MEASURING CORRUPTION – KEY ISSUES, DATA SOURCES AND THE MOST COMMONLY USED INDICATORS[*]

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Abstract. *Corruption is a complex social phenomenon with multiple negative effects on the socio-economic efficiency. Therefore, it is a subject of research in various social disciplines. In economic analysis, special attention is directed towards corruption measurement. Despite numerous attempts, this issue has not been completely resolved. Since corruption is a phenomenon that cannot be directly observed, its measurement is based on indirect signals and subjective perceptions. Key problems in measuring corruption relate to the lack of objective data, estimation errors and the problems of establishing a clear link between the measurement results and effective anti-corruption policies. The aim of this paper is to highlight the basic methodological problems and limitations in measuring corruption and provide a theoretical overview of the existing research in this field.*

Key words: *corruption, measuring of corruption, perceptions, composite indicators.*

1. INTRODUCTION

Corruption is a complex social phenomenon that occurs in all countries, developed and developing, both in the public and private sector. It threatens the rule of law, undermines the principles underlying the market economy and endangers the stability of state institutions. The extent of corruption and its socio-economic effects have caused corruption to become the object of study of many scientific disciplines, with the purpose to reach precise conceptualizations of corruption, as well as determining potential ways of its measurement. Corruption is one of those concepts that are difficult to define precisely because its manifestations depend on the social context in which corruption occurs. The definition of

corruption ranges from the broad terms of misuse of public power and moral decay to strict legal definitions of corruption as an act of bribery involving a public servant and a transfer of tangible resources. It has been studied as a problem of political, economic, cultural and moral underdevelopment. Corruption is behavior that deviates from the formal rules of conduct governing the actions of someone in a position of public authority because of private-regarding motives such as wealth, power or status (Khan, 1996). Corruption is a transaction between private and public sector actors through which collective goods are illegitimately converted into private-regarding payoffs (Heidenheimer et al., 1989). It is the sale by government officials of government property for personal gain (Shleifer and Vishny, 1993). Corruption that can be generally defined as the use of public power for individual interest is a complex and multifaceted concept (Aidt, 2003). This phenomenon has been seen either as a structural problem of politics or economics, or as a cultural and individual moral problem (Andving, et al., 2000). Corruption is an act in which the power of public office is used for personal gain in a manner that contravenes the rules of the game (Jain, 2001). Corruption is an extremely complex social behavior. Many methods could be employed in analyzing corruption. Even though there is no universal definition of corruption, the general opinion is that it affects the society negatively.

The level of corruption in every country is determined by a combination of motives and opportunities for corruption. The motives are primarily determined by social norms that regulate individual behavior, while capabilities depend on the efficiency of the state in creating and implementing rules. In addition to conceptual imprecision, one of the core problems in studying the phenomenon of corruption is related to its measurement.

Considering that corruption cannot be directly observed or empirically investigated, measuring corruption is based on indirect observations and signals, which may indicate the countries or sectors of the economy where corruption is present (Heller, 2009). Measuring corruption is closely related to one of its implicit characteristics - secrecy. Bearing in mind that corruption is an illegal activity; the participants in these transactions have an incentive to keep them undiscovered. It is this feature of corruption that leads to serious doubts about the possibility of its measurement. How to measure something that is hidden?[1] Also, there is the question of whether the measurement refers to the spread of corruption (frequency) or its intensity, measured by the total number of cases of corruption?[2]

Key challenges in measuring corruption refer to the lack of objective data, measurement (estimation) errors and the problems of establishing a link between the results of measurement and effective anti-corruption policies. The aim of this paper is to highlight the basic methodological problems and limitations in measuring corruption, as well as to justify the use of certain indicators of corruption.

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[1] *"I often say that when you can measure what you are speaking about, and express it in numbers, you know something about it; but when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meager and unsatisfactory kind; it may be the beginning of knowledge, but you have scarcely in your thoughts advanced to the state of Science, whatever the matter may be."* (William Thompson, 1883)

[2] While not disputing the need to separate these two categories, Lambsdorff (2006) believes that there is a strong correlation between them.

2. ON THE IMPORTANCE OF MEASURING CORRUPTION

Beside the existing difficulties in defining corruption, the problems related to its measurement have, for a relatively long time, impeded the comparative analysis of corruption, testing the hypotheses and building a solid and comprehensive theory.

Measuring corruption is important for several reasons. It helps to establish the extent of the problem, determine whether there are clear patterns in the development of corruption, identify the factors of corruption, and decide upon the necessary measures, or in which direction to focus our efforts in fighting against corruption. Without knowing the types of corruption and areas where the problem is most prevalent, we cannot have adequate guidelines for the design of anti-corruption measures. Measuring the level of corruption and its monitoring over time provides a basis for assessing the success of anti-corruption strategies. For this purpose, it is necessary to compare the types and levels of corruption before and after the implementation of measures.

Different approaches in the analysis entail different definitions of corruption. Therefore, the measurement of corruption is an extremely complex and complicated process. Huberts et al. (Huberts et al., 2006: 265) summarized the complexity of this issue in one sentence: "We all agree that corruption is an important and complex phenomenon, and also agree that we cannot agree as to its content." The main reasons for the mentioned difficulties in measuring corruption stem from disagreements regarding the definition of corruption, the hidden nature of corruption and differences regarding which kind of data can serve as reliable indicators of corruption.

Any attempt to measure corruption across countries requires data that were collected on the basis of a unique definition or understanding of corruption. Since corruption is a complex phenomenon which includes various activities, the question is whether a single indicator may cover different dimensions of corruption. It should be noted that significant progress has been achieved regarding the definition of corruption, as well as designing the questions in the questionnaires, in order to achieve full coverage of this complex social phenomenon.

Measuring corruption is also aggravated by the fact that corrupt practices often remain anonymous. In addition, in the case of corruption there often is no direct damage and the cost of these actions are dispersed to all members of the community. Corrupt practices are carried out in secret, without any witnesses, and if there are no witnesses, nothing can be reported, highlights Gorta (Gorta, 2006: 204). In countries where corruption is endemic, the officials responsible for controlling corruption are themselves corrupt, which makes reporting corruption a risky endeavor.

Measuring corruption is further complicated by the fact that corruption is adapting to changed circumstances and takes on less visible forms. By focusing on the measurement of one dimension, we can easily miss changes in other dimensions of corruption.

In the measurement of corruption, some authors prefer the use of "objective" indicators, such as information about the existence of anti-corruption laws or budget transparency, which do not measure corruption directly, but the opportunities for corruption (Kaufmann, Kraay, Mastruzzi, 2006a). Such studies are available for a relatively small number of countries and do not provide an adequate basis for a broader comparative analysis. Others rely on "subjective" indicators, such as the perception of citizens and experts about the extent of corruption. It is very difficult to acquire objective indicators of the level of corruption. Subjective indicators, which are based on the perception of the relevant actors,

are often criticized as unreliable and unclear. However, subjective perceptions are often the only available data we have about corruption, especially in terms of the high level of institutional distrust, when citizens believe that the key institutions of the system, such as the courts and the police, are corrupt and therefore do not report acts of corruption.

3. DATA SOURCES FOR MEASURING CORRUPTION

Numerous international institutions (World Economic Forum, Business International, and Transparency International) have developed various mechanisms for measuring corruption, the results of which are used to study the impact of corruption on the quality of governance or economic growth and investment (Kaufmann, Kraay, Zoido-Lobatón, 1999a; Mauro, 1995). The main problem of empirical research involving corruption is reflected in the lack of objective data. The most common sources of data are subjective estimates of the prevalence of corruption, mostly based on expert assessments, and surveys of the business community.

According to the experts of the World Bank (Kaufmann, Kraay, Mastruzzi, 2006c) there are three ways in which corruption can be measured:
1) Collecting information from relevant stakeholders,
2) Monitoring and controlling the use of funds for financing projects by the World Bank.
3) Monitoring the institutional characteristics of certain countries.

There is a difference between "objective" and "subjective" sources of information on corruption. The differences lie in the fact that subjective sources include questions based on the subjective attitudes of the respondents, such as: "In your opinion, is the Government corrupt?" Contrary to that, "objective" sources contain real facts, based on which precise answers can be obtained (Bradburn, 1983).

Objective sources of information on corruption or any other phenomenon are those that leave no room for any kind of subjective assessments. The largest number of indicators of economic activity is based on objective data: gross domestic product, the savings rate, total investment, the surplus or deficit of the balance of payments. Objective indicators are highly reliable because they are based on a unified methodology of data collection. This allows their comparability between countries and over time. One of the preconditions for the existence of such indicators is that the activities they measure are in accordance with the law. In this case, participants in such activities have no incentive to conceal them.

The situation is different in the case of activities that violate the law. Corruption is a hidden activity and its participants have no incentive to make it public. Therefore, the measurement of corruption is largely based on a detailed analysis of subjective indicators of this phenomenon. The key question is what subjective assessments of corruption in a society are based on: perception or experience?

Subjective indicators can, therefore, be based either on perception or experience. Since the surveys are the main source of data for creating subjective indicators, there is a whole range of problems related to the implementation of such surveys, whether in terms of public opinion (households) or the business community surveys. An alternative way of measuring corruption is expert assessment, which can be centralized or decentralized (by country). Expert assessments, by definition, represent the perception of corruption, but it is assumed to be a perception of competent respondents. These assessments are based on the responses of experts on issues of corruption in particular countries.

Similar to previous findings regarding the data sources underlying the indicators of corruption, Berg (2001)[3] also classifies the indicators of corruption in two groups: objective and subjective measures. Objective measures are based on credible information. They include current statistics on the number of suspects, arrested and prosecuted in corruptive actions.

At first glance, it appears that the reliability of indicators based on personal experience in corrupt activities is higher compared to the indicators obtained on the basis of perception. However, the collection of data on personal experiences of corruption is accompanied by the following problems:

The first problem lies in the fact that respondents may have never been in situations where corruption might have occurred. In this case, the negative responses misrepresent the assessment of the level or the prevalence of corruption and lead to biased conclusions. This problem is sometimes solved by creating a representative sample, choosing respondents for whom it is assumed that they could have attended the situations where corruption can occur. Therefore, the respondents are more often representatives of the business community, while household surveys are used to a lesser extent.

Another issue with the use of personal experience of respondents for creating indicators of corruption stems from the fact that respondents are often not inclined to talk about their experiences of corruption, because it implies recognition of participation in illegal activities. For these reasons, in the creation of corruption indicators, respondents' perceptions are an indispensable input.

Furthermore, the question of the relationship between perception and experience arises. The perception of a particular phenomenon can be seen as a result of a process within which an individual processes and evaluates information acquired on the basis of direct or indirect experience. Consequently, individuals' views on corruption are the outcome of a complex assessment process, which depends primarily on the available information. The specificity of perception is reflected in the following: the more pronounced the perceptions of corruption, the greater the probability that corruption persists and develops in practice.

If the corruption indicators rely too heavily on perceptions and not enough on experience, there is a risk of inadequate perception. The reason for this is that the perception of corruption can be affected by various factors. Biased estimates of corruption perceptions in surveys can occur, for example, due to changes in the public opinion or political changes. The increase of optimism in society, for example, leads to perceived lower level of corruption, while the election campaign in which political parties accuse each other of corruption can cause citizens to perceive higher levels of corruption than the actual one.[4]

It is obvious that there are a number of factors that affect the perception of corruption and lead to inaccurate and biased indicators. However, notwithstanding these problems, surveys represent a valuable source of data on corruption, not only about its prevalence and intensity, but also on its causes, mechanisms and consequences for participants. For this reason, the methodological problems should not be the cause for rejecting surveys as a method of obtaining data on corruption.

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[3] It should be kept in mind that certain data can reflect some other phenomena, such as the efficiency of the police or judiciary, and not necessarily corruption. Also, official statistics may be subject to potential manipulations by political structures.

[4] According to Knack (2006), economic growth and prosperity can lead to underestimation of corruption by the citizens, while the recession may lead to its overestimation, which produces biased indicators of corruption.

Most commonly used data on corruption, based on the survey as a means of collecting data, are collected by an international organization for fighting corruption, Transparency International. The results of the research conducted in the period from 2012 to 2013, on a sample of 107 countries, show that in the last 12 months, during contact with public services, every fourth respondent (27%) paid a bribe. Figure 1 shows the percentage of respondents who reported paying bribes in the past 12 months, across different regions:
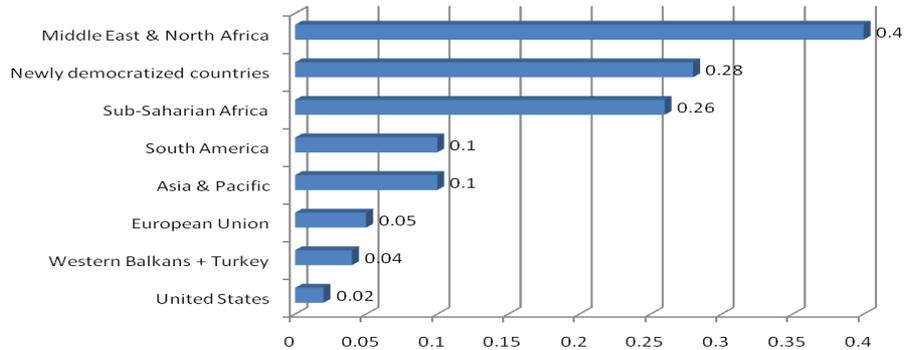
Fig. 1 Bribery across regions (in %).
Source: www.transparency.org

As expected, the largest number of cases of paying bribes was recorded in the underdeveloped countries (Middle East and North Africa), as well as the new democracies. Figure 2 shows the prevalence of bribery in particular public services.
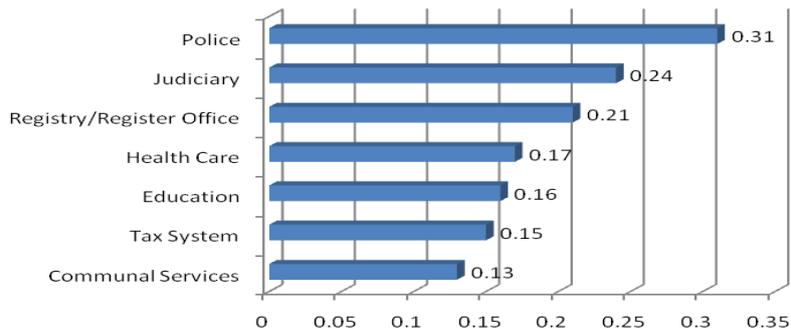
Fig. 2 Paying bribes for particular public services (in %).
Source: www.transparency.org

In most countries, the police (31%) and the judiciary (24%) are considered the most corrupt public services. Most respondents worldwide believe that their governments are inefficient in fighting corruption and that on this point the situation is constantly deteriorating. This assertion is supported by the fact that 12% of respondents believe that their government is efficient in fighting corruption, while 88% of respondents believes the opposite.

Figure 3 shows the respondents' perceptions of corruption of individual institutions. In most countries, political parties as the main bearers of political activity in modern states, are highlighted as the most corrupt organizations (1 = "not corrupted", 5 = "highly corrupted").
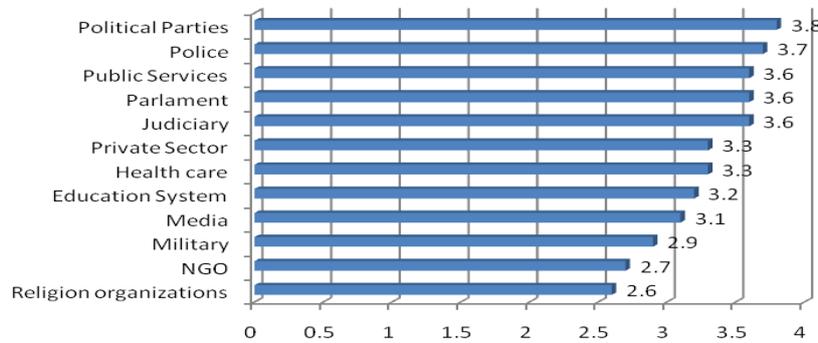
Fig. 3 Perceptions of corruption in institutions.
Source: www.transparency.org

More than half of respondents (54%) believe that their countries are managed by individuals acting in their own interest and not in the interest of the society. Figure 4 shows the responses to the question: How many public officials act in their own interest?
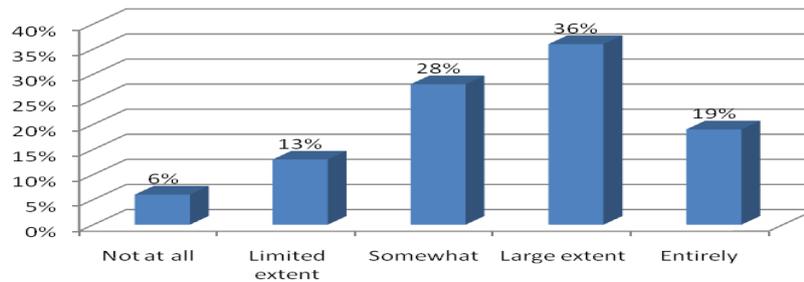
Fig. 4 To what extent is this country's government run
by a few big interests looking out for themselves? (in %).
Source: www.transparency.org

A large number of respondents express willingness to fight corruption, and as the reason for not reporting corruption the respondents report the following: 15% of them do not know where to report acts of corruption, 35% are afraid of possible retaliation, 45% believe it is pointless to report corruption, while 5% cite other reasons.

The data presented above represent an example of subjective data sources for measuring corruption. The indicators based on subjective sources are, on the one hand, useful for raising awareness about corruption and performing scientific analysis, but do not provide clear information about the extent of corruption and areas where it most often occurs. Despite these shortcomings, research of corruption in contemporary literature is largely based on the perceptions and experiences of the respondents.

4. THE MOST COMMONLY USED INDICATORS OF CORRUPTION

Based on different techniques for data collection, two types of corruption indicators developed and evolved during time: original and composite indicators. Original indicators are created on the basis of household surveys and experts' opinions.

Table 1 Mostly used corruption indicators

Indicator	Source	Coverage
World Bank Investment Climate Assessment	Firm level survey	79 world countries
World Economic Forum – Competitiveness Report	Firm level survey	80 world countries
IMD (Institute for Management Development)	Firm level survey	49 world countries
EBRD and World Bank BEEPS	Firm level survey	24 transition countries
Gallup International on behalf of Transparency International	Firm level survey	21 transition countries
PricewaterhouseCoopers Opacity Index	Firm level survey and expert opinions	34 world countries
International Crime Victim Survey	Household survey	
World Values Surveys	Household survey	
Global Corruption Barometer (Transparency International)	Household survey	62 world countries
Economist Intelligence Unit (EIU)	Expert opinions	115 world countries
Freedom House – Nations in Transit	Expert opinions	27 transition countries
International Country Risk Guide (ICRG)	Expert opinions	140 world countries
World Market Research Centre (WMRC)	Expert opinions	122 world countries
World Bank Country Performance and Institutional Assessment (CPIA)	Expert opinions	83 countries members of IDA
Columbia University State Capacity Survey	Expert opinions	121 world countries

Indicators of corruption, most commonly used in empirical research, are composite (derived) indicators of corruption. These are indicators that are created by combining several original indicators. There are several reasons for measuring corruption using composite indicators (indexes) (Knack, 2006):

1) First, there is a problem of coverage concerning the original indicators of corruption. While some indicators relate to forms of corruption faced by business people, others include forms of corruption faced by households.

2) Second, the reason for creating composite indicators of corruption is related to reducing margins of errors in assessing corruption. The former practice of measuring corruption showed that the use of original indicators has been accompanied by a number of methodological problems. These problems lead to measurement errors, which caused corruption indicators to become biased. By combining several original indicators of corruption, their individual biases can be mutually neutralized. A

prerequisite for that is that the measurement errors of individual original indicators are mutually independent (the measurement errors are random).[5] If the measurement errors are correlated and depend on the same variables, the composite indicator will be biased.

3) Third, the use of composite indicators of corruption is necessary in terms of the growing number of countries that are the subject of research, which increases the sample in empirical research.

Derived indicators are also called "*second-generation*" indicators (Johnston, 2001), "*composite indicators*" (Arndt and Oman, 2006) or "*aggregate indicators*" (Kaufmann, Kraay, Zoido-Lobatón, 1999a). As Johnston notes, this generation of indicators has been developed mainly due to criticism of the previous, original indicators. Berg (2001) explains that, in general, a good indicator must meet the following requirements:

1) *Trustworthiness*, which implies that the indicator must be objective and reflect a general rather than personal opinion of one or a few individuals;

2) *Validity*, ie. indicator must measure the phenomena that affect the well-being of the society;

3) *Accuracy*. If the index is prone to large measurement errors, it is bound to be less useful. In surveys, the typical way of improving accuracy is to increase the number of respondents;

4) *Precision*, which is reflected in the fact that each participant understands the questions and that questions do not depend on personal standards.

Composite indicators have several advantages over the original indicators. Kaufmann and Kraay (2007) identified four key advantages of composite indicators:

1) Providing a broad coverage at the country level.

2) Providing a useful summary of a number of different individual indicators.

3) Reducing the measurement error in the results caused by specificities of individual indicators.

4) Enabling the calculation of explicit margin of errors.

There are a number of composite indicators used to measure corruption, although some of them are rarely used, due to their complexity. Some of them are:

- Country ratings (including levels of corruption) within Business International Corporation report; Mauro (1995) was one of the first researchers who used data from BI for studying corruption.
- Political Risk Services publishes International Country Risk Guide (ICRG) which includes corruption index. Tanzi and Davoodi (1997) have described and used this index.
- Transparency International measures the level of corruption in different countries. Lambsdorff (1998) describes the methodology for creating this index.
- Political and Economic Risk Consultancy in Hong Kong publishes reports about corruption for 10-12 Asian countries since 1993. Lancaster and Montinola (1997) provide brief explanation of this corruption indicator.
- World Economic Forum has published the World Competitiveness Report since 1989.

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[5] If the measurement errors are random, with the increasing number of measurements, the mean value of the error tends to zero.

5. CORRUPTION PERCEPTION INDEX (CPI) AS A CORRUPTION INDICATOR

The most widely used indicator of corruption is the Corruption Perceptions Index (CPI), published by the international NGO Transparency International. A list of countries is created on the basis of this indicator that reflects the extent of corruption. It is a composite index, based on a number of independent surveys (18-20 different surveys carried out by independent institutions), which makes this index a more objective measure of corruption, compared to the measures obtained from individual sources. More specifically, the original sources are used as input data for the complex process of weighting results, resulting with relatively reliable comparisons between countries.

Table 2 Data sources used for creating CPI index in 2014

1. African Development Bank Governance Ratings 2013
2. Bertelsmann Foundation Sustainable Governance Indicators 2014
3. Bertelsmann Foundation Transformation Index 2014
4. Economist Intelligence Unit Country Risk Ratings 2014
5. Freedom House Nations in Transit 2013
6. Global Insight Country Risk Ratings 2014
7. IMD World Competitiveness Yearbook 2014
8. Political and Economic Risk Consultancy Asian Intelligence 2014
9. Political Risk Services International Country Risk Guide 2014
10. World Bank - Country Policy and Institutional Assessment 2013
11. World Economic Forum Executive Opinion Survey (EOS) 2014
12. World Justice Project Rule of Law Index 2014

The composite index is calculated as the arithmetic mean of the results of all the surveys in a country.[6] In other words, it is a simple mean of all standardized results. The number of data sources and the number of countries covered changes every year.
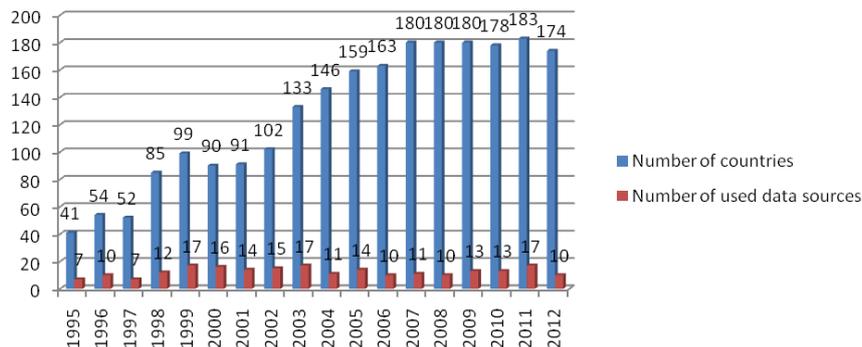
Fig. 5 The number of countries and the number of data sources
for measuring corruption used in the CPI index.
Source: http://www.transparency.org/

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[6] Serbia (ie. FRY) was first included in the surveys in 2000 (a total of 90 countries) when it occupied the last place in Europe (as the most corrupt state, with the CPI = 1.3).

For a country to be included in measuring corruption with the CPI, it is necessary to carry out at least three surveys by at least three different institutions. Also, the data must not be older than three years. CPI is one of the best measures of corruption because it uses a wide range of sources (Wilhelm, 2002).

Since all the original indicators have their own system of assigning values, these values are firstly normalized in order to reach the scale at which a country without corruption, that is the least corrupt country is assigned the value of 10, while the most corrupt country is assigned the value of 0.[7] A composite indicator represents the arithmetic mean of all normalized values of the original indicators of corruption.[8] In addition to evaluating the mean (arithmetic average) of indicators for each country, CPI methodology provides a confidence interval, i.e. the interval in which, with a probability of 90%, the actual value of the composite indicator is placed.[9] Although the ranking of the countries is performed on the basis of mean indicator values, it is recommended to take into account the confidence interval. The countries whose confidence intervals at least partially overlap receive the same rank. Despite the changes in the procedures for creating CPI, the final value of this indicator for a country is a simple average of standardized results.

6. CRITICISM OF COMPOSITE INDICATORS OF CORRUPTION

Given that the purpose of composite indicators is to precisely quantify the level phenomena which they refer to, they are often the subject of criticism, as well as constant attempts of improvement, in order to overcome deficiencies in measurement. Most commonly emphasized disadvantages of composite indicators are: the creation of these indicators on the basis of perception data, imprecision and lack of objectivity in the interpretation of their values. Kaufmann and Kraay (2007) have identified two substantial drawbacks of composite indicators:

1) Difficulties in interpretation of the summarized statistical results and changes in methodology and data sources.

2) The absence of a clear link between reforms implemented in specific areas and changes in indicator values and rankings for a particular country.

One of the criticisms of composite indices concerns the data sources upon which they are computed, i.e. the fact that respondents are not able to compare the situation in their country with other countries. Under the influence of various factors (culture, ethical standards, etc.), respondents in different countries tend to assess different grades to similar levels of corruption. Also, due to the frequent changes in methodology and data sources, there is a problem of creating time series and comparability of data over time.

Critics of CPI as an indicator of corruption are mostly based on the changing number of countries involved in the ranking every year, which makes the ranking, i.e. the position of the country less important than the index value. In other words, the number of countries covered by these measurements changes each year, which may affect the rank of individual countries even if there has been no change in the level of corruption in that country

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[7] In 2012, the methodology has changed so that the countries are ranked on a scale of 0-100.

[8] A detailed description of the methodology used to form the CPI can be found in: Lambsdorff (2006b).

[9] Assuming positive correlation between original indicators of corruption, a larger dispersion of the values causes the higher standard error and therefore the wider confidence interval.

(compared to others). Similarly, the data is relevant for three years, which means that the data become obsolete after the expiry of that period. In such circumstances, the assessment of corruption due to inertia remains the same, regardless of possible changes in the level of corruption, which reduces the reliability of the CPI.

Some of frequently mentioned disadvantages of composite indexes are: unclear specification of geographical areas covered by measurement, the absence of a clear link between corruption indicators and indicators of socio-economic development and ignoring differences between different types of corruption (administrative and political, petty and grand corruption).

Thompson and Shah (2005) point out that there are many limitations in measuring corruption, due to various methodologies, reliability of data sources and problems in defining corruption. According to them, large standard errors of composite indices bring into question creation of any kind of meaningful rankings and comparability between countries and over time. They also point that it is unclear what CPI is measuring and averaging.

The CPI cannot always predict where the corruption will occur. Even in countries with high values of CPI (low levels of corruption), the firms may have problems with corruption. For example, the multinational company Siemens had an experience with corruption in the Ministry of Defense of Norway in connection with the delivery of equipment in 2001. The appearance of corruption in the public institution of the country with a low level of corruption was completely unexpected. Also, one of the major problems with creating the index is reflected in the fact that the questionnaires used for data collection on corruption are mostly focused on those who take bribes, rather than those who pay bribes (Andersson and Heywood, 2009). Paying bribes can be a form of proactive behavior of economic actors aimed at securing business contracts. Generally speaking, the arguments against the use of the CPI as a measure of corruption are:

- Indicator value is determined only on the basis of perceptions about taking, but not giving bribes.
- Difficulty in comparing countries and data sources.
- Non- representativeness of the sample.
- Imprecise and sometimes ignorant sources.
- The narrow definition of corruption.

The CPI index is based on perceptions of the respondents that are believed to be directly confronted with corruption, rather than on empirical indicators (such as the number of completed investigations or trials).

In criticizing the CPI, it is specifically noted that its diagnostic value is additionally reduced by emphasizing the role of experts as a source for getting information. CPI reflects views of the experts and business people on trust in institutions, rather than the views of citizens (households). However, there are opinions that experts have limited insight into the prevalence of petty corruption, unlike ordinary people. Therefore, it is pointed out that the experts' perception of corruption differs from the views of citizens and households.

Despite numerous criticisms, the results of research conducted by Transparency International in 2008 speak in favor of the CPI as a reliable measure of corruption, since there is a strong correlation between citizens' experiences with corruption and the experts' perception of corruption.

Figure 7 shows the correlation between the results obtained by the research based on the experiences of citizens with corruption in 2008, published in the Global Corruption

Barometer report, and the results obtained on the basis of expert opinions published in the TI Corruption Perception Index report for 2008:
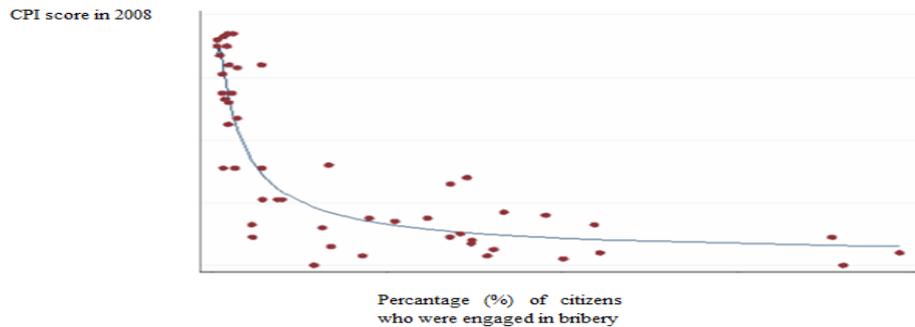
Fig. 7 Correlation between data on corruption experience
and data on experts' perception of corruption.
Source: http://www.transparency.org/

This study has confirmed that, in countries where business people, analysts and experts perceived a high level of corruption, a large percentage of the population had direct experience with corruption, too (bribery in the aim of providing public services). This confirms that the expert assessments are in accordance with citizens' experiences in terms of corruption, indicating the reliability of the CPI as a measure of corruption. Therefore, the CPI is still the best known and most widely used index for measuring corruption around the world. The biggest success of Transparency International is raising public awareness of the issue of corruption. In this sense, it is suggested that flaws in measuring influential social phenomena, such as corruption, cannot be compared to the benefits of informing the public about the necessity of solving this problem.

CONCLUSION

Despite the specified arguments against relying solely on the composite indices in measuring social phenomena, there is still a tendency within contemporary social research, to sublimate various sources of data about corruption into a single indicator that would allow comparison of the level of corruption between countries and over time. The criticism aimed at these indicators is a part of continued efforts for improving the process of measuring corruption. The intrinsic value of the CPI is reflected in the fact that it indicates the countries where reforms are necessary, even though it cannot accurately inform policy-makers about specific forms or areas where corruption occurs.

Specificity of measuring corruption, as a complex social phenomenon, is reflected in the need to collect various data from multiple sources. Measuring corruption includes not only the level (intensity) of corruption in general, but also a precise quantification of the levels of particular types of corruption, the analysis of the mechanisms of corruption, as well as determining direct and indirect costs of corruption. In this sense, creating a unique

indicator of corruption must be accompanied by efforts aimed at exploring different forms, types and mechanisms of corruption.

The priority regarding improvements in measuring corruption should be standardization of indicators in time, in terms of coverage, questionnaires and samples used in the surveys, in order to create conditions for the analysis of time series and gain insight on changes of corruption over time, as well as the key factors of these changes. This would enable the creation of the anti-corruption strategies based on the results of empirical research to a much greater extent than is currently the case, given that the indicators of corruption are mainly criticized because of inaccurate assessments of corruption, which are then difficult to transform into effective anti-corruption strategies.

In addition, it is necessary to proceed with further development of questionnaires for different types of respondents: households, business people (experts) and for public servants. Communication between researchers in different countries is desirable and should lead to the standardization of questionnaires, which will enable the comparability of data.

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MERENJE KORUPCIJE – KLJUČNI PROBLEMI, IZVORI PODATAKA I NAJČEŠĆE KORIŠĆENI INDIKATORI

Korupcija predstavlja složenu društvenu pojavu sa višestrukim negativnim efektima na društveno-ekonomsku efikasnost. Iz tog razloga, korupcija je predmet istraživanja različitih društvenih nauka. U okviru ekonomske nauke, posebna pažnja usmerena je na merenje korupcije. Uprkos brojnim pokušajima, ovo pitanje nije još uvek u potpunosti razjašnjeno. Pošto korupciju nije moguće direktno meriti, merenje ove pojave zasniva se na indirektnim observacijama i subjektivnim percepcijama. Ključni problemi u merenju korupcije odnose se na nedostatak objektivnih podataka, greške u merenjima i teškoće u uspostavljanju jasne veze između rezultata merenja i efektivnih politika borbe protiv korupcije. Cilj ovog rada je da ukaže na osnovne metodološke probleme i ograničenja u merenju korupcije, kao i da pruži jedinstven teorijski pregled dosadašnjih istraživanja iz ove oblasti.

Ključne reči: *korupcija, merenje korupcije, percepcije, kompozitni indikatori.*