

Remigiusz ROSICKI

Adam Mickiewicz University in Poznań

ORCID ID: 0000-0002-1187-5895

## Political topology of Europe

**Abstract:** The objective scope of the analysis performed in the text encompasses selected aspects of policy in its topological dimension. The space of policy is understood as both a theoretical construct (a policy field) and relations between the characteristics of political actors and their special kind of geographical co-existence. The following have been recognised as essential characteristics of policy-making: (1) electoral process and pluralism, (2) functioning of government, (3) political participation, (4) political culture and (5) civil liberties. These features can become an object of analysis in the assessment of democratic and authoritarian tendencies in selected countries.

The text uses two statistical methods of multidimensional comparative analysis (Ward's method and *k*-means method), apart from which use has been made of basic descriptive statistics and a comparative analysis of the values of the parameters of political characteristics. A selection of 40 European countries (EU-28 and 12 other countries) have been subjected to a statistical analysis according to the 2018 data. The main goal of the analysis is to connect facts and characteristics attributed to policy with a specific geographical area. In order to elaborate the objective scope of the research problem, the following research questions have been presented in the text: (1) *Which of the characteristics of policy will determine the division of state entities according to a special type of clusters?*, (2) *Will political characteristics determine the division of particular state entities according to a special type of geographical division?* The addressed research questions have been related to the hypotheses subjected to verification in the text.

**Key words:** theory of policymaking, topology of policymaking, policy field, political systems, policy diffusion, politics

**A**s a term, 'topology' is associated with mathematics, and to be more precise, with one of its branches dealing with the study of the properties of space. The terminology concerned with the topology of space was used by German-American psychologist Kurt Lewin, who applied it in his own field theory. In Kurt Lewin's approach, field theory was supposed to be universally applicable in all psychology, but it exerted considerable influence on the development of social psychology and the study of change management. The main principles characterising Lewin's theory include: (1) the principle that behaviour is a function of a field at a specific time when a given behaviour is manifested, (2) the principle that analysis can only start with the situation represented as a whole, where component elements are taken into account, (3) the principle whereby a specific subject in a specific situation can be represented in a mathematical form (for more details see: Lewin 1935; Lewin, 1936; Lewin, Lippitt, White, 1939, p. 271–301; Lewin, 1944, p. 195–200; Lewin, 1947, p. 197–211; Lewin, 1948; Lewin, 1951; Mey, 1972; Hall, Lindzey, 2002, p. 355–401; Martin, 2009, p. 375–413; Hobman, Walker, 2015, p. 1–12; Lahire, 2015, p. 61–101). By loosely relating the main principles of Lewin's field theory to a field of policy one can recognise that analysis of policy is to be begun with char-

acterising it as a whole while taking into account its elements, e.g. particular areas and their attendant political facts, as well as political actors. Besides, in analysis a specific political actor in a specific political situation can be represented in a mathematical form. Last but not least, a political actor's behaviour is a function of a political field existing at a specific time. The very field of policy can be divided into particular areas (electoral process and pluralism, functioning of government, political participation, political culture and civil liberties), all of which make up a whole of co-existing political facts, that is they constitute all that can influence the political actor. Thus, we have specifically termed areas of the field of policy (of a politician's) and their corresponding behaviours on the part of political actors (society). The above-enumerated specific characteristics of policy are used in the literature to establish the degree to which countries are democratised, and hence the research results can be employed to evaluate democratic and authoritarian tendencies in Europe.

The main goal of the analysis is to connect facts and characteristics attributed to policy with a specific geographical area. For this to be possible it is necessary to attribute particular characteristics of policy, and their representative parameter values to particular political actors. In order to accomplish this, ontological reduction and generalisation have been applied in the present analysis. These measures have resulted in the assumption whereby there is a possibility of ascribing certain political characteristics to the collective actor, i.e. society or a state. In order to elaborate the objective scope of the research problem, the following research questions, connected with relevant hypotheses, have been presented in the text:

**1. Which of the characteristics of policy will determine the division of state entities according to a special type of clusters?**

**(H 1):** In the analysis, electoral process and pluralism, functioning of government, political participation, political culture and civil liberties have been recognised as essential characteristics of policy. On account of the fact that the study is concerned with European countries – which are most often referred to as democratic – it is to be posited that specific parameters representing political characteristics, used in statistical analysis, will be of greater or lesser significance for the division of states according to a particular type of clusters.

**(H 1.1):** On account of the fact that the majority of states under examination are referred to as full democracies or flawed democracies, it is to be presupposed that the characteristic of electoral process and pluralism is of lesser significance in state differentiation ( $n = 40$ ).

**(H 1.2):** On account of the fact that full democracies or flawed democracies can feature varying levels of civil liberties, it is to be posited that the characteristic of civil liberties is of great significance in the differentiation of the states under examination ( $n = 40$ ).

**(H 1.3):** On account of the fact that there are reports of antidemocratic tendencies in various types of democracies and non-democratic states, it is to be posited that the characteristics of functioning of government and political culture are of great significance for the differentiation of the states under examination ( $n = 40$ ).

**2. Will political characteristics determine the division of particular state entities according to a special type of geographical division?**

(H 2): On account of the previous studies presented in the literature and concerned with political culture and political behaviours, it is to be posited that the application, in statistical analysis, of the indicated parameters representing specific political characteristics will result in a general division into Western European, Eastern European and South-Eastern European countries; it is also to be assumed that there will be a general division into Northern European and Southern European countries.

With a view to accomplishing the tasks and verifying the hypotheses, the analysis makes use of quantitative data presented by the Economist Intelligence Unit as part of the analysis of the quality of democracy in selected countries in the world in 2018 (*Democracy Index 2018...*, 2019). The text makes use of a genetic interpretation of country clustering as well as statistical analysis of country clustering. As for the genetic interpretation, use is made of the literature concerned with diffusion and convergence of policy, democracy and authoritarianism. As for the statistical analysis, two methods of object clustering have been used, that is Ward's method and k-means method. Next to basic descriptive statistics (See Appendix no. 1), the so-called box plots (See Appendix no. 2) have been used to compare the values of the different parameters of the characteristics of policy. The statistical analysis has also been supported with the study of the differences between the clusters specified for particular political characteristics with the aid of the Kruskal-Wallis test (See Table 2).

### 1. Political characteristics

For the purpose of statistical analysis use has been made of quantitative data with regard to the particular partial indicators making up the *Democracy Index* compiled by the Economist Intelligence Unit in 2018. The partial indicators used in the analysis include: (1) electoral process and pluralism, (2) functioning of government, (3) political participation, (4) political culture, and (5) civil liberties (*Democracy Index 2018...*, 2019). Each one of the enumerated indicators represents political areas in the political environment within the adopted programme of the study of policy (political topology). Hence, each one of the political facts connected with the particular areas in the political environment comes to be reflected in the characteristics of the collective political actors. In the context of the study of the diffusion of policy (democracy and authoritarianism), following J. O'Loughlin and colleagues, one can posit that characteristics of this type may serve to evaluate policy in a given society or state, but they may also serve to evaluate the diffusion and convergence of policy in the spatial respect. However, one needs to remember that while analysing such data, there will be a necessity to deal with the problem of pointing to the relationship between the states of a given political actor and other actors, given the situation where the states are in fact statistically independent (O'Loughlin et al., 1998, pp. 545–574).

The first indicator, i.e. electoral process and pluralism, takes into account the main formal and procedural mechanisms in contemporary democracies. That is why the evaluation covers: the operation of electoral law, freedom of electoral participation, organisation of free and fair legislative, executive and local authority elections, equal opportunities for actors participating in electoral campaigns, transparency of the funding of

electoral campaigns and political parties, transparency and acceptability of the post-election power transfer procedures, freedom to form parties and associations independent of government and its influence, real competition between political opposition and those in power, access to public administration positions.

The indicator of functioning of government takes into account the main mechanisms of the tripartite division of powers (distribution of the three powers). This results from the fact that the condition for maintaining political freedom is the separation of powers between different, independent, mutually complementary, restraining and controlling political institutions. And hence the evaluation covers: existence of effective check and balance mechanisms with regard to state power, the position of legislative authority – particularly in reference to executive authority and state administration, self-government of state power – particularly in relations with foreign entities, interest (e.g. religious) groups and the military. Besides, this indicator also aims to evaluate the transparency of the operation of power, e.g. the efficiency of mechanisms for holding those in power to account, the level of corruption, access to public information and trust in government.

The indicator of political participation takes account of the following component elements: voter turnout, (ethnic, religious, etc.) minority participation in political processes, women's participation in legislative authority, forms of participation in politics, citizens' involvement in politics, citizens' interest in politics, citizens' readiness to participate in legitimate demonstrations, the illiteracy level, government action aimed at increasing the citizens' political participation.

The indicator of political culture is composed of the following elements: the level of social consensus and cohesion, of perception of strong leadership, of perception of military power, of perception of the role of experts, of perception of democracy and public order, of support for democracy, of separation of church and state.

Last but not least, the indicator of civil liberties encompasses the following elements: freedom of electronic media, freedom of traditional media, freedom of speech, the position of the media, existing limitations on Internet access, freedom of association, state use of torture, independence of the judiciary, tolerance and religious freedom, a sense of security, protection of private property, a level of individual liberties, observance of human rights, incidence of discrimination, government use of threats to restrict freedoms.

## **2. Genetic interpretation of country clustering**

While making a genetic interpretation of the political differences in the territory of Europe, one needs to pay attention to the Cold War divide, which excluded the bulk of countries from the democratisation processes in political systems. Therefore, we can speak about historical structures positively or negatively affecting democratisation processes. Such an interpretation is identical with the study of the impact of colonial legacy on politics and democratisation processes in other parts of the world (cf. Lipset, 1959, p. 69–105; Lipset, Seong, Torres, 1993, p. 155–175; Lipset, 1994, p. 1–22). We can also speak about the division into Northern Europe and Southern Europe, which is conditioned by both internal political and cultural factors. On account of this way of interpretation, we can distinguish different political cultures, such as consensual and

non-consensual, participant and non-participant, etc., which can be connected with specific regions, e.g. Scandinavian culture, south-European culture, central-European culture, Anglo-American culture (cf. Almond, Verba, 1963; von Beyme, 1992, p. 161–172; Jabłoński, 1998, p. 177–198; Formisano, 2001, p. 393–426). Also, old and new modernist and dependist concepts fall within the genetic interpretation.

The literature points out that for democracy to emerge, specific social, cultural and economic conditions are necessary. In his 1960 work entitled *Political Man*, S. M. Lipset stresses, inter alia, the significance of economic conditions, which came to underlie many theses concerned with the transformation of non-democratic systems with the aid of economic instruments (Lipset, 1959, p. 69–105; Lipset, 1960). There is no doubt that economic conditions alone cannot be sufficient, and so apart from theses based on economic determinism, cultural, normative, institutional, structural and technological grounds find broad application here (Almond, Verba, 1963; Schumpeter, 1994; Antoszewski, 1998, p. 7–29; Jabłoński, 1998, p. 177–198; Antoszewski, 1999, p. 89–104; Gleditsch, Ward, 2006, p. 911–933; Shapiro, 2006, p. 104–138; Held, 2010). Some point out that the analyses of democratisation processes in the literature do not plainly prove that we are dealing with direct relations between a variety of conditions and democracy. And thus we can rather speak about their interrelations and a probability that democracy will survive under specific conditions (Przeworski, Limongi, 1993, p. 51–69; Przeworski, Limongi, 1997, p. 155–183; Gleditsch, Ward, 2006, p. 911–933). Besides, the character of policy, and democratic or non-democratic processes in a given society can also be determined by external factors. Therefore, it is to be assumed that policy and political systems may be subject to spatial diffusion and convergence. It can hardly be an exaggeration to recognise that democratisation and hybridisation mechanisms in political systems are a special kind of institutional innovations (Bennett, 1991, p. 215–233; Weyland, 2005, p. 262–295; Gleditsch, Ward, 2006, p. 911–933; Shipan, Volden, 2008, p. 840–857).

D. Brinks and M. Coppedge performed a critical analysis of research programmes concerned with spatial diffusion and convergence of policy *sensu largo*. According to these authors problems with such research arise from the fact that it is quite difficult to distinguish real diffusion from illusory diffusion. The latter may result from global trends or an accumulation of internal factors in a given country. An analysis of policy processes and changes in the neighbouring countries or countries in the region, followed by a comparative analysis, appears to be quite a good solution in the study of policy diffusion and convergence (Brinks, Coppedge, 2006, p. 463–489). Despite quite an interesting analytical solution, it is difficult not to notice that the mere concomitance of changes in neighbouring countries does not furnish an unambiguous assessment as to the incidence of direct relations or an interrelation concerned with policy processes and changes. Still, it is possible to propose a general thesis whereby democracy, as a certain representation of policy-making, will flourish or last in a more democratic neighbourhood or region (Przeworski, Alvarez, Cheibub, Limongi, 1996, p. 39–55). However, a broader context needs to be taken into account, because mere geographical coincidence of countries does not necessarily imply free diffusion and convergence of policy. This can be illustrated with the example of such co-existing countries as North Korea and South Korea. And that is why apart from internal and external factors, a major role is played by open dif-

fusion channels of political institutions (Most, Starr, 1990, p. 391–412; Kopstein, Reilly, 2000, p. 1–37; Brinks, Coppedge, 2006, p. 463–489).

Analyses of the proliferation of various political institutions, or – more broadly – a political culture, most frequently focus on the diffusion and convergence of democracy. It is to a lesser degree that they take account of the trends concerned with authoritarian tendencies or processes geared towards demolition of the structures of a democratic state of law in consolidated democracies or democracies simply recognised as stable (cf. Gel'man, Lankina, 2008, p. 40–62; Ambrosio, 2010, p. 375–392; Lankina, Libman, Obydenkova, 2016, p. 1599–1629; Bank, Weyland, 2018; Olar, 2019, p. 667–681). That is why it may be interesting to attempt to demonstrate opposing tendencies with regard to the co-existence of neighbouring authoritarian states and lawless states.

### 3. A statistical analysis of clustering

#### 3.1. A cluster analysis

On the basis of the policy indicators using the two statistical methods of multidimensional comparative analysis, clustering of the EU-28 countries and 12 other European countries ( $n = 40$ ) has been performed according to the 2018 data. The first object clustering method used is one of the agglomerative methods (i.e. Ward's method), and the second one is one of the methods for optimising a given cluster of objects ( $k$ -means method) (see Table 1). A distinctive characteristic of this method is the use of variance analysis in order to determine the distance between clusters. The demonstrated distance between one cluster composed of objects and another one cannot be directly expressed by way of the distance between the objects belonging to these clusters (Kaufman, Rousseeuw, 2005, p. 230–234; Stanisiz, 2007, p. 122; Mirkin, 2015, p. 111–136). Therefore, the method aims to minimise the sum of squared deviations of any two clusters which can be formed at any stage. As a result of this operation, the clusters that ensure the minimum sum of squared distances from the centre of mass of a new cluster that they create are merged. The literature points out that this kind of agglomerative method is cognitively effective, however it yields small, and yet most natural clusters (Roszko-Wójtowicz, 2014, p. 74; *Analiza skupień*, 2019). While hierarchical methods generate arranged cluster trees, whereby lower-order clusters are subsumed under higher-order ones, the  $k$ -means method divides clusters in such a manner that no cluster is a sub-cluster of another one (Stanisiz, 2007, p. 127–128). The choice of a specified number of clusters results in groups of objects that are most similar (close), whereas objects from other groups are most different (distant). Noteworthily, it must be pointed out that it is the analysing person who makes an arbitrary choice as to the number of clusters made up of particular objects (Sokołowski, 2002; Mirkin, 2015, p. 75–110).

It has been decided that a greater number of clusters will be distinguished so that apart from the attempt at juxtaposing the values of the parameters of political characteristics attributed to particular clusters, a division of clusters and their elements can be made with regard to their possible, special kind of geographical coincidence. Thus, sev-

en clusters have been distinguished; more or less, they look similar in both the cases of the applied statistical methods of multidimensional comparative analysis (See Table 1).

Table 1

**Countries belonging to distinguished clusters on the basis of the indicators applied with the aid of the Ward's method and the *k*-means method.**

	<b>Ward's method</b>	<b><i>k</i>-means method</b>
<b>Cluster 1</b>	BG, CY, CZ, EE, EL, FR, IT, LT, LV, PT, SI	BY
<b>Cluster 2</b>	BE, LU, MT	TR
<b>Cluster 3</b>	CH, DK, FI, IE, IS, NO, SE	BG, CY, CZ, EE, EL, FR, HR, HU, LT, LV, PL, PT, RO, SI, SK
<b>Cluster 4</b>	AT, DE, ES, NL, UK	AT, CH, DE, ES, IT, LU, MT, NL, UK
<b>Cluster 5</b>	HR, HU, PL, RO, RS, SK	AL, BA, MD, ME, MK, RS, UA
<b>Cluster 6</b>	BY, TR	DK, FI, IE, IS, NO, SE
<b>Cluster 7</b>	AL, BA, MD, ME, MK, UA	BE

\* The EU-28 and 12 other European countries were subjected to a cluster analysis: **BY** – Belarus, **UA** – Ukraine, **MD** – Moldova, **BA** – Bosnia and Herzegovina, **ME** – Montenegro, **RS** – Serbia, **AL** – Albania, **MK** – Macedonia, **TR** – Turkey, **NO** – Norway, **IS** – Iceland, **CH** – Switzerland.

**Source:** Own study.

With the division of clusters by way of the Ward's method it is possible to demonstrate a characteristic division with regard to the value of the parameters of political characteristics, but also certain divisions concerned with a particular geographical coincidence. With regard to the value of the parameters of political characteristics attributed to particular clusters, one can point to, for instance: **cluster 3** (CH, DK, FI, IE, IS, NO, SE), **cluster 5** (HR, HU, PL, RO, RS, SK), **cluster 7** (AL, BA, MD, ME, MK, UA), **cluster 6** (BY, TR). Therefore, an overall assessment based on the parameter values provides a picture of gradability of policy quality as expressed in the degree of democratisation in particular cluster elements and clusters themselves. With the benefit of overall characterisation of the geographical coincidence it is possible to point to – despite the incidence of exceptions – the significance of the divide between the old and new EU member states. While considering all the states under analysis (n = 40), it is possible to point to an overall divide between the states of Western and Eastern Europe. Within the framework of this divide, the distinction of **cluster 3**, which primarily encompasses northern countries (Nordic countries, Ireland, but also Switzerland), is particularly visible. On account of a particular kind of political characteristics and geographical situation, it is worth paying attention to Central Europe, Eastern Europe and South-eastern Europe (including Turkey). With regard to the value of the parameters of political characteristics and the particular kind of geographical situation, we can point to **cluster 6** (BY, TR), **cluster 7** (AL, BA, MD, ME, MK, UA) and **cluster 5** (HR, HU, PL, RO, RS, SK). As regards **cluster 7** one can notice continuing lower values of the parameters of political characteristics, while in the case of **cluster 5** a drop in their value is to be observed. The latter of the above examples exhibits the susceptibility of collective political actors to acceptance or adoption of solutions that are authoritarian, non-democratic or contrary to the rule of law. The influence of internal factors remains an open question, and some consideration might also be given to the possibility of the diffusion and convergence of

hybrid democracies from the territory of South-eastern and Eastern Europe to Central Europe (Turkey, Russia, Belarus, Serbia, Hungary and Poland). At the same time, it is to be noted that in the juxtaposed clusters it is primarily formal and procedural mechanisms in contemporary democracies that are of a stable character, which does not imply that processes consisting in destabilisation of the democratic institutions and the rule of law are absent.

### 3.2. A statistical analysis of political characteristics

In order to perform a comparative analysis between the clusters for particular political characteristics, use was made of the Kruskal-Wallis test. On the basis of the obtained results, it is possible to conclude that there are substantial statistical differences across all the test variables. The biggest effect size of this kind has been observed for civil liberties, then functioning of government and political culture, while the smallest effect size has been achieved for political participation, electoral process and pluralism. Still, it is noteworthy that all the effects of this kind were of very big size and similar to one another (See Table 2). The analysis will also be supported with the results of basic descriptive statistics and interpretations of the box plots for the values of the parameters of political characteristics (See Appendix no. 1 and 2).

Table 2

#### Analysis of the differences between the clusters in standard (*z-score*) values of the used indicators of political characteristics (Kruskal-Wallis test)

Variables	Cluster 1 (n = 15)	Cluster 2 (n = 4)	Cluster 3 (n = 2)	Cluster 4 (n = 7)	Cluster 5	Cluster 6	Cluster 7	H	P	$\epsilon^2$
	$M_r$	$M_r$	$M_r$	$M_r$	$M_r$	$M_r$	$M_r$			
Electoral process and pluralism	24.23	26.17	33.07	24.00	14.58	1.50	5.50	30.01	<0.001	0.77
Political participation	20.23	13.33	35.07	33.30	8.67	2.25	14.83	31.21	<0,001	0.80
Political culture	19.27	29.67	36.86	28.20	9.75	11.25	6.50	33.34	<0,001	0.85
Civil liberties	21.68	27.50	35.43	29.10	10.58	1.50	6.50	33.84	<0,001	0.87
Functioning of government	19.27	31.83	35.57	28.60	13.75	3.50	5.17	33.71	<0,001	0.86

Source: Own study.

An analysis of the differences between the clusters shows that the highest level of the mean rank for the individual political characteristics is to be found in cluster 3, which is mainly composed of the Nordic countries, but also includes Ireland and Switzerland. This comes to be reflected in the quality of policy and the level of democracy. A high level of the mean rank of political characteristics features in cluster 2 (BE, LU, MT) and cluster 4 (AT, DE, ES, NL, UK), which are for the most part composed of Western European countries and old EU member states. More often than not, these countries are characterised as stable in respect of the quality of policy and democratic consolidation.



A relatively low level of the mean rank of the characteristic of political participation is a visibly distinctive feature of cluster 2 in relation to cluster 4. This means that two Benelux countries and Malta, as a cluster, are distinguished by a lower level of their citizens' involvement in politics. Cluster 1 (BG, CY, CZ, EE, EL, FR, IT, LT, LV, PT, SI), which comprises geographically and culturally quite varied countries, is characterised by high levels of mean ranks of political characteristics, which are nevertheless considerably lower than those in clusters 2 and 4. By way of generalisation one might say that this cluster mainly includes Central European and Southern European countries. By applying a different division, one might also say that cluster 1 mainly includes some Latin countries, Central European countries and Baltic countries. Interpretation of this state of affairs may be twofold – on the one hand, the state may imply that there is a visible divide among the countries of the old EU, or it may mean some kind of diffusion and convergence of policy between the region of the Scandinavian countries and the region of the Baltic countries. In cluster 1, the characteristic of electoral process and pluralism is marked by the highest level of the mean rank, and it is not much higher than the level of the mean rank of this characteristic in cluster 4, not much lower than the mean rank of this characteristic in cluster 2, but markedly lower than the mean rank of this characteristic in cluster 3. It is noteworthy that within the provided descriptive statistics the value of the kurtosis for this political characteristic in cluster 1 is positive, and so it can be concluded that the scores are concentrated around the mean.

As regards the mean scores of the parameters of political characteristics, of special interest is cluster 5 (HR, HU, PL, RO, RS, SK), which mainly comprises some of the Central European countries and some of the Baltic countries. This group includes countries with demonstrated non-democratic tendencies or tendencies contrary to the rule of law typical of a democratic legal state, which can be exemplified by Poland and Hungary. This cluster characteristically features considerably lower levels of the mean ranks of particular political characteristics in comparison with clusters 1, 3 and 4, as well as 1. Compared with clusters 6 and 7, the levels of the mean rank of particular political characteristics are typically higher. However, there are some observable exceptions to this generalisation, e.g. cluster 6 is marked by a little higher level of the mean rank of political culture than cluster 5, while cluster 7 is marked by a higher level of the mean rank of political participation. This means that according to the mean value of the parameters, cluster 6 exhibits a lower level of quality with regard to such actions as perception of leadership, authority, democracy and public order, lower than the smallest cluster composed of two countries with an authoritarian and hybrid political system (Belarus and Turkey). Besides, according to the mean value of the parameters, cluster 6 shows a lower level of citizen participation in politics than the Balkan countries and Ukraine, which are included in cluster 7.

On account of the countries not reckoned among full and flawed democracies, cluster 6 exhibits the lowest levels of the mean ranks with regard to particular political characteristics in comparison with other clusters. An exception is the value of the mean rank with regard to the characteristic of political culture, which is higher than the one in cluster 5 and 7. However, the descriptive statistics shows that the value of arithmetic mean and the median value with regard to the characteristic of political culture in cluster 6 are higher, but also close to the corresponding values in cluster 5. But the kurtosis value for

this political characteristic in cluster 5 is negative, and so this cluster is characterised by a weak concentration of scores around the mean for this characteristic.

Cluster 7 is distinguished by the fact that the values of the mean ranks of particular political characteristics in comparison with clusters 1, 2, 3, 4 and 5 are typically low. Another distinguishing characteristic of this cluster is that the values of the mean ranks of particular political characteristics, in comparison with cluster 6, are higher. It is to be recognised that the distinguishing feature is a higher value of the mean rank for political participation in comparison with clusters 5 and 6. This can also be seen in descriptive statistics conducted for these clusters, because the arithmetic means and medians for the characteristic of political participation in clusters 5 and 6 are lower in comparison with the corresponding values of this political characteristic in cluster 7. Still, it is worth noting that the values of the kurtosis for this political characteristic in clusters 5 and 6 are negative, and so these cases exhibit a weak concentration of scores around the mean for this characteristic (in the case of cluster 6 there are not enough observations to generate the value of this parameter).

One should also take into consideration the results of the descriptive statistics conducted for all the countries under examination ( $n = 40$ ). On account of the fact that the countries under examination include the EU-28 member states, but also the countries whose political systems are referred to as hybrid and authoritarian, account should be made of both the scores of the mean values of political characteristics and kurtosis values. The highest arithmetic mean and median values were found for the characteristics of electoral process and pluralism and civil liberties. In both the cases the kurtosis values were found to be positive, and so the scores were considerably concentrated around the mean. Lower values of the arithmetic means and medians were found for the remaining political characteristics, their kurtosis values being negative, which proves a weak concentration of scores around the mean (See Appendix no. 1).

On account of the fact that the analysis drew on one of non-parametric tests, it is worth additionally illustrating the differences between the comparable clusters with the aid of box plots. This results from the fact that non-parametric tests do not juxtapose arithmetic means. But box plots present medians and deviations therefrom with regard to particular clusters (See Appendix no. 2).

The preliminary assumptions behind the analysis provided that a considerable number of the countries under examination are full or flawed democracies, and so it was presupposed that the characteristic of electoral process and pluralism is of lesser significance in differentiation. This political characteristic has the highest median value among all the political characteristics under examination. It is also noteworthy that for the thirty out of the forty countries the value of this indicator was above 9 points (out of the maximum 10). The highest median value with regard to this political characteristic is in cluster 3, and then in clusters 1, 2 and 4, which have equal values. Cluster 5 is not much different from the above clusters in respect of the median value. The box plots point to marked differences in this respect with regard to clusters 7 and 6. This is the most visible in cluster 6, which includes Belarus – classified as an authoritarian state according to the democracy assessment. Perforce, classification of a state as authoritarian will bear on the lowest level of the indicator of electoral process and pluralism among all the countries under examination ( $n = 40$ ). This cluster also shows a spread ranging widely between the

lowest and the highest values of the characteristic, but it must be borne in mind that the cluster is not numerous. The median and arithmetic mean values with regard to all the observations ( $n = 40$ ) show that for more than half of the countries under examination the value of the characteristic of electoral process and pluralism is above the arithmetic mean. The kurtosis value in all the observations shows that the observations are highly concentrated around the mean.

While considering the characteristic of civil liberties for all the countries under analysis, it is to be pointed out that more than half of the countries under analysis have values of the characteristic above the average. The median value of the characteristic for all the countries under analysis is one of the two highest values among the five political characteristics under examination. The kurtosis value with regard to all the observations ( $n = 40$ ) shows that the observations are considerably concentrated around the mean. While comparing individual countries, it is to be pointed out that the highest values of the characteristic of civil liberties are in Ireland, then Finland, Iceland, Luxembourg and Norway. The lowest values of this characteristic are in Belarus and Turkey. By way of generalisation, it must be concluded that the highest values of the characteristic are to be found in the Northern European countries, while the Western European countries are marked by high values of the characteristic. The low values of the characteristic, apart from the above-mentioned cluster 6 countries, are to be found in Central European countries and South-eastern European countries (cluster 5 and 7 countries). This comes to be reflected in the scale of the median values in the individual clusters. The highest values are registered, in the descending order, by cluster 3, 4, 2 and 1; lower values are registered by cluster 5 and 6, while the lowest value is to be found in cluster 7. Characteristically, the Baltic states and other Central European countries, which fall within cluster 1, show higher values of the characteristic of civil liberties in comparison with the Central European and South-eastern European countries in cluster 5 and 7. By and large, the values of the characteristic of civil liberties are comparable for clusters 5 and 7. The distinguishing feature of all the clusters in respect of this characteristic is the fact that they exhibit a wide-ranging spread of the highest values, and in the case of cluster 1 the spread of the lowest values is observably wider than in the case of the other clusters. As regards this characteristic, there is a visible split among the Central European and South-eastern European countries, which points to potentially negative diffusion and convergence of policy in general; e.g. this can be observed in the changing trend in the characteristic of civil liberties in such countries as Poland and Hungary – as for the latter country, the change set in earlier, and so the dynamics of this phenomenon is of a different character. For instance, the indicator of civil liberties in Poland in 2016 registered 8.24, while in 2018 it registered less, that is 7.65. If the low or declining level of freedom does not draw a response in the form of political participation or attitude to authority or leadership, then one might actually recognise that what we are having is a crisis of civil society.

While considering the box plot for the political characteristic of functioning of government, one needs to observe that the first three clusters with the highest median values are clusters 3, 2 and 4. As regards cluster 4, there is a visible spread of the values of this characteristic, which results, *inter alia*, from Spain (with the lowest value of the characteristic) belonging to this cluster and the Netherlands (with the highest value of the

characteristic). One can conclude that because of the value of the characteristic, Spain is closer to Portugal and Italy, but cluster 4 also includes other countries with not very high values of the characteristic of functioning of government. As regards the median value, cluster 1 is distant from both cluster 3, 2 and 4, but also from clusters 7 and 6. But it is close to cluster 5. Cluster 1 exhibits a distinct spread of the value of the characteristic of functioning of government. On the one hand there is Estonia (with the highest value of the characteristic), and on the other hand there is Greece (with the lowest value of the characteristic). Interestingly, in respect of the values of the characteristic, Estonia comes closer to the Northern European countries, while Greece is closer to other Balkan countries, e.g. Montenegro, Macedonia and Serbia. As regards cluster 5, the values of the characteristic of functioning of government are evenly distributed for Croatia, Hungary and Poland, and Slovakia (with the highest value of the characteristic) and Serbia (with the lowest value of the characteristic) are outlying observations. What is more, half of the observations in this cluster is marked by the values of the characteristic above the arithmetic mean.

While considering the characteristic of political culture for all the countries under analysis, it is to be pointed out that more than half of the countries under analysis have values of the characteristic above the arithmetic mean. The median value of the characteristic for all the countries under analysis is one of the two lowest values among the five political characteristics under examination. The kurtosis value with regard to all the observations ( $n = 40$ ) shows that the observations are weakly concentrated around the mean. While comparing the individual countries, it should be pointed out that the highest values of the characteristic of political culture are exhibited by Ireland, Iceland, Norway and Sweden (Northern European countries), while the lowest values of the characteristic are exhibited by Bosnia and Herzegovina, and Macedonia. While comparing the clusters in respect of this political characteristic, it can be clearly seen that the highest scale of the mean value for the characteristic of political culture is exhibited by cluster 3, while the lowest scale – cluster 7.

The distinguishing feature of clusters 1, 2, 3 and 4 is the fact that the values of the characteristic of political culture are widely spread, while – apart from one case – they are not outlying observations. For instance, the lowest values of the characteristic are exhibited by: Bulgaria (in cluster 1, and it is an outlying observation), Belgium (in cluster 2), Finland (in cluster 3) and Austria (in cluster 4). While the first four clusters exhibit a wide spread of the lowest values of the political characteristic, clusters 5 and 7 exhibit a spread of the highest values of the characteristic. The countries marked by the highest values of the characteristic of political culture in clusters 5 and 7 include Hungary and Ukraine respectively. Still, these two observations are not outliers. In general, one can conclude that the lowest values of this characteristic appear in clusters 5 and 7, which is expressed in the lowest median values among the clusters under examination. While regarding these two clusters, analyses show that more than half of the observations exhibit the values of the characteristic of political culture below the arithmetic mean, regarding the kurtosis value for cluster 5, a considerable number of the scores are markedly distant from the mean, and in the case of cluster 7 the scores are considerably concentrated around the mean. A qualitative assessment of these data may indicate the susceptibility of the Central and South-eastern European countries to the tendencies towards the

destabilisation of democracy and rule of law institutions. The low values of the political characteristic concerned with the perception and acceptance of authority and democracy should be considered along with the scale of the characteristic of political participation. An appropriate attitude towards leadership and authority along with a lack of political participation may enable the processes of hybridisation of political systems in Central and South-eastern Europe.

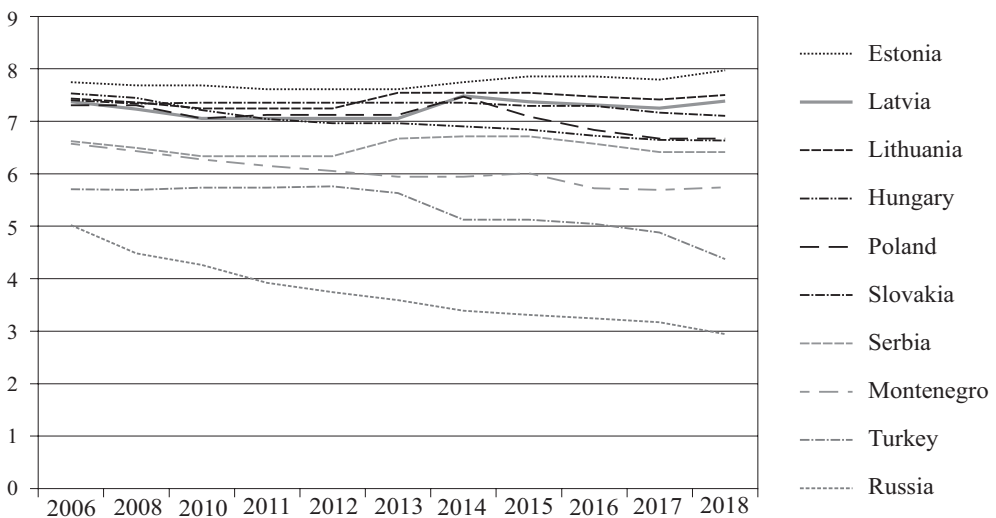
While considering the characteristic of political participation according to the distribution in the box plots for all the countries under analysis, it should be noted that there are differences in the existing divisions between the clusters. The highest median values are still exhibited by the Northern and Western European countries (cluster 3 and 4), but the cluster 2 and 1 countries exhibit a much lower median value of the characteristic of political participation. What is more, if the extreme and outlying values were to be eliminated, then it is visible that the values of the characteristic of political participation in cluster 1, 2 and 3 are comparable, cluster 5 coming close. One might say that this political characteristic brings the Balkan, Latin, Central-European and Baltic countries closer to one another.

The part of the text concerned with the genetic interpretation of clustering takes a closer look at the discussion of the policy processes and changes in the context of the diffusion and convergence of political institutions. On the basis of the results of basic descriptive statistics and of the analysis of the differences between the clusters based on standardised values of the political characteristics, one may provide an interpretation illustrating policy diffusion and convergence from the geographical perspective. The lowest mean ranks of the political characteristics are exhibited by the countries of South and South-eastern Europe. Two countries located at opposite extremes (Belarus and Turkey), which belong to the same cluster, represent the lowest values of mean ranks of political characteristics. Then come the cluster 7 countries, which are located mainly in South-eastern Europe (excluding Ukraine), that is Albania, Bosnia and Herzegovina, Moldova, Montenegro and Macedonia. As we proceed, one needs to point to the countries in cluster 5, which includes countries situated in both South-eastern Europe and Central Europe, that is Croatia, Hungary, Poland, Romania, Serbia and Slovakia. Another group with the values of mean ranks of political characteristics is constituted by countries making up cluster 1. The countries in this cluster are geographically quite varied, chiefly some Latin and Central European countries, some Balkan and Baltic countries (Bulgaria, Cyprus, the Czech Republic, Estonia, Greece, France, Italy, Latvia, Lithuania, Portugal and Slovenia). Therefore, these are the countries that on the one hand did to fit in with the Western European countries (e.g. South European countries), while on the other hand they did not belong to the group of central, south-eastern and eastern European countries. This comes to be reflected in the literature analysing political culture with regard to geographical specificity (e.g. Greece, Italy and Spain). Apart from one common characteristic, the countries belonging to clusters 2 and 4 exhibit quite similar values of arithmetic means of the political characteristics obtained with the aid of descriptive statistics (bar one). Both the clusters include the Benelux countries (Belgium, Luxembourg and the Netherlands), central-western European countries (Austria and Germany), as well as Spain, Malta and the UK. The highest values of the mean parameters of political characteristics (obtained from the analysis of the differences between the clusters) and

the highest arithmetic means (obtained from the analyses of basic descriptive statistics) are exhibited by cluster 3, which chiefly comprises Nordic countries, but also Ireland and Switzerland. Therefore, one may conclude that going from east and south-east in Europe, the value of the political characteristics addressed in the presented study increases. From a geographical viewpoint, a certain hard core of higher quality policy-making in Europe is constituted by Benelux, central-western Europe, but above all northern Europe *sensu lato*.

On account of the verification of non-democratic tendencies as part of a possible diffusion from east and south-east in Europe, an analysis has been performed of the changes in the values of the political characteristics as one synthetic index presented by the Economist Intelligence Unit. The analysis includes only a selection of 40 countries and one which was not subjected to earlier statistical analysis, that is Russia (See Figure 1). Three Baltic countries exhibit a fairly stable value of the synthetic democracy index (a visible rise in Estonia), while in Poland and Hungary the democracy index shows a downward trend. Marked declines are to be observed in Russia and Turkey. As regards the assessment of non-democratic trends and changes contrary to the rule of law in Poland and Hungary, similar drops are to be seen in the indicators presented by the Bertelsmann Foundation (SGI – *Sustainable Governance Indicators*). For instance, as regards the indicator for the rule of law, Poland came down by 4.2 points, whereas as regards the indicator for civil rights and political liberties – the fall registered 3 points in 2014–2018 (the scale of 1–10 points).<sup>1</sup> Despite a temporary rise in the value of the democracy index for Serbia and Montenegro, the period of 2016–2018 registered a drop. As regards Slovakia, following a period of certain stabilisation in the value of the democracy index in 2010–2016, there was a slight drop.

**Figure 1. Trends concerned with the change in the value of the democracy index in 2006–2018**



Source: Own study based on the Economist Intelligence Unit data.

<sup>1</sup> For more details on *Sustainable Governance Indicators* (SGI) see <http://www.sgi-network.org>.

With a view to verifying the possibility of demonstrating the existing ultra-factors (linear combinations of the observed variables), which might characterise all the countries under examination ( $n = 40$ ), a factor analysis has been performed (cf. Górnjak, 1998, p. 83–102). In the first stage, an analysis was performed of the principal components for the five variables, that is five political characteristics. The Kaiser-Meyer-Olkin test result was 0.75, which means a satisfactory result. The Bartlett's test for sphericity proved statistically significant  $\chi^2(10) = 171.59$ ;  $p < 0.001$ , and that is why a decision was made to attempt a dimensionality reduction for the test variables. But on account of the application of the scree plot and the Kaiser criterion, only one dimension was distinguished, where the cumulative percentage of explained variance was 75.69%. And for this reason, no transformation of the principal components in the variable space was performed, which would make it possible to obtain the simplest interpretable component structure. Besides, in connection with pointing to one dimension in the analysis of the principal components, no further interpretation of the data in the text was undertaken.

### Conclusion

The objective scope of the analysis in the text covers two spatial dimensions of policy. The first one is of a theoretical character; in this dimension a loose reference was made to K. Lewin's field theory, the effect being an approach to policy-making as a field of policy. Main areas of the policy field were pointed to according to the significance of the impact of the individual policy elements. The individual areas are represented accordingly by the five political characteristics, which in turn are represented by the values of the parameters. The characteristics representative of policymaking include: (1) electoral process and pluralism, (2) functioning of government, (3) political participation, (4) political culture, (5) civil liberties. The other of the analysed spatial dimensions is concerned with the relation between the characteristics of political actors and their special kind of geographical coincidence. Hence, one might say that the above-enumerated political characteristics are subject to ontological reduction and generalisation in the sense that they can characterise collective political actors such as societies and states. Therefore, the behaviour of collective political actors is a function of the field of policy and each one of its areas.

In order to elaborate the research problem, the text features the following research questions related to the hypotheses subjected to verification:

**(1) *Which of the characteristics of policy will determine the division of state entities according to a special type of clusters?***

To begin with, it was assumed that specific parameters representing political characteristics, used in statistical analysis, would be of greater or lesser significance for the division of states according to a particular type of clusters (**H1**).

From a statistical point of view, given the Kruskal-Wallis test results, statistically significant differences were established for all the test political characteristics. The biggest differences were established for the characteristic of civil liberties, then functioning of government and political culture, whereas smaller differences were found in the case of

political participation and electoral process and pluralism. Still, it must be noted that all the effects were of big size and similar to one another.

On the basis of the performed basic descriptive statistics for all the analysed countries ( $n = 40$ ), it must be pointed out that the highest median values are those, in descending order, of the following political characteristics: (1) electoral process and pluralism, (2) civil liberties, (3) political culture, (4) functioning of government and (5) political participation.

An analysis of the principal components resulted in distinguishing only one dimension. Since only one principal component was distinguished, no additional rotated component matrix was applied, nor further interpretation of the data was undertaken in the text.

**(H 1.1):** On account of the fact that the majority of countries under examination are referred to as full democracies or flawed democracies, it was assumed that the characteristic of electoral process and pluralism is of lesser significance in country differentiation ( $n = 40$ ).

On the basis of the basic descriptive statistics and interpretations of the box plots it is to be concluded that in the case of this political characteristic there is lower differentiation between the clusters than in the case of the other political characteristics. This means that the first five clusters exhibit comparable median values for the characteristic of electoral process and pluralism, while the last two clusters are markedly distinct from them, especially cluster 6.

**(H 1.2):** On account of the fact that full democracies or flawed democracies can feature varying levels of civil liberties, it was assumed that the characteristic of civil liberties is of great significance in the differentiation of the countries under examination ( $n = 40$ ).

On the basis of the basic descriptive statistics and interpretations of the box plots it is to be concluded that in the case of this political characteristic there is higher differentiation between the clusters than in the case of the characteristic of electoral process and pluralism. Still, the median values of this characteristic in cluster 1, 2, 3 and 4 are very high or high, and are comparable to one another. The lower median values of the characteristic of electoral process and pluralism, while they are comparable, are exhibited by cluster 5 and 7. In respect of the scale of the value of the characteristic, the most outlying cluster is cluster 6.

**(H 1.3):** On account of the fact that there are reports of antidemocratic tendencies in various types of democracies and non-democratic states, it was assumed that the characteristics of functioning of government and political culture are of great significance for the differentiation of the countries under examination ( $n = 40$ ).

On the basis of the basic descriptive statistics and interpretations of the box plots it is to be concluded that in the case of the characteristic of functioning of government there is higher differentiation between the clusters than in the case of the characteristic of electoral process and pluralism. There is also a difference when compared with the distribu-



tion of clusters for the characteristic of civil liberties. As regards the scale of the value of the characteristic of functioning of government, clusters 2 and 3 are the closest to each other. Characteristically, the spread of the values of the characteristic of functioning of government in cluster 4 matches the spread of the values of the characteristics in cluster 3, 2 and 1. The spread of the values of the characteristics in cluster 1 matches the spread of the values of the characteristics in cluster 4 and 2, including the range of the outlier in cluster 3. Besides, the spread of the values of the characteristics in cluster 1 matches the values in cluster 5 and the highest values in cluster 7. Still, given the scale of the median values for clusters 6 and 7 one can conclude that they are comparable with regard to each other, and outlying with regard to other clusters.

As regards the characteristic of political culture it was concluded that the high scales of the median values are exhibited by cluster 3 and 2, which can be recognised as comparable. Clusters 1 and 4 are characterised by lower, yet comparable median values. The lowest, though comparable, median values are exhibited by cluster 5, 6 and 7. While the first four clusters exhibit a wide spread of the lowest values of the characteristic of political culture, clusters 5 and 7 exhibit a spread of the highest values of the characteristic.

***(2) Will political characteristics determine the division of particular state entities according to a special type of geographical division?***

At the beginning it was assumed that the application, in statistical analysis, of the indicated parameters representing specific political characteristics would result in a general division into Western European, Eastern European and South-Eastern European countries; it is also to be assumed that there will be a general division into Northern European and Southern European countries (**H2**).

With the aid of the cluster analysis method, the countries were divided according to the similarity between political characteristics; the countries were also divided according to a special kind of geographical division. The general outline of the North-South and West-East divide is reflected in the study, but it is more nuanced. With regard to the West-East divide we can distinguish: (I) Western Europe (more precisely: mainly cluster 3 and 4) and Northern Europe (more precisely: mainly cluster 3 – Nordic countries), (II) Central Europe (more precisely: mainly cluster 5) and South-eastern Europe (more precisely: mainly cluster 7). Undoubtedly, clusters 1 and 7 are varied with regard to the geographical aspect. In the former case we are dealing with a cluster composed principally of Latin, central-European and Baltic countries. In the latter case, the cluster includes countries that in the examined area are easternmost.

As regards the North-South divide, the most distinct example is the difference between the scale of the values of the political characteristics in cluster 3 (Nordic countries) and cluster 7 (Balkan countries).

It appears that spatial diffusion and convergence of hybrid democracies or non-democratic tendencies from the area of South-Eastern and Eastern Europe to Central Europe (e.g. Turkey, Russia, Belarus, Serbia, Hungary and Poland) requires further analysis. A similar stipulation must be made in connection with possible spatial diffusion and convergence of political institutions between Scandinavian and Baltic countries.

### Appendix no. 1. Basic descriptive statistics for political characteristics

#### Basic descriptive statistics for political characteristics of all the countries (n = 40)

Variables	M	Me	SD	Sk.	Kurt.	Min	Max
Electoral process and pluralism	8.71	9.58	1.83	-2.59	7.86	0.92	10.00
Political participation	6.78	6.67	1.34	0.21	-0.49	3.89	10.00
Political culture	6.74	6.88	1.87	0.26	-0.89	3.75	10.00
Civil liberties	8.10	8.53	1.66	-2.13	5.60	2.35	10.00
Functioning of government	6.85	6.79	1.85	-0.32	-0.48	2.86	9.64

#### Basic descriptive statistics for political characteristics in Cluster 1 based on Ward's division (n = 11)

Variables	M	Me	SD	Sk.	Kurt.	Min	Max
Electoral process and pluralism	9.51	9.58	0.17	-1.92	2.04	9.17	9.58
Political participation	6.67	6.67	0.70	0.36	-0.45	5.56	7.78
Political culture	6.42	6.88	0.80	-2.04	4.16	4.38	6.88
Civil liberties	8.58	8.53	0.37	-0.03	-0.43	7.94	9.12
Functioning of government	6.69	6.43	0.80	0.41	0.17	5.36	8.21

#### Basic descriptive statistics for political characteristics in Cluster 2 based on Ward's division (n = 3)

Variables	M	Me	SD	Sk.	Kurt.	Min	Max
Electoral process and pluralism	9.58	9.58	0.42	0.04	-	9.17	10.00
Political participation	5.93	6.11	0.85	-0.93	-	5.00	6.67
Political culture	8.13	8.75	1.08	-1.73	-	6.88	8.75
Civil liberties	9.02	8.82	0.61	1.31	-	8.53	9.71
Functioning of government	8.69	8.93	0.42	-1.73	-	8.21	8.93

#### Basic descriptive statistics for political characteristics in Cluster 3 based on Ward's division (n = 7)

Variables	M	Me	SD	Sk.	Kurt.	Min	Max
Electoral process and pluralism	9.82	10.00	0.22	-0.37	-2.80	9.58	10.00
Political participation	8.57	8.33	0.71	1.59	3.17	7.78	10.00
Political culture	9.64	10.00	0.49	-1.13	0.34	8.75	10.00
Civil liberties	9.54	9.71	0.33	-0.24	-1.27	9.12	10.00
Functioning of government	9.13	9.29	0.61	-1.84	3.80	7.86	9.64

#### Basic descriptive statistics for political characteristics in Cluster 4 based on Ward's division (n = 5)

Variables	M	Me	SD	Sk.	Kurt.	Min	Max
Electoral process and pluralism	9.50	9.58	0.18	-2.24	5.00	9.17	9.58
Political participation	8.22	8.33	0.25	-2.24	5.00	7.78	8.33
Political culture	7.63	7.50	0.52	-0.49	-0.67	6.88	8.13
Civil liberties	9.06	9.12	0.25	0.47	-0.73	8.82	9.41
Functioning of government	8.07	7.86	0.86	0.60	-0.92	7.14	9.29

**Basic descriptive statistics for political characteristics in Cluster 5 based on Ward's division (n = 6)**

Variables	M	Me	SD	Sk.	Kurt.	Min	Max
Electoral process and pluralism	9.02	9.17	0.46	-0.86	0.95	8.25	9.58
Political participation	5.56	5.56	0.50	-0.02	-1.88	5.00	6.11
Political culture	5.11	5.00	0.73	0.67	-0.46	4.38	6.25
Civil liberties	7.45	7.50	0.36	0.07	-1.59	7.06	7.94
Functioning of government	6.01	6.07	0.48	0.47	1.34	5.36	6.79

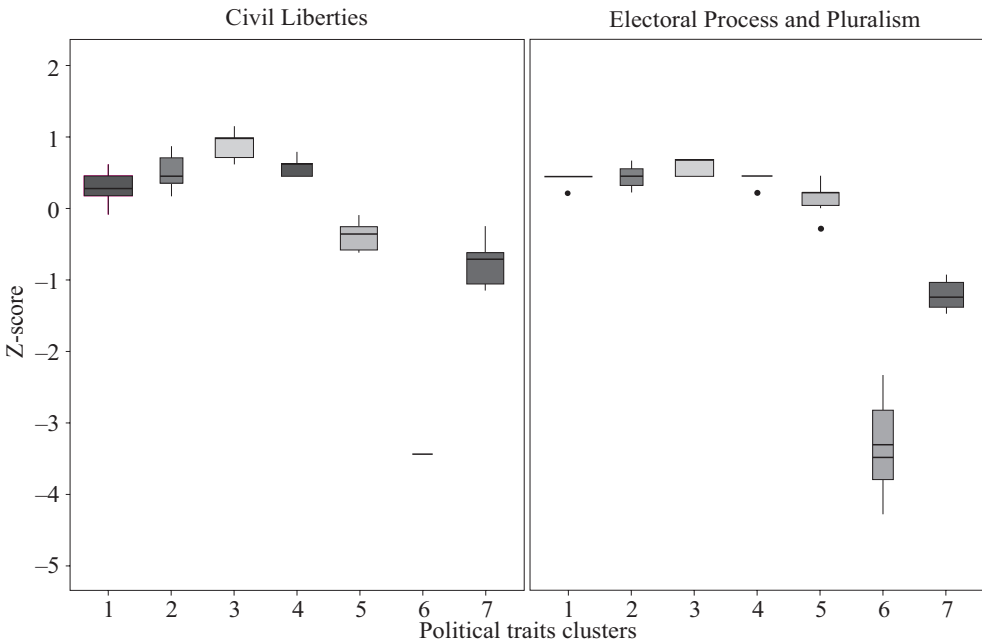
**Basic descriptive statistics for political characteristics in Cluster 6 based on Ward's division (n = 2)**

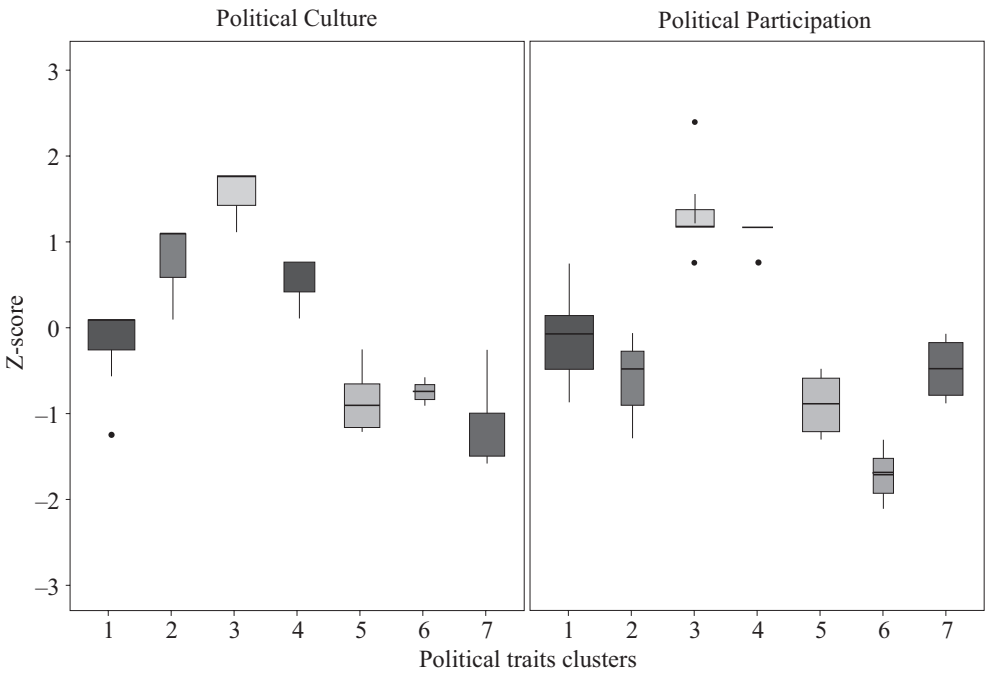
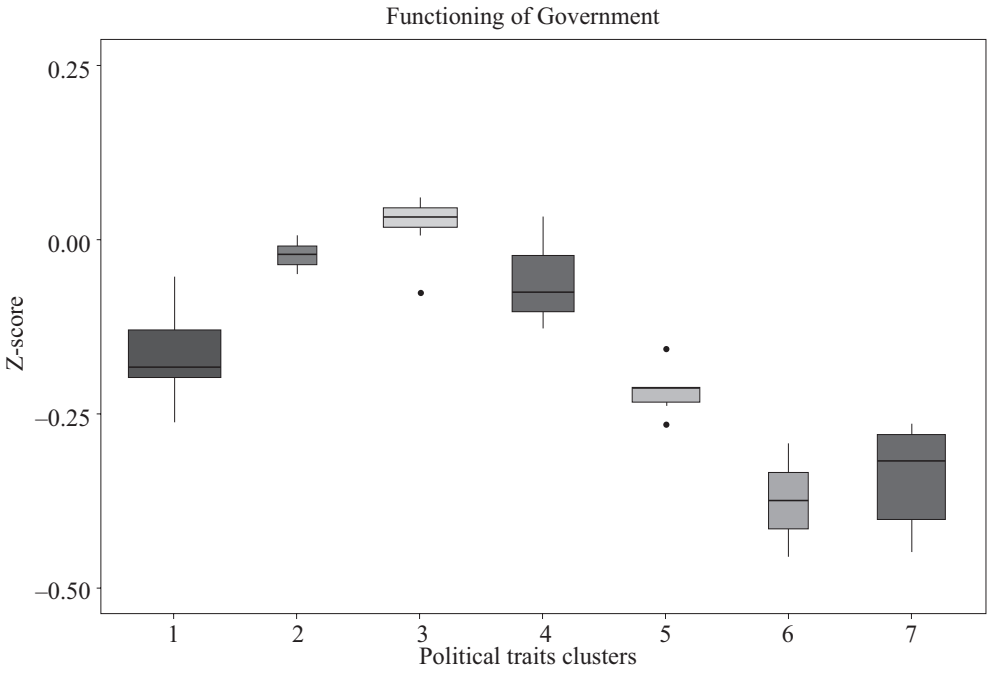
Variables	M	Me	SD	Sk.	Kurt.	Min	Max
Electoral process and pluralism	2.71	2.71	2.53	-	-	0.92	4.50
Political participation	4.45	4.45	0.78	-	-	3.89	5.00
Political culture	5.32	5.32	0.45	-	-	5.00	5.63
Civil liberties	2.35	2.35	0.00	-	-	2.35	2.35
Functioning of government	3.93	3.93	1.51	-	-	2.86	5.00

**Basic descriptive statistics for political characteristics in Cluster 7 based on Ward's division (n = 6)**

Variables	M	Me	SD	Sk.	Kurt.	Min	Max
Electoral process and pluralism	6.56	6.50	0.41	0.29	-1.73	6.08	7.08
Political participation	6.11	6.11	0.50	0.02	-1.88	5.56	6.67
Political culture	4.59	4.38	0.94	1.26	1.52	3.75	6.25
Civil liberties	6.82	6.91	0.57	0.16	-0.84	6.18	7.65
Functioning of government	4.37	4.68	1.06	-0.64	-1.72	2.93	5.36

**Appendix no. 2. Box plots illustrating distribution of political characteristics in individual clusters**





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## Topologia polityczna Europy

### Streszczenie

Zakres przedmiotowy analizy w tekście obejmuje wybrane aspekty polityki w jej wymiarze topologicznym. Przestrzeń polityki rozumie się zarówno jako konstrukt teoretyczny (pole polityki), ale i jako zależności między cechami podmiotów politycznych i ich szczególnym rodzajem współwystępowania geograficznego. Za istotne cechy polityki uznano: (1) proces wyborczy i pluralizm, (2) funkcjonowanie administracji publicznej, (3) partycypację polityczną, (4) kulturę polityczną i (5) swobody obywatelskie. Cechy te stanowią też mogą przedmiot oceny tendencji demokratycznych i autorytarnych w wybranych państwach.

W tekście wykorzystano dwie statystyczne metody wielowymiarowej analizy porównawczej (metodę Warda i *k*-średnich), obok nich wykorzystano też podstawowe statystyki opisowe oraz analizę porównawczą wartości parametrów cech polityki. Analizie statystycznej poddano czterdzieści wybranych państw europejskich (UE-28 i 12 pozostałych) wedle danych na 2018 rok.

Głównym celem analizy jest powiązanie faktów i cech przypisanych polityce z określonym obszarem geograficznym. W celu uszczegółowienia zakresu przedmiotowego problemu badawczego w tekście przedstawiono następujące pytania badawcze: (1) *Które z cech polityki decydować będą o podziale podmiotów państwowych wedle szczególnego rodzaju grup?*, (2) *Czy cechy polityczne decydować będą o podziale poszczególnych podmiotów państwowych wedle szczególnego rodzaju podziału geograficznego?* Wskazane pytania badawcze związane odpowiednio z hipotezami, które są przedmiotem weryfikacji w tekście.

**Słowa kluczowe:** teoria polityki, topologia polityki, pole polityki, systemy polityczne, dyfuzja polityki, polityka

