redistribution) opportunities of agents to perform corruption are eliminated and d) is able to describe what the rules which discourage agents from corruption should look like.

Further research should consist of detailed characteristics of redistribution systems, parallel redistribution games and mainly strategies applied in legal and parallel redistribution systems. It is desirable to describe individual agents, to characterize them, to describe how they contribute to the survival and development of an organization. An analysis of past cases and situations might also be a suitable way of such description.

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