QUALITY OF GOVERNMENT - ANALYSIS OF THE INFLUENCE OF SELECTED ECONOMIC AND SOCIAL FACTORS

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Abstract: *The demand for high quality of government is currently a necessary part of modern democracies and economies. It is assumed that the quality of governance affects not only economic growth but also number of other factors. There are many different approaches to defining quality of government. The research conducted by The World Bank and The Quality of Government Institute, University of Gothenburg, are recently probably most important. Using the European Quality of Government Index and correlation analysis tool, the authors of this article test the relationship of a dependency between the quality of management and selected economic and social indicators.*

Keywords: *quality of government, European Quality of Government Index, standard of living, level of education, GINI Index, Worldwide Governance Indicators*

JEL Classification*: D73, H11, H83.*

Introduction

The quality of government is an essential part of modern democracies and economics. According to former UN Secretary-General Kofi Annan, good government is probably the most important means of fighting poverty and strengthening social and economic development (Rothstein, 2015, p. 10-11). This has been also confirmed by expert studies on the correlation between quality of government and a range of societal fields, from economic inequality and gender inequality to unemployment and level of education among the society, child mortality and social trust issues (Charron, Lapuente, Rothstein, 2018).

The authors of the paper aim to undertake an analysis of the relation between the quality of government and selected economic and social factors. By using statistical analysis tools, they attempt to answer the question of whether there is a correlation between the quality of government and the standard of living in a given country, the level of public spending or the level of education or social differences in society.

1 Statement of a problem

1.1 Definition of the quality of government

Although there is consensus among experts that the quality of government needs to be given special importance, the approaches to its definition differ significantly. Thus, until today, there is no unified definition accepted by lay and professional public. The authors of the article use the methods for quantification the quality of government based on the World Bank research and The Quality of Government Institute (hereinafter referred to as "the Institute"). Research conducted by the Institute and the World Bank are considered by the experts to be high-quality (e.g. Volejníková, 2006).

1.1.1 The quality of government according to the World Bank

According to the World Bank the governance consists of the traditions and institutions by which authority in a country is exercised. This includes 1) the process by which governments are selected, monitored and replaced; 2) the capacity of the government to effectively formulate and implement sound policies; and 3) the respect of citizens and the state for the

institutions that govern economic and social interactions among them (Kaufmann, Kraay, Mastruzzi, 2010a).

The World Bank (Kaufmann, Kraay, Mastruzzi, 2010b) defines and classify the quality of government through the three above mentioned areas using the following indicator:

1) The process by which governments are selected, monitored and replaced
    a. **Voice and Accountability (hereinafter referred to as „VA“)** – the indicator related to the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media.
    b. **Political Stability and Absence of Violence/Terrorism (hereinafter referred to as „PV“)** – the indicator related to the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically-motivated violence and terrorism.
2) The capacity of the government to effectively formulate and implement sound policies
    a. **Government Effectiveness (hereinafter referred to as „GE“)** – the indicator related to the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.
    b. **Regulatory Quality (hereinafter referred to as „RQ“) -** the indicator related to the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.
3) The respect of citizens and the state for the institutions that govern economic and social interactions among them
    a. **Rule of Law (hereinafter referred to as „RL“)** – the indicator related to the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.
    b. **Control of Corruption (hereinafter referred to as „CC“)** – the indicator related to the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests.

1.1.2 The quality of government according to the Institute

The Institute distinguishes between the "input" and "output" side of the democratic system. The input side of the political system includes the processes that regu-late the inflow of political ideas and the access to political power (for example, the electoral system, political parties, and rules for the formation of opinion) based on the principle of political equality. The output side is represented by a bureaucratic apparatus whose activity and exercise of public authority is determined by the principle of impartiality. The quality of government is defined by the Institute in terms of the fulfilment of the principle of impartiality in the exercise of public authority (Rothstein, 2015, p. 27-28).

This principle implies that when implementing laws and policies, government officials are not allowed to take into consideration anything about the citizen, or the case at hand, which is not beforehand stipulated in the policy or law. This principle prohibits special treatment or

discrimination based on origin, political beliefs, gender, sexual orientation, religion, or economic position. Bribery, clientelism, and nepotism will also be considered illegitimate**.** (Rothstein, 2015, p. 27-28).

Through the principle of impartiality, only the procedural aspects of governance can be assessed, not the content of the government policy itself. Thus, the procedural definition of the quality of government allows the state to implement an otherwise completely unacceptable government policy with a high quality of government (Rothstein, 2011, p. 12-17).

However, the benefits of assessing the quality of government through the principle of impartiality are as follows:

- It is not reduced on the issue of corruption, but it also covers the issues of clientelism, nepotism and discrimination.
- It can deal with the fact that some non-democratic countries (e.g. Singapore) have a high quality of government.
- It allows examining the relationship between the quality of government and democracy and solves the paradox of the fact that the establishment of democracy does not necessarily lead to an improvement in the quality of government.
- It allows examining the relationship between the quality of government and the efficiency of the public sector. ([12]p. 27-30)

1.2 The possibilities of the government quality quantification

The theoretical approaches to the quality of government are followed by specific quantification methods.

1.2.1 Worldwide Governance Indicators

Since 1996 the World Bank (Kaufmann, Kraay, Mastruzzi, 2010a) has been drawing up following indicators 1) Voice and Accountability (**VA**), 2) Political Stability and Absence of Violence/Terrorism (**PV**), 3) Government Effectiveness (**GE**), 4) Regulatory Quality (**RQ**), 5) Rule of Law (**RL**), 6) Control of Corruption (**CC**), together referred to as **Worldwide Governance Indicators (hereinafter referred to as „WGI“)**.

These indicators take values in the range from <-2.5 to 2.5>; respectively in percentages from 0% to 100% (i.e. from the lowest to the highest).

1.2.2 European Quality of Government Index

This is an indicator created by the Institute in 2010 as part of a research project focused on regional development in EU. The Institute seeks to analyze differences in the quality of governance at both national and regional levels among the countries of the European Union (Charron, 2018).

The Institute quantifies the quality of government using the indicators as follows 1) Corruption, 2) Effectiveness of bureaucracy, 3) Rule of law and observance of the principle of impartiality, and 4) The strength of democracy and democratic institutions. As the most suitable source of data to quantify the quality of government at national level, the Institute chose the above-mentioned World Bank research. It contains data on all 4 quality of government indicators (which, in principle, correspond to CC, GE, RL, VA). These can then be aggregated into indicator, with the same weight of the individual indicators. Therefore, the arithmetic average of the CC, GE, RL, VA compiled by the World Bank can be used to obtain a composite quality of government indicator (referred to as the "Combined QoG score") The standardized values are referred by the Institute to as the European Quality of Government

Index (also referred to as "EQI") (Charron, 2008). Regional EQI estimates are compiled by the Institute based on an extensive questionnaire survey.

The authors of the article in the following analysis are based on the national level of the EQI, as it can be calculated from the World Bank databank for nearly any year and basically also for any country. This is the reason why the authors of the article omit the adjective "European" in the text and speak only about the Quality Index (also referred to as QI).

2 Methods

As a research method, authors have chosen a correlation analysis. The correlation analysis allows determining the force of interdependence between variables. Depending on the assumption of the data normality, the Pearson or Spearman coefficient of correlation are most often chosen. While the Pearson correlation coefficient describes the linear relation of the selected variables, the Spearman correlation coefficient describes how the relation of the selected variables corresponds to the monotone function, which may be nonlinear (Budíková, 2006, p. 124-126). Thus, the correlation analysis makes it possible to determine whether there is dependence between the quality of government of a given country, the standard of living, the level of public spending or the level of education or social differences in society and how that dependence is strong.

For processing the analyzes, the author of the article uses program STATISTICA Cz, version 12. Hypotheses are tested at significance level of 5% (ie 0.05).

3 Problem solving

3.1 Selected indicators

To analyse the relationship between the quality of government and the standard of living, the level of public spending or the level of education or social differences in society, use the authors of the article indicators as follows:

- **Quality index** (also referred to as „QI") calculated according to the Institute's methodology as the arithmetic average of the CC, GE, RL and VA indicators periodically compiled by the World Bank. The index takes values in the range from <-2.5 to 2.5>, the higher the QI value is, the higher is the quality of government in the given country.
- **GDP per capita** (also referred to as „GDP/capita") the nominal gross domestic product in current US dollars divided by the median population of that country. The indicator is compiled by the World Bank.
- **Tertiary education** is an indicator of the tertiary (i.e. university) level of education of adults aged 25-64. It is reported in % and compiled by the OECD.
- **GINI index** measures the extent to which the distribution of income (or, in some cases, consumption of expenditure) between individuals or households within the economy deviates from a perfectly equal distribution. The indicator is given in %, with 0% representing perfect equality and 100% perfect inequality. It is an indicator compiled by the World Bank.
- **Public Expenditure/GDP -** public expenditure include the cash payment for the provision of goods and services by the government, including compensation to employees (such as wages and salaries), interest and subsidies, grants, social benefits and other expenses such as rent and dividends. The indicator is given in % and is also compiled by the World Bank.

3.2 Hypothesis tested in the article

H_1: There is a relationship between the quality of the government and the standard of living (GDP per capita).

H_2: There is a relationship between the quality of the government and the level of public spending (Public Expenditure/GDP).

H_3: There is a relationship between the quality of the government and the level of education (Tertiary education).

H_4: There is a relationship between the quality of the government and the social differences in society (GINI Index).

3.3 Data sources

For carrying out the analysis the author of the article chose years from 2010 to 2015. This broadly defined timeframe allows them to obtain a sufficient number of input data.

As the most problematic indicator has shown the GINI index, which is no longer available for the year 2016 and the following. The range of countries has been influenced mainly by the selected indicators. Although the original intent was to carry out global analysis, the available data eliminated the range in just 42 countries.

Basic descriptive statistics of the data used in the analysis can be seen in the following table 1:

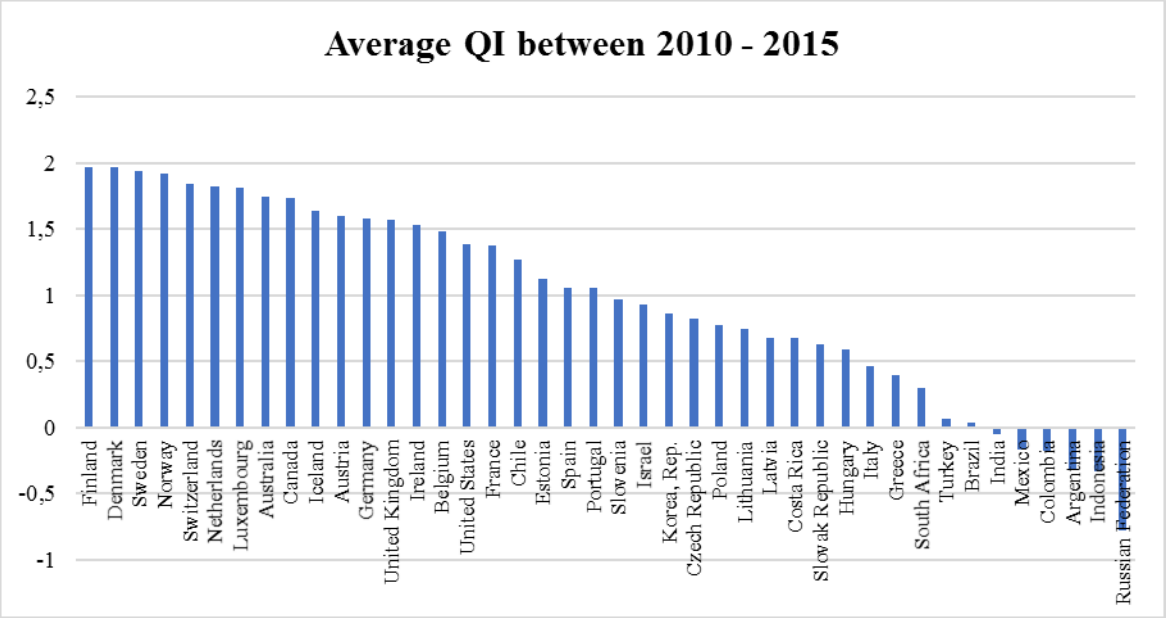
Tab. 1: Descriptive statistics of QI and selected indicators

Indicator	Descriptive statistics			
	Average	**Minimum**	**Maximum**	**St.dev.**
QI	1,03	-0,815	2,0	0,72
Tertiary education	30,08	8,288	55,6	10,32
GINI Index	34,16	24,900	63,4	7,42
GDP per capita	35150,54	1461,672	119225,4	25465,65
Public expences/GDP	34,51	2,167	62,3	11,83

Source: Processed by the authors according to the OECD 2018, World Bank 2018a

The average quality of government in selected countries between 2010-2015 is shown in the following picture 2:

Pic. 1: The graph showing the average quality of government in 2010- 2015



Source: Processed by the authors according to the World Bank 2018a

3.4 Results of correlation analysis

Since the selected indicators do not meet the assumption of normality, it is necessary to use the Spearman's correlation coefficient to test the relationship between the quality of government, Tertiary education, GINI Index, GDP per capita and Public Expenditure/GDP. The results of the correlation analysis are shown in the following table 2:

Tab. 2: The results of correlation analysis of QI, Tertiary education, GINI Index, GDP per capita and Public Expenditure/GDP

Variable	Spearman's correlation Marked correlations are significant at the level p <,05000				
	QI	Tertiary education	GINI Index	GDP per capita	Public expenditure /GDP
QI	1,000000				
Tertiary education	0,750689	1,000000			
GINI Index	-0,592280	-0,348519	1,000000		
GDP per capita	0,883937	0,710454	-0,576322	1,000000	
Public expenditure/GDP	0,083282	-0,035868	-0,280270	0,230582	1,000000

H_0: r=0, p-value ≥ α (0,05)

Source: Processed by the authors

The red marked numbers in the table indicate the results for which the zero hypothesis on the independence of indicators has to be rejected with respect to the p-value <0,05. In other words, they indicate statistically significant results that can be assumed to exist a correlation among indicators. On the other side, the results for which the p-value ≥ 0.05, the null hypothesis of independence is not reversed. (Budíková, 2006, s. 73-80).

Depending on size of r, correlation strength and direction of impact can be determined. Positive r-value means the positive relationship of indicators (i.e. direct sequence dependence), while the negative r-value represents the negative relation (i.e. the indirect sequence dependence of the variables). The higher the r-value approaches -1 (or 1), the stronger is the indirect (or direct) sequence dependence of the indicators. The closer to 0 the r-value is, the poorer is the dependence of the indicators (Budíková, 2006, s. 73-80).

From the results of the correlation analysis of the selected dataset it can be concluded that there exists positive relationship between QI and Tertiary education (r = 0,750689); QI and GDP per capita (r = 0,883937). Therefore, if the country has high quality of governance, a high level of education and a high GDP per capita can be expected. Also, according to r-value, strong dependence between these indicators can be expected.

In the case of QI and GINI Index (r = -0,592280), the negative relationship can be expected from the correlation analysis. Therefore, if the country is characterized by high quality of government, a more equitable distribution of income in the society can be expected (and therefore lower GINI Index). From r-value it can be concluded that there is a weaker dependence between these two indicators than between QI and Tertiary education, respectively QI and GDP pes capita.

Conversely, in the case of QI and Public Expenditure/GDP the correlation analysis does not indicate the existence of a relationship. The indicator of Public expenditure/GDP appears to be only slightly correlated with the GINI Index (r = -0,280270) and GDP per capita (r = 0,230582).

According to the results of the correlation analysis, it is also clear that the indicators Tertiary education, GINI Index, GDP per capita and Public Expenditure/GDP can be considered to be mutually correlated except for the indicators Tertiary education and Public Expenditure/GDP. The highest correlation rates are between the GD per capita and Tertiary education (r = 0,710454) and GDP per capita and GINI Index (r = -0,576322). However, this is a predictable result as **it can be expected that the standard of living in a given country influences both the level of education and the distribution of income in society**.

3.5 Conclusions of the analysis

Based on the results of the correlation analysis following conclusions can be made:

- H_1: There is a relationship between the quality of the government and the standard of living (GDP per capita), **can be confirmed within the given dataset**.
- H_2: There is a relationship between the quality of the government and the level of public spending (Public Expenditure/GDP), **cannot be confirmed within the given dataset**.
- H_3: There is a relationship between the quality of the government and the level of education (Tertiary education), **can be confirmed within the given dataset**.
- H_4: There is a relationship between the quality of the government and the social differences in society (GINI Index), **can be confirmed within the given dataset**.

4 Discussion

Conclusions of the correlation analysis confirmed the existence of dependence between the quality of government and the standard of living, the level of education and the distribution of income in society. These results correspond to the current analysis of the Institute and the Swedish Institute for European Policy Studies (Charron, Lapuente, Rothstein, 2018), according to which there is a dependency between quality of governance and competitiveness and economic performance, as well as unemployment, social justice and many other areas.

On the basis of the conclusions of the correlation analysis, the assumption of dependence between the quality of government and the amount of public expenditure has to be rejected. It can be assumed that this outcome is influenced by the fact that public expenditures are spent on a whole range of areas, which are not always related to the quality of government. It can be assumed that in the decisive period 2010-2015 the high amount of public spending could be affected by the global financial crisis. In this case, countries such as Greece were ranked in terms of public expenditure at the top of the ranking, but the quality of their government was below average.

Conclusion

Within the selected dataset of 42 countries between 2010-2015, the authors of the thesis confirmed the existence of a dependency of quality of government and standard of living, level of education and distribution of income in society. Based on this analysis, in conjunction with other expert studies, it can be concluded that the quality of government is one of the key factors influencing life in a given country, as it was already predicted in 2005 by Kofi Annan.

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