

## ANALYSIS OF SPATIAL HOMOGENEITY OF INTEGRITY STANDARDS IN SELECTED EU OECD COUNTRIES

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### Abstract

The principle of transparency not only is changing but its importance is increasing. International organizations, including the OECD, are seeking to develop harmonized standards of transparency in public administration. This fact is of particular importance in the search for common solutions for the OECD countries in the implementation of transparency standards, but also this organisation has sought adequate methods for measuring implementation of these standards. The main purpose of the study is to analyze the level of spatial homogeneity in the area of application of the standards of “integrity” of the OECD, which are an expression of the principle of transparency in the member states of this organization, on the European continent. In the study vector calculus was used.

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## INTRODUCTION

Recent years have shown that one of the basic criteria for pursuing effective policies by public authorities ensuring long-term economic stability is respecting budgetary principles, including the principle of transparency. This approach is reflected both in international projects and programs and in national policies through actions taken by the International Monetary Fund (IMF), the OECD member countries and the EU Member States.

As indicated in the literature (Bertok, 2001; Hood, 2000; Lagunes, 2012; Sawulski, 2015; Gliniecka, 2015; Filipiak, 2016), there are numerous incentives that induce public authorities to act contrary to the transparency principle. The public choice theory<sup>1</sup> serves as the basis for explicating policy makers' tendency to change their goals and directions for the decisions and actions taken. One of the most significant factors resulting in changes to decisions or public policies adopted is a failure to respect ethical norms and breach of the transparency principle.

On the other hand, the consequences of breaching the budgetary principles, other than a lack of effectiveness in implementing policies and economic stability, include an unsatisfactory level of the execution of public tasks together with the spread of corruption. Thus, introducing institutional solutions that will serve as control mechanisms may be one of the ways to reduce the tendency to breach the budgetary principles. Regulations, often elevated to the status of formal agreements, may significantly reduce systemic deficiencies if they are monitored, quantified and further refined by all stakeholders.

One of the basic budgetary principles is especially important in this case – the transparency principle, which provides the basis to create an effective system for monitoring its application. International organizations, including the OECD, aim at developing uniform standards for the clarity and transparency of public administration operations. It has been indicated that the countries that claim to observe the principle of transparency should have similar rates of standards implementation. The greater the differences, the more often we can observe lower homogeneity of the OECD member countries in terms of the implementation of standards. Identifying such differences may prompt states and their authorities

to take efforts to equalize the implementation levels of these standards. It is then crucial to detect inhomogeneity in terms of the standards being implemented by the European states, including the member states of the European Union, its economic partners and the candidate states awaiting accession. An analysis of spatial homogeneity or inhomogeneity of the European states in the area of study indicated will allow to identify the factors that have “distorted” it. Understandably, precise identification of the factors involved in the emergence of inhomogeneity and then striving to eliminate them is a responsibility of the public authorities of a given country; it might also be an important signal to take appropriate decisions within the European community.

The goal of this study is to analyze the level of spatial homogeneity in terms of the application of the OECD integrity standards as a manifestation of the transparency principle implementation in this organization's member countries located on the European continent. The study employed the vector calculus suggested in the literature (Nermend, 2008; Nermend & Tarczyńska-Łuniewska, 2013)

## PRINCIPLE OF TRANSPARENCY IN PUBLIC ADMINISTRATION AND ITS MANIFESTATION IN OECD ACTIVITIES

The notion of “transparency” has not been normatively defined in the Polish law. As a result, the transparency principle in the Polish financial system can be only discussed based on its subjective interpretation. Initially the notion only referred to a budget and in the Polish literature the transparency principle is often defined in this way (Komar, 1996, p. 90; Kosikowski et al., 2003, p. 316; Lubińska, 2013, p. 252; Gliniecka, 2015, pp. 156-158). It can be concluded then that it is a narrow definition of transparency. At present this principle is defined not only in reference to a budget but also to the whole public finance sector including public administration (broad definition).

Such an approach represents the consensus of the discussion underlying the replacement of the European Union's official documents which took place in the 1990s

1 This theory is discussed in more detail by: (Musgrave & Musgrave, 1989; Stiglitz, 2004; Buchanan, 1997).

and concerned the scope of the concept of transparency<sup>2</sup>. The notion stands for: insight, knowledge, public access to documents held by public authorities (Budzyńska & Pawłowski, 2000, p. 13). Transparency can be also understood as a quality of a public finance act which makes the document communicative, clear, logically organized and comprehensible; transparency contrasts with incomprehension, confusion, an unclear connection of different elements (Gliniecka, 2015, p. 156). The transparency principle is also defined as “a situation in which the principles of cash management are clear and specific, the system for collecting, processing and sharing data on the state of public finances allows us to obtain a full, solid and comprehensible picture of a country’s financial situation and specific segments of the public sector together with the influence of the public-sector operations on the whole economy (Misiąg & Niedzielski, 2001, p. 5). The opinions expressed in the Polish literature are identical to the evolution and standpoint developed by, for example, the European Union and the OECD regarding the substance and role of the transparency principle as interpreted by international organizations.

The development of transparency standards is an integral part of the changes in management processes in the public sector. The literature indicates (Friedman & Friedman, 1997, p. 65; Mazur, 2003, p. 86; Rybiński, 2009; Filipiak, 2016, p. 64) that the quality of management is deteriorating, there is a lack of an effective mechanism of replacing workers who do not meet the requirements of the sector and the reason for this is an inefficient use of public assets, a lack of an appropriate control and supervision system, a lack of transparency standards adequate to the current development level. This results from an increasing trend of putting strong pressure by business-political groups on the decisions made by public administration. Unfortunately, the transparency of the activities taken remains a significant problem in a number of countries. The transparency standards in the narrow sense (i.e. referring only to a budget, general in nature) have been already legitimized in practice

2 The precursors of change in approach were the consecutive studies (Sen, 1981, Kopits & Craig, 1998) complemented with the considerations (Stiglitz, 2004) which underlay the development of the standard known as “Code of Good Practices on Fiscal Transparency” prepared by the International Monetary Fund (version updated in 2001). Later this approach was developed and discussed by OECD in the document entitled “Best Practices for Budget Transparency” (OECD, 2002; OECD, 2011). These standards represent the first approach to the transparency principle, that is the transparency of a budget and its preparation, data quality and access to information. These high-level standards, IMF and OECD, set the direction for developing the so-called industry standards concerning some of the public-sector segments or certain areas of financial management in the public sector.

(e.g. in the existing legislation), but transparency in its broad sense (i.e. referring to the whole public finance sector including public administration, often industry-specific, concerning some of the public sector segments or certain areas of financial management in the public sector)<sup>3</sup> requires further discussion, strengthening the existing standards and monitoring their implementation. Especially important is the problem of transparency in the execution of public tasks by public administration. The member countries of the OECD have taken efforts aimed at supporting, popularizing and implementing standards that improve the quality of management and operations in public administration.

The OECD publications on the development of the transparency principle put special emphasis on public administration professionalism, professional ethics and integrity in task execution. For this reason, to support proper disbursement of public funds, increase effectiveness of this spending and decrease the risk of its ineffectiveness and corruption, the OECD member countries have decided to standardize and monitor public administration operations, which reflects the application of the transparency principle<sup>4</sup>. The honesty and credibility of public authorities is precisely referred to as integrity (www 2; OECD, 2009, p. 19). The OECD member countries recognize it as the cornerstone of good management in public administration both at the national and local government level (Filipiak, 2016, pp. 64-72).

Transparency is crucial as it facilitates control and prevents misuse of powers by public authorities. Practical application of the transparency principle stimulates supervision, internal control and activities under management control and, at the same time, makes it difficult to conceal irregularities and facts indicating malpractice. Transparency counteracts corruption-generating practices and corruption in public administration itself.

### **Integrity standards as manifestation of transparency principle application**

Integrity stands for applying values, principles and norms in everyday operations of public sector actors, especially public administration. The general goal of introducing principles and norms is to implement and make managers observe a culture of integrity throughout

3 This approach is discussed in more detail by: Niedzielski (2005).

4 This is reflected in the documents (OECD, 2000a) and (OECD, 2015).

an execution cycle of public tasks as well as throughout a life cycle of a given service and during the execution of task performed by public administration. The concept of integrity has evolved and by consensus is now based on the four basic pillars, that are (OECD, 2009, pp. 18-19): transparency, good management, prevention of misconduct and monitoring (including information) together with accountability and control. These pillars can be divided into: a) layers that constitute the integrity management framework (e.g. ethics code, conflict-of-interest policies, whistle-blowing arrangements etc.), b) development processes and c) process beneficiaries (these are the so-called integrity actors - public administration workers) who should have incentive to promote integrity and consistency in public sector entities while providing public services (Bertók et al., 2009, pp. 7-8). OECD research (OECD, 2000; OECD, 2009, OECD, 2015a), as well as Bertok (2001) indicate that emphasis should be put on a mechanism to promote desired ethical attitudes, including “integrity” standards and the prevention of corruption. Corruption is perceived here not so much as individual actions, but rather as a result of systemic imperfection or civilization culture, underestimating the importance of professional ethics.

The integrity standards in the execution of public sector tasks have been defined in relation to the most important areas of activity of public authorities. The most important group of standards concerns public procurement (this area is considered riskiest from the integrity perspective), lobbying (public administration workers get in contact with private interests of business groups represented by lobbyist), events and public tasks. They can be presented as follows (OECD, 2000; OECD, 2009; OECD, 2015):

1) It is important to ensure an adequate degree of transparency throughout a task execution cycle and act to promote fair and equitable treatment of potential suppliers/contractors of the public sector. It is vital to develop and regularly audit policies, procedures, practices and institutions in terms of ethical behavior in public service and administration and in terms of performance.

2) It is necessary to ensure maximum transparency in competitive tendering and take maximum precautionary measures to enhance cohesion of the actions taken (referring both to performance, executing a tenderer selection process as well as providing information).

3) The transparency of the use of public funds should

be monitored to ensure that they are employed in line with the purpose intended, in particular, used according to the intended purpose by the tenderer indicated in a public procurement contract.

4) It is essential to assure that officials responsible for procurement and task execution meet high professional standards in terms of their knowledge, skills and integrity. It is vital to implement procedures and principles with ethical dimension under public administration (offices) management to make sure that management practices are in line with the values and principles of public service (administration).

5) Mechanisms should be put in place to avoid and reduce risks to professionalism and transparency and to prevent violation of ethical principles. It is especially important to take efforts targeted to maintain high standards of conduct and to prevent corruption in the public sector.

6) Actions need to be taken to foster close cooperation between national and local governments and the public sector to keep high integrity standards.

7) It is necessary to develop specific mechanisms for monitoring task execution and public procurement processes and detecting misconduct together with applying appropriate sanctions.

8) It is important to create a clear chain of responsibility, transparent in terms of jurisdiction, together with effective control mechanisms.

9) Complaints from potential tenderers/suppliers should be processed in a fair and timely manner in line with the established procedures.

10) Under the integrity framework it is also necessary to encourage social organizations and citizens, media and the public to scrutinize task execution and public procurement. These activities should be fully accepted by public administration.

In this context one should note that it is also advocated to combine management systems with moral and professional ethics principles. Managers should assess the effects of public management reforms in terms of their impact on providing public services and maintaining ethical conduct. Ethical principles in public service should be referred to in everyday operational management and included in attachments to relevant organizational documents.

The OECD standards indicate that an entity is considered to meet the integrity and transparency principles only when it demonstrates the ability to

**Table 1: Implementation of integrity standards measured by composite index in 2014 (group I)**

Country	Level of disclosure and public availability of private interests across branches of government:			
	executive	legislative	judicial	at risk area
Australia	38,33	75	14,58	25
Austria	31,25	54,17	29,17	20,83
Belgium	37,5	41,67	0	20,83
Canada	66,67	70,83	10,42	20,83
Chile	35	62,5	56,25	29,17
Czech Republic	29,17	58,33	0	58,33
Estonia	52,78	79,17	39,58	11,11
Finland	41,67	0	27,08	16,67
France	58,33	70,83	75	6,94
Germany	19,17	66,67	25	33,33
Greece	38,89	79,17	41,67	33,33
Hungary	59,03	87,5	45,83	41,67
Iceland	25	75	8,33	4,17
Ireland	38,89	62,5	6,25	12,5
Israel	45	54,17	43,75	45,83
Italy	32,5	70,83	70,83	43,06
Japan	28,33	58,33	20,83	25
Korea	81,94	87,5	83,33	83,33
Mexico	41,67	41,67	41,67	41,67
Netherlands	36,67	50	45,83	0
New Zealand	49,58	87,5	0	20,83
Norway	65	50	37,5	18,06
Poland	38,89	87,5	25	20,83
Portugal	54,17	100	37,5	20,83
Slovak Republic	59,72	87,5	39,58	8,33
Slovenia	25	18,75	29,17	11,11
Spain	37,5	54,17	8,33	8,33
Sweden	50,83	54,17	29,17	22,92
Switzerland	23,33	25	10,42	19,44
Turkey	58,33	50	50	50
United Kingdom	59,17	75	12,5	27,78
United States	60	100	66,67	29,17
OECD - average	44,35	63,61	32,23	25,98
Brazil	30,83	43,75	37,5	29,17
Colombia	37,5	37,5	37,5	37,5
Latvia	87,5	87,5	87,5	87,5
Russia	66,67	66,67	66,67	66,67

Source: OECD data

**Table 2: Implementation of integrity standards measured by composite index in 2014 (group II)**

Country	Level of disclosure and public availability of private interests by the level of public officials in the executive branch:				
	head of the executive	ministers or members the executive	political advisors/ appointees	senior civil servants	civil servants
Australia	75	75	8,33	29,17	4,17
Austria	37,5	37,5	25	25	25
Belgium	41,67	41,67	41,67	41,67	20,83
Canada	75	75	75	75	33,33
Chile	50	62,5	0	62,5	0
Czech Republic	58,33	58,33	0	58,33	0
Estonia	79,17	79,17	0	70,83	8,33
Finland	87,5	87,5	-	25	8,33
France	62,5	75	75	75	0
Germany	16,67	16,67	-	25	25
Greece	79,17	79,17	25	25	25
Hungary	87,5	87,5	41,67	41,67	12,5
Iceland	75	75	0	0	0
Ireland	62,5	66,67	58,33	33,33	12,5
Israel	50	50	50	45,83	29,17
Italy	50	50	25	25	12,5
Japan	62,5	37,5	0	25	16,67
Korea	87,5	83,33	83,33	83,33	66,67
Mexico	41,67	41,67	41,67	41,67	41,67
Netherlands	62,5	62,5	16,67	25	16,67
New Zealand	87,5	87,5	16,67	33,33	19,05
Norway	75	75	58,33	58,33	58,33
Poland	56,25	87,5	0	16,67	16,67
Portugal	100	100	8,33	8,33	8,33
Slovak Republic	87,5	87,5	87,5	4,17	4,17
Slovenia	29,17	29,17	16,67	29,17	16,67
Spain	62,5	62,5	0	62,5	0
Sweden	70,83	70,83	37,5	37,5	37,5
Switzerland	25	25	25	20,83	20,83
Turkey	50	50	50	50	50
United Kingdom	87,5	91,67	41,67	41,67	33,33
United States	100	66,67	66,67	66,67	0
OECD - average	64,78	64,84	32,5	39,45	19,48
Brazil	29,17	41,67	41,67	41,67	0
Colombia	37,5	37,5	37,5	37,5	37,5
Latvia	87,5	87,5	87,5	87,5	87,5
Russia	66,67	66,67	66,67	66,67	66,67

Source: OECD data

participate in making an ethical decision and maintains the transparency of its activities. This ability includes the awareness of moral issues in a decision-making process concerning the execution of public tasks. An important problem indicated here is combining the obligations arising from the integrity principles with the recommendations resulting from a budget, financial plans or agreements (if a task is executed under an agreement or concluded contract) as well as implementing morally responsible decisions in practice (see: Petrick et al., 2000)<sup>5</sup>.

Respecting the transparency principle is becoming vital (as the OECD pays particular attention to it in its research) in terms of the ongoing globalization processes, especially the increasing worldwide economic competition and the growing tendency of private entities to take over the public sector's tasks. Public authorities at different levels are becoming increasingly interested in supporting economic processes and attracting both domestic and foreign investors. Due to the constraints of available financial resources they do not lose interest in outsourcing of tasks including the services that so far have been reserved for the public sector. This situation might potentially generate a conflict of interest and a breach of the transparency principle (Mauro, 1995; Mauro, 1997; Grosse, 2000). Additionally, it has been indicated that in public service one may encounter references to the market values, not to the ethos of serving the common good, which should be done in line with ethical values through the high quality of the tasks executed (Mauro, 1995; Mauro & Wei, 1997 and 2000; Della Porta & Meny, 1997; Della Porta & Vannucci, 1999; Friedman et al., 2000; Grosse, 2000, Filipiak & Ruszała, 2009; Mazur, 2016; Filipiak, 2016).

Therefore, the OECD monitors the application of the integrity standards. In order to assess the “integrity” phenomenon, the following are analyzed: disclosures of public officials' private interests on the grounds of the authority exercised (in this study these are four variables denoted as group “I” in Table 1) and public availability of the information provided together with disclosures of public officials' private interests broken down by the positions held (described by five variables denoted as “II” in Table 2).

In the first group, covering disclosures of public

<sup>5</sup> Some entities, having been commercialized or transformed into single-member companies, apply the business principles. While executing tasks entrusted under public administration agreements, they should perform them in accordance with the integrity standards. The others employ traditional or task-based budget planning.

officials' private interests on the grounds of the authority exercised (disclosures are expressed as percentages), the following have been analyzed:

- 1) the level of disclosures and dissemination to the public of private interests relating to executive authorities,
- 2) the level of disclosures and dissemination to the public of private interests relating to legislative authorities,
- 3) the level of disclosures and dissemination to the public of private interests relating to judicial authorities,
- 4) the level of disclosures and dissemination to the public of private interests – in risk areas (this level includes the officials of tax and customs administration, public procurement agencies and those responsible for finances).

In the second group, covering the percentage of public availability of the information provided and disclosures of public officials' private interests broken down by the positions held, the following have been analyzed:

- 1) the level of disclosures and dissemination to the public of private interests relating to officials acting as executive directors,
- 2) the level of disclosures and dissemination to the public of private interests relating to officials acting as ministers or cabinet members,
- 3) the level of disclosures and dissemination to the public of private interests relating to officials acting as political advisers/appointed members of authorities,
- 4) the level of disclosures and dissemination to the public of private interests relating to senior state officials,
- 5) the level of disclosures and dissemination to the public of private interests relating to state officials.

The data gathered serve as the basis to compare the OECD countries, to assess the effectiveness of activities taken by the member states and to modify policies in terms of implementing the transparency principle in its broad sense. Table 1 summarizes the results of the latest research conducted in the OECD countries regarding the observance of the integrity standards. This study presents disclosures, i.e. transparent activities compliant with the integrity principles and professional ethics in public administration. The table contains data expressed by a composite index referring to the disclosures within public administration.

The level of disclosure of public officials' private interests differs among the three branches of government and these are the legislative authorities that display

the highest level of disclosure and availability of public information in the vast majority of the OECD countries researched. The differences demonstrated pose a number of questions: do these differences concern the EU countries, are there differences between the old and the new EU Member States and what is the extent of these differences? The answers to these questions might be provided by means of a spatial homogeneity analysis in the area of the aggregate indicators presented in Tables 1-2. Spatial homogeneity is important as there is an increasing tendency to raise the issue of significant development differences in different areas between the countries that make up the European Union (Cheba, 2016).

## **RESEARCH APPROACH AND CHARACTERISTICS OF METHODS EMPLOYED**

The study of the spatial homogeneity of the European countries in terms of observing the transparency principle was performed by means of a composite index calculated based on the integrity data presented in the OECD statistics. As the division of the European Union into the so-called old member states and the new members of the EU or even into the rich Western countries and the poorer Eastern countries still seems to exist, it was decided to perform the analysis of the 3 groups of countries, i.e. European countries divided into: a) the old EU-15 countries, b) the countries which accessed the EU after 2004 and the other European countries. Tables 3-4 present the characteristics of grouping the countries and the value of composite index used in the study.

The information gathered and aggregated in Tables 1-4 are the data expressed as percentages by the composite index relating to the disclosures within public administration. It should be noted though that the measurement methodology used by the OECD is imperfect as it is based on the declarations of the member states that gather information from public administration entities by means of a survey. The composite index was built in line with the approach described by Nardo (see: Nardo & Munda, 2004; Nardo et al., 2005), presented in a research report (OECD, 2008). The research was conducted in 2014<sup>6</sup> based on the disclosure of public

officials' private interests divided into two core variables: the authority exercised, and the position held in public administration. In the case of two countries (Finland and Germany), owing to the lack of data on public availability of the information provided and disclosures concerning political advisors/appointed members of authorities, this information was complemented with the average value of this variable. Table 5 presents the basic descriptive profiles for the so-called integrity rate determined for the groups of countries researched.

A preliminary analysis of the information presented in the table indicates a considerable variation across certain groups of countries; this is proven by the high values of the coefficients of variation determined for each of the groups analyzed. There are also significant differences between the maximum and minimum values of the analyzed variables. In each group it is possible to identify countries whose integrity rate values are much lower when compared to the other countries. However, it is not a regularity that characterizes one specific country. This information indicates substantial inhomogeneity of the results obtained by the countries belonging to particular groups and the level of this inhomogeneity can be also assessed by means of the vector calculus.

The theoretical foundations of the vector calculus and its potential application in economics were presented in the following publications: Kolenda (2006), Nermend (2008), Nermend & Tarczyńska-Łuniewska (2013), Łatuszyńska (2014), Cheba (2016). One of the applications of the vector calculus, especially the vector calculus based on the scalar product and the arithmetic of increments described by Borawski (2012), is an analysis of spatial homogeneity of a set of objects located within a bigger spatial unit, in this study analyzed for a set of the EU Member States belonging to the so-called old EU-15, the new member states and other European countries, not members of the EU. Balanced development in different areas of activity is embedded in the basic strategic goals of the European Union, nevertheless, as shown by numerous studies, analyses and experience of the EU's functioning, it is an extremely challenging task (Cheba, 2016). One of such areas, for which the pursuit of a high and homogeneous level of development is an important advance, not only within the European Union, is the application of the integrity standards in everyday operations of public sector actors, especially public administration. A study of the homogeneity of changes

6 It is the last full measurement; in the research conducted before 2014 the integrity measurement methodology was only being developed thus the data are not comparable.

**Table 3: Characteristics of grouping the countries researched (group I)**

Country	Level of disclosure and public availability of private interests across branches of government:			
	executive (x1a)	legislative (x1b)	judicial (x1c)	at risk area (x1d)
<b>member countries of the EU, belonging to the so-called "old 15"</b>				
Austria	31,25	54,17	29,17	20,83
Belgium	37,5	41,67	0	20,83
United Kingdom	59,17	75	12,5	27,78
Finland	41,67	0	27,08	16,67
France	58,33	70,83	75	6,94
Germany	19,17	66,67	25	33,33
Greece	38,89	79,17	41,67	33,33
Portugal	54,17	100	37,5	20,83
Ireland	38,89	62,5	6,25	12,5
Italy	32,5	70,83	70,83	43,06
Spain	37,5	54,17	8,33	8,33
Sweden	50,83	54,17	29,17	22,92
Netherlands	36,67	50	45,83	0
<b>member countries of the EU, belonging to the so-called "new members"</b>				
Hungary	59,03	87,5	45,83	41,67
Estonia	52,78	79,17	39,58	11,11
Czech Republic	29,17	58,33	0	58,33
Poland	38,89	87,5	25	20,83
Slovak Republic	59,72	87,5	39,58	8,33
Slovenia	25	18,75	29,17	11,11
Latvia	87,5	87,5	87,5	87,5
<b>other European countries</b>				
Turkey	58,33	50	50	50
Iceland	25	75	8,33	4,17
Russia	66,67	66,67	66,67	66,67
Norway	65	50	37,5	18,06
Switzerland	23,33	25	10,42	19,44
<b>OECD - average</b>	<b>44,35</b>	<b>63,61</b>	<b>32,23</b>	<b>25,98</b>

Source: OECD data

**Table 4: Characteristics of grouping the countries researched (group II)**

Country	Level of disclosure and public availability of private interests by the level of public officials in the executive branch:				
	head of the executive (x2a)	ministers or members the executive (x2b)	political advisors/ appointees (x2c)	senior civil servants (x2d)	civil servants (x2e)
<b>member countries of the EU, belonging to the so-called "old 15"</b>					
Austria	37,5	37,5	25	25	25
Belgium	41,67	41,67	41,67	41,67	20,83
United Kingdom	87,5	91,67	41,67	41,67	33,33
Finland	87,5	87,5	-	25	8,33
France	62,5	75	75	75	0
Germany	16,67	16,67	-	25	25
Greece	79,17	79,17	25	25	25
Portugal	100	100	8,33	8,33	8,33
Ireland	62,5	66,67	58,33	33,33	12,5
Italy	50	50	25	25	12,5
Spain	62,5	62,5	0	62,5	0
Sweden	70,83	70,83	37,5	37,5	37,5
Netherlands	62,5	62,5	16,67	25	16,67
<b>member countries of the EU, belonging to the so-called "new members"</b>					
Hungary	87,5	87,5	41,67	41,67	12,5
Estonia	79,17	79,17	0	70,83	8,33
Czech Republic	58,33	58,33	0	58,33	0
Poland	56,25	87,5	0	16,67	16,67
Slovak Republic	87,5	87,5	87,5	4,17	4,17
Slovenia	29,17	29,17	16,67	29,17	16,67
Latvia	87,5	87,5	87,5	87,5	87,5
<b>other European countries</b>					
Turkey	50	50	50	50	50
Iceland	75	75	0	0	0
Russia	66,67	66,67	66,67	66,67	66,67
Norway	75	75	58,33	58,33	58,33
Switzerland	25	25	25	20,83	20,83
<b>OECD - average</b>	64,78	64,84	32,5	39,45	19,48

Source: OECD data

**Table 5: Basic descriptive profiles estimated for composite index for groups of countries researched**

Descriptive profiles	I. disclosure of public officials’ private interests – authority exercised				II. public availability of information provided and disclosure of public officials’ private interests – positions held				
	Level of disclosure and dissemination to public of private interests:								
	x1a	x1b	x1c	x1d	x2a	x2b	x2c	x2d	x2e
<b>EU Member States among the so-called old EU-15</b>									
$\bar{x}$	41.3	59.9	31.4	20.6	63.1	64.7	32.2	34.6	17.3
Vs	27.9	39.2	73.4	58.4	36.3	36.4	82.3	51.2	68.0
Min	19.2	0	0	0	16.7	16.7	0	8.3	0
Max	59.2	100.0	75.0	43.1	100.0	100.0	75.0	75.0	37.5
<b>EU Member States among the so-called new EU members</b>									
$\bar{x}$	50.3	72.3	38.1	34.1	69.4	73.8	33.4	44.1	20.8
Vs	42.7	35.9	69.5	87.9	32.2	30.4	119.7	68.0	144.2
Min	25.0	18.8	0.0	8.33	29.2	29.2	0.0	4.2	0.0
Max	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5
<b>Other European countries</b>									
$\bar{x}$	47.7	53.3	34.6	31.7	58.3	58.3	40.0	39.2	39.2
Vs	45.5	36.0	73.0	81.3	36.4	36.4	68.2	71.2	71.2
Min	23.3	25.0	8.3	4.2	25.0	25.0	0.0	0.0	0.0
Max	66.7	75.0	66.7	66.7	75.0	75.0	66.7	66.7	66.7

Source: Own calculations based on data in Tables 3-4, where:  $\bar{x}$  - average, Vs – coefficient of variation in %, Min – minimum value, Max – maximum value, designations of levels of disclosure and dissemination to public of private interests as in Tables 3-4.

in this area employing the vector calculus might provide additional information which can be useful for deeper analyses conducted in this field.

Calculations employing synthetic vector measure starts with the designation of so-called ordered twos (these are: an average value and a standard deviation as well as an average value and a variance), which are used for further calculations instead of actual values.

In the case of testing the spatial homogeneity of the objects, the values of the analyzed indicators for smaller objects (subobjects, in the work: EU countries and other European countries) belonging to the bigger group (in the work: EU Member States belonging to so-called old EU-15, EU Member States belonging to so-called new EU members and other European countries) are taken into account and mean value ( $\eta_j$ ), standard deviation ( $\sigma_j$ ) and the variance ( $\sigma_j^2$ ) are computed. The calculations for mean and standard deviation as well as mean and variance are performed in parallel.

The next step is to determine increases based

on which further calculations are conducted. Similar calculations are performed also for a pair consisting of mean value and variance (Nermend & Tarczyńska-Łuniewska, 2013):

$$\left( \Delta \eta_j, \Delta \sigma_j \right) = \left( \eta_j - \eta_0, \sigma_j - \sigma_0 \right) \tag{1}$$

$$\left( \Delta \eta_j, \Delta \sigma_j^2 \right) = \left( \eta_j - \eta_0, \sigma_j^2 - \sigma_0^2 \right) \tag{2}$$

where:

$\eta_j$  = the mean *i*-th variable *j*-th object

$\sigma_j$  = standard deviation of *i*-th variable *j*-th object

$\eta_0, \sigma_0$  = reference points<sup>7</sup>, respectively for the growth of the mean and the standard deviation

While, the normalization of the designated values pairs (ordered twos) is carried out with the following formula (Nermend & Tarczyńska-Łuniewska, 2013):

<sup>7</sup> Reference point can be arbitrarily chosen and should be identical for all increments of mean values, standard deviations and variances. In practice, in order to simplify a calculation most frequently it is taken as it equals zero.

$$\left( \eta'_{ij}, \Delta \sigma'_{ij} \right) = \left( \frac{\Delta \eta_i - \Delta \bar{\eta}_i}{\sigma_{\eta_i}}, \frac{\Delta \sigma_i}{\sigma_{\eta_i}} \right) \quad (3)$$

and:

$$\left( \eta'_{ij}, \Delta \sigma'_{ij} \right) = \left( \frac{\Delta \eta_i - \Delta \bar{\eta}_i}{\sigma_{\eta_i}}, \frac{\Delta \sigma_i^2}{\sigma_{\eta_i}^2} \right) \quad (4)$$

where:

$\Delta \bar{\eta}_i$  is a mean value of mean values,

$\sigma_{\eta_i}$  and  $\sigma_{\eta_i}^2$  are their standard deviation and variance, respectively.

Prior to the delimitation of synthetic measure a pattern ( $\Delta \eta'_{ij}$ ), which shows the most favorable values of the analyzed feature and anti-pattern ( $\Delta \eta'_{ij}$ ), which illustrates the least favorable values are determined. For this purpose, the value of the first and third quartile is used, which for the stimulant pattern ( $\Delta \eta'_{ij}$ ) assumes the values of the third quartile<sup>8</sup> for stimulant and the first quartile for the destimulant as follows (Nermend & Tarczyńska-Łuniewska, 2013):

$$\Delta \eta'_{ij} = \begin{cases} \Delta_{k_{III}} \eta'_i & \text{for stimulants} \\ \Delta_{k_I} \eta'_i & \text{for destimulants} \end{cases}$$

where

$\Delta \eta'_{ij}$  = the value of the i-th normalized variable for the pattern

$\Delta \eta'_{ij}$  = the value of the i-th normalized variable for the first quartile

$\Delta \eta'_{ij}$  = the value of the i-th normalized variable for the third quartile

While, in the case of the anti-pattern ( $\Delta \eta'_{ij}$ ), the procedure is reversed - as its coordinates, the values of the first quartile for the stimulant and the third quartile for the destimulant are assumed. If the pattern is determined and based on quartiles it represents an unreal, idealized object. There is therefore no need to determine the deviation increases for its coordinates. Determination of synthetic vector measure based on the scalar ratio of vectors representing the objects and vectors pattern and anti-pattern is determined on the basis of the formula (Nermend & Tarczyńska-Łuniewska, 2013):

$$\Delta m_{s\eta} = \frac{\sum_{i=1}^M \left( \Delta \eta'_{ij} - \Delta \eta'_{ij} \right) \left( \Delta \eta'_{ij} - \Delta \eta'_{ij} \right)}{\sum_{i=1}^M \left( \Delta \eta'_{ij} - \Delta \eta'_{ij} \right)^2} \quad (5)$$

8 They can also be determined based on the real object.

The next step is to assign the tested objects (in this case: the geographic regions of Europe) to the appropriate classes in the following way (Nermend & Tarczyńska-Łuniewska, 2013):

$$cl_j = \begin{cases} 1 & \text{for } \Delta m_{s\eta} \geq \overline{\Delta m_s} + \sigma_{\Delta m_s} \\ 2 & \text{for } \Delta m_{s\eta} \geq \overline{\Delta m_s} \quad \wedge \quad \Delta m_{s\eta} < \overline{\Delta m_s} + \sigma_{\Delta m_s} \\ 3 & \text{for } \Delta m_{s\eta} \geq \overline{\Delta m_s} - \sigma_{\Delta m_s} \quad \wedge \quad \Delta m_{s\eta} < \overline{\Delta m_s} \\ 4 & \text{for } \Delta m_{s\eta} < \overline{\Delta m_s} - \sigma_{\Delta m_s} \end{cases}$$

where

$\overline{\Delta m_s}$  = the mean value of the mean value increment

$\sigma_{\Delta m_s}$  = is the standard deviation of the mean value increment

$cl_j$  = is class number for the j-th object

The first class includes the best objects with the highest values of the synthetic vector measures and the fourth class the worst ones with the lowest values.

On the basis of the increments of standard deviations the maximum value of the standard deviation increment is determined, as follows (Nermend & Tarczyńska-Łuniewska, 2013):

$$\Delta m_{s\sigma max} = \frac{\max_i (\Delta \sigma'_i)}{j} = \frac{\max_i (\Delta \sigma'_i)}{\sqrt{\sum_{i=1}^M \left( \Delta \eta'_{ij} - \Delta \eta'_{ij} \right)^2}} \quad (6)$$

This maximum value of the increments of standard deviation can be interpreted as a measure of the spatial homogeneity ( $hl_j$ ) of development. The lower is the value of this measure the greater is homogeneity and the smaller are the differences between the objects and reverse.

## RESULTS OF RESEARCH ON SPATIAL HOMOGENEITY IN TERMS OF INTEGRITY STANDARDS APPLICATION

The results of the research on the homogeneity in terms of the application of the integrity standards by public administration entities across the three groups of European countries are presented in Table 6 and Figure 1. Table 6 presents how the groups of the European countries chosen for the study were divided based on: classifying them to appropriate typological classes and spatial homogeneity (inhomogeneity) in the

area analyzed. Figure 4, on the other hand, is a graphic representation of how the European countries are divided in terms of the typological classes identified. The countries classified under the third and fourth typological classes with the vector measure results below the average value determined for the groups of the European countries analyzed are marked by one color.

The first typological class, with the highest values of the vector measure determined, covered the EU Member States belonging to the so-called new members group, which means that these countries had a higher average level of integrity standards application when compared to the other groups. The third group covered the other European countries, not members of the EU, whose vector measure values were below the average. The EU Member States, on the other hand, belonging the old EU-15, were classified within the fourth typological class

with the lowest value of the vector measure. This means that as for the groups researched these countries had the lowest average development level in the area of the integrity standards application.

The very high values of the measure describing the spatial homogeneity of the development of the country groups studied in terms of the integrity standards application proved a lack of homogeneity in this area across the countries analyzed. This means a lack of homogeneity in the integrity standards application in relation to the old EU-15 countries, the countries that accessed the EU after 2004 and the other European countries. In this way the study proved a lack of developmental homogeneity which means that in each of the groups analyzed there were countries characterized by significant differences in the level of the integrity standards application. Basically, it is difficult to identify a group of countries with a level

**Table 6: Division of European regions into classes - summary**

Region	Division of European regions in terms of:	
	development level of average European country	Spatial homogeneity (%) *
EU Member States among the so-called old EU-15	Class IV	above 190
EU Member States among the so-called new EU members	Class I	above 190
Other European countries	Class III	100-120

Source: Own calculations, where: \* - ratio of maximum increments of standard deviations to class's range

**Figure 1: European regions divided into classes based on development level of average EU Member State**



Source: Own elaboration

of homogeneity higher than the other groups. The results above 100% indicate considerable variation within each group analyzed. The states belonging to the so-called other European countries, not members of the EU (the value of the measure describing spatial homogeneity was in that case 100-120%), had relatively the highest homogeneity (in this case rather the lowest inhomogeneity), albeit it is still a very high value of the rate which should be interpreted as a lack of homogeneity in the area of the integrity standards application.

## CONCLUSIONS

The conducted research confirms the existing conviction in literature that an entity is considered to meet the integrity and transparency principles only when it demonstrates the ability to participate in making an ethical decision and maintains the transparency of its activities. Most of the countries surveyed are aware of moral issues in the decision-making process related to the performance of public tasks, as shown in Table 3. An important problem here is to link the obligations arising from the integrity principles to revealing the private interests of public officials and their impact on morally responsible decisions in practice. Petrick and Quinn (2000) also drew attention to this issue in theory.

The study conducted based on the coefficient of variation indicated significant variation across the groups of countries analyzed. Additionally, the use of the vector calculus confirmed the lack of homogeneity (inhomogeneity) of the European countries in the terms of the integrity standards application. The lack of spatial homogeneity identified means that the countries included in the analyzed groups vary considerably in terms of the level of the integrity rate and, despite the fact that the whole group was classified in the first typological class, can be also classified in the other classes.

The obtained results indicate a need to search for the factors that have “distorted” the spatial homogeneity. Understandably, precise identification of the factors generating the lack of homogeneity (inhomogeneity) in this area and then striving to eliminate them is a responsibility of the public authorities of a given country,

it might also be an important signal to take appropriate decisions within the European community as well as to strengthen the application of standards in the OECD member countries.

It should be also noted that a number of the European countries belonging to the OECD do not perform evaluation (do not assess the implementation of the integrity standards) in specific groups of disclosures and do not assess information availability (e.g. in group II c). In some of the countries researched the composite index has reached very low values (“0” or a dozen or so percent) which might suggest a need to implement and strengthen the standards or to make efforts improving the quality of data gathering (e.g. greater diligence in completing a questionnaire for determining the composite index). The study also covered the countries where the composite index was equal or close to 100%. This indicates a high level of the integrity standards application. It is then important to not only search for the causes of the lack of homogeneity, but also to intensify activities related to reporting, gathering data and applying the existing internal standards that will contribute to the improvement in terms of the transparency principles enforcement in the European countries belonging to the OECD.

In addition, research has confirmed that in not all OECD countries are officials responsible for the implementation of tasks and orders able to meet high professional standards of knowledge, skills and integrity (see the integrity standards no 4). The presented research material confirms previous OECD research, as well as views Bertok (2001). Despite taking measures to promote ethics and implement the principle of transparency, not all countries satisfactorily meet the “integrity” standards.

The presented lack of spatial homogeneity shows that OECD countries are guided by various factors in their decisions. The past economic crisis undoubtedly allows us to state that very often among the reasons for the weakness of implementing integrity standards may be the fact that public authorities of various levels are becoming more and more interested in supporting economic processes, attracting investors, domestic and foreign, than in promoting “integrity standards” (on as in Mauro, 1995; Mauro, 1997; Grosse, 2000).

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