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## ***Citizen Comprehension of the Left-Right Ideological Continuum in Central and Eastern European Post-Communist Countries***

**Abstract:**

*The paper analyses the common one-dimensional simplification of the complex socio-political reality conventionally recognised as the left-right continuum in Central and Eastern European post-communist countries. Due to the intense European integrating processes<sup>1</sup> of this post-communist region the investigation of the potentially distinct general understanding of one of the most universally applied tools for distinguishing political actors holds even greater importance. According to Kitschelt's five-dimensional theoretical framework of the post-communist context and by employing data mining techniques, the paper examines core standpoints that define one's position on the left-right axis in the investigated region. The paper lends additional weight to the intuitive initial assumption of our research that has been frequently discussed in the relevant literature and somewhat confirms a person's attitude to the previous regime as the most important divide in the political space of Central and Eastern European post-communist countries.*

1) The term denotes intensive integration processes and eventual membership of most investigated countries in the European Union, the North Atlantic Treaty Organization and various other international organisations (Organisation for Security and Cooperation in Europe, Council of Europe, etc.).

## 1. Introduction

Comprehending the modern and complex socio-political reality in culturally diverse societies with endless networks of intertwined interactions of individuals and organisations has become a demanding task for the individual citizen. The simplification of day-to-day events and relationships which are not fundamental in everyday life is therefore the only rational goal to pursue in order to cope with and understand present socio-political phenomena in political society. Members of the political community encounter a series of problems that determine their linkage and involvement in mass electoral politics (Carkoglu 2007: 253), namely the issue of the acquisition, processing and interpretation of information relevant to electoral politics. Further, there are moderate incentives for a citizen to become involved in day-to-day politics if we look at the 'costs' one has to accept in order to be up-to-date. The few incentives to follow mass politics and the immense complexity of the individual's preferences as well as political actors' positions thus seem to make the political process unappealing for the average citizen with a limited education and intellectual capacity.

In order to grasp the modern political complexity, in his seminal work on party ideologies Downs (1957) provided an answer based on economics for overcoming such an immense obstacle to the functioning of the political process. Namely, ideologies provide a useful tool for removing the voter's need to relate every single issue to his own philosophy. As a consequence, the citizen is focused on the differences between political actors, thereby reducing his costs of being informed about a wider range of issues (*ibid.*). A number of recent studies have substantiated such claims by referring to the simpler and more predictable lines that separate political actors despite their involvement in multidimensional policy spaces. The entire rationale behind this lies in the more economical and simplified low-dimensional conflict space for voters as well as the predictability of voters' attitudes to political elites (Hinich and Munger 1994: 3). According to Von Beyme (1985: 258), such a simplification is in fact an essential feature of political elites/professional politicians, despite the frequent public rejections of such claims. In other words, a few crowning postures glue together a number of specific attitudes and beliefs and form the core properties of one's belief system (Converse 2000).

An agglomeration of views – a few core fundamental attitudes regarding general moral and political principles therefore shape citizens' attitudes and decisions concerning daily politics since there is no need for the average member of a political community to comprehend the technical details of individual policies and their consistency with their ideological predispositions (Zaller 1992). Despite their elitist nature, such views reinforce the relevance of the economic theory of democracy by the cost-reducing function of thus conceived ideologies and provide an additional argument for political elites to pursue a simplified public political discourse deprived of relevant specific information on individual policies. Kunda (1999) describes such a process of com-

prehending the complex social environment as social cognition since it enables individuals to orient themselves within such a space. In the political context, a typical form of social cognition (Kroh 2007: 204) or ideology as conceived in Downs' terms represents the left-right (ideological) dimension.

The left-right ideological dimension is a widely used conceptual tool that helps summarise the ideological characteristics of individuals in mass politics (Carkoglu 2007: 255) since it enables individuals to reflect on politics by tagging themselves and others as 'left' or 'right' (Kroh 2007: 205). Citizens also frequently derive their policy views according to a left-right placement, thus making the left-right schema a general simplifying mechanism for reducing political complexities and for orientating the masses to politics as well as a tool for communication and mobilisation between the masses and political elites (Fuchs and Klingemann 1990). As Miller et al. (1972) exemplified, the self-placement of an American on the liberal-conservative scale, an American functional equivalent of the left-right dimension, reveals a correlation with his stand on the most important issues and is a stronger voting predictor than an individual's single-issue stance. According to numerous seminal works, the left-right dimension evidently provides a simplified and cost-efficient mode of comprehending the complex network of viewpoints and value systems that can also be perceived as an invention enabling the compression of political reality into a simple dichotomy (e.g. Hix 1999). Hence, a simplified left-right dimension<sup>2</sup> reduces the number of correlating social roles and institutions, social and political system, economic relations, property structure, human rights and liberties, modernisation etc. to a single comprehensible dimension.

The ideological continuum ranging from left to right is a central organising dimension in Western Europe (Barnes and Kaase 1979; Hix 1999; Hix and Lord 1997; MacDonald et al. 1991; Marks and Steenbergen 2002 etc.), a more important political cue for European publics than the liberal-conservative divide is for Americans (Inglehart and Klingemann 1976) and virtually no one doubts its critical importance. According to Kroh (2007), the substantive meaning of the left-right dimension is traditionally associated with the socio-economic cleavages of equality (e.g. Lipset et al. 1954) and government intervention in the economy (e.g. Downs 1957). However, only a few scholars still believe in the permanent character of such cleavages, thus tilting the scientific commu-

2) There are numerous terminological variations that denote the concept. The most commonly found ones in the relevant literature include: the left-right dimension (Inglehart, 1976), the left-right continuum (Damgaard, 1980; Von Beyme, 1985), the left-right distinction, the left-right scale (Von Beyme, 1985), the left-right cleavage, the left-right axis (Lipset, Rokkan, 1990), the left-right ideological continuum, left-right schema (Fuchs and Klingemann, 1990) etc. as well as synonyms like liberal-conservative, radical-conservative (Kropivnik, 2001) etc.

nity towards the notion of ideological residues that may be visible in politics and divisions of the continuum according to certain dimensions (e.g. the economic and liberal-authoritarian dimension; new vs. old politics etc.) (Marks and Steenbergen 2002: 880).

Many political systems share the left-right or functionally equivalent conceptualisation of politics. However, in terms of semantics, the left-right dimension demonstrates an intriguing feature in the variety of its interpretation between individuals, countries and periods (Kroh 2007: 205). Namely, there are cultural differences in the placement of certain fundamental notions (e.g. the perception of the concept of equality among European and American citizens) (Von Beyme 1985: 257). Key political issues may vary from one society to another, not only in their saliency but even in polarity in relation to the left-right dimension, thus making cross-country comparisons very difficult (Inglehart and Klingemann 1976). Contents of the left-right dimension are consequently changing, disintegrating and reshaping according to variations in societies over time. Such a socio-cultural distinctness of the phenomena is often the obstacle to a uniform description of the scale, thus considered to be proof of the dimension's weakness as a cognitive structure (Kroh 2007: 205). Nevertheless, several relevant authors (Inglehart and Klingemann 1976; Kroh 2007; Laponce 1970; Van der Eijk 2001) reject the above-mentioned argument and maintain the notion of the left-right dimension as an organising element of the shared political consciousness of individuals in a given society. Since it should be possible to identify a persistent and pervasive theme(s) within the left-right dimension (Inglehart and Klingemann 1976: 257), identifying defining political cues, issues, conflicts and their intensiveness ought to be one of the main concerns of political elites in order to target/communicate with the electorate by adapting their policies, as well as the scientific community. The latter is mainly due to the increased readiness of voters, regardless of whether or not they have identified with any political party, to align themselves according to the left-right scale (Von Beyme 1985: 257) and the within-person stability in someone's own left-right positioning over time (Sears and Funk in Kroh 2007: 205), which highly correlates with political involvement (Converse 2000: 344).

Although the left-right split is by no means only an 'umbrella' that covers a multitude of different political conflicts (Von Beyme 1985), it provides, with a high level of generalisation, a valuable tool for interpreting politics despite cross-national variations and the fact it is not always part of the mass public's outlook (Inglehart and Klingemann 1976: 272). The substance of the dimensions/political cues/key issues of political contestation that determine the nature of the left-right dimension is generally based on the pioneering work on political cleavages by Lipset and Rokkan (1967). Despite some anachronisms of their work, there is a common understanding that political cleavages arose in response to major junctures in European political development that generated basic ideological conflicts (Marks and Steenbergen 2002: 880). However, due to its proneness to change in terms of time and context, the defining points of political contestation cannot be frozen in time. As a consequence, although we can still observe a series

of residuals leading towards the core conflicts an alternative socio-political context may provide a new, distinctive type of political divisions.

A clear example of such alternative socio-political conditions can be found in post-socialist states where communist power had operated intentionally and methodically to transform society (Whitefield 2002: 182). Despite considerable diversity in the structure of social and ideological divisions resulting from the prior social organisation (Przeworski 1985), cultural legacies, modes of communist rule, forms of elite and mass mobilisation etc., the focus has remained on the question of the profoundness of the effect of communism and its collapse into a distinct cleavage formation. Individual investigations reveal a variety of different findings. For example, from the 'us versus them' cleavage between the former opposition and the communists in Poland to more religious and agrarian elements in Hungary (Bakke and Sitter 2003: 13–16). Nevertheless, in his seminal work, Kitschelt (1992) acknowledged the existence of a communist/Leninist ideological legacy, arguing that post-communist societies do reflect societal divisions of a distinctive nature. Despite the lack of consensus regarding the actual character of such a Leninist legacy (Sabel and Stark in Whitefield 2002: 186) and the inability to adequately confirm such uniformity, the potential of the idea remains in hibernation.

Kitschelt (1999) therefore argues that the specific socio-political context induced by communist rule, at least for the period of the transition to established market democracies, created a unique divide within citizenry, which can be further explained in terms of a country's economic development. As a result, political contestation within post-communist countries should primarily be determined along the following five dimensions/divides: the political regime divide, the economic-distributive divide, the socio-cultural divide, the national-cosmopolitan divide and the ethnic divide. The political regime divide emphasises one's attitude to the former communist regime as well as their successor political actors, while the economic-distributive divide encompasses the social protectionist forces that seek to protect secured rights and privileges on one side and forces that support market liberalisation and economic deregulation in the name of wealth creation and personal liberty on the other. The socio-cultural divide primarily deals with certain cultural values, either the role of the church or issues such as abortion, euthanasia, homosexuality etc., that can divide society or create certain hegemonic cultural values (Hough 2003: 5). The national-cosmopolitan divide is based on nationalist agendas that tend to favour a communitarian sense of identity and belonging and the rejection of the penetration of liberal/cosmopolitan values in society. Nevertheless, the ethnic divide has proved to be the most dangerous in terms of political contestation since ethnic nationalisms have propelled several post-communist countries into bloodshed. Such divisions are evident regardless of the existence of two or more politically relevant ethnic groups.

And why should we be interested in exploring the dimensions of political contestation in post-communist countries? First of all, there is a lack of a perpetual in-

investigation of political contestation in the region. Further, Carkoglu (2007: 255) identifies a lack of studies dealing with the usefulness or cross-country travelling capacity of the left-right dimension in Central and Eastern European ('CEE') countries or other contexts of developing democracies. But the most important reason is that the investigated political divides across the region constitute the main political conflicts in a large part of the European Union electorate. It has to be emphasised that this is not only relevant to European parliament elections but, on the contrary, to the formation of the European public space and a proper European political community which is vital for the legitimacy and further growth of the European Union as a relevant democratic political actor. This argument is reinforced by detection of the EU as a common political space – a minimum requirement for adequate political representation and mutual operation between political elites and mass publics (Marks and Steenbergen 2002: 889). Since the EU has become a more openly contested arena for political actors and the concept of path dependence appears to be valid in terms of the identification of key issues that define someone's left-right placement (Marks and Steenbergen 2002: 881), the detection of key common political divides among the post-communist electorate should be a priority of political stakeholders.

Knowledge about the defining attributes of the political space in CEE countries is therefore knowledge about political divides in the European political community. An additional impetus for a detailed comprehension of the key points of political contestation comes from the ongoing European integrating process of South-east European countries. While evidence of country-specific political conflicts in the post-communist region is clear, a cross-cutting view may provide a better insight into the functioning of part of the potential common European electorate. As a result, our research is focussed on identifying prevailing common political divides among the Central and Eastern European public. Kitschelt's five-dimensional framework of political divide provides a valuable starting point for identifying potentially relevant political divides for an individual's left-right placement. By employing standard data mining tools, our main research question is therefore whether political divides primarily determine someone's placement on the left-right axis in the case of a cross-cutting view of the post-communist electorate?

The paper proceeds with a short description of the data source, firstly by describing and introducing outcome attribute and input attributes along with the establishment of theoretical foundations for the performed attribute selection. Further on, the research method is presented and the initial and final results are outlined.

## 2. Data

The data employed in the analysis were collected by the European Values Study ('EVS') which is a large-scale, cross-national and longitudinal survey research programme on

basic human values initiated by the European Value Systems Study Group ('EVSSG') in the late 1970s. The EVSSG researchers aimed to explore the moral and social values underlying European social and political institutions and governing conduct and, about 30 years after, the third wave was launched. Most European countries are represented in the most recent wave, thus allowing researchers more comprehensive cross-national research into the causes and consequences of the dynamics of value changes. According to Vehovar (2005), datasets constructed on the basis of survey questions with political contents have high levels of non-response rates (item non-response) due to the intimate nature of the question content. With the abovementioned drawback in mind, the EVS offers a good quality database, regardless of certain country-specific peculiarities.

The whole EVS dataset refers to 33 European countries and consists of 41,125 instances and 451 attributes (including respondents' ID). Due to current research interest in post-communist Central and Eastern European countries, which are at the same time at the end of the democratic transition process and most of which are already members of the European Union or on the verge of becoming a member, we included in the analysis only 12 of the originally available 33 countries. These are: Bulgaria, Croatia, Czech Republic, Estonia, Germany (former East), Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia. As a result of the selection process, a smaller dataset containing 13,524 (approximately 33 %) instances was constructed.

As an outcome or class attribute the self-described *political view* of a respondent was defined. Since the question was asked in a manner whereby the answer was recorded on a 10-level scale (1 meaning left and 10 meaning right), values of the original attribute were recoded in the fashion presented in Figure 1 in order to obtain a categorical attribute of a left or right political view. The deletion of respondents who were classified in categories 5 and 6 is performed in accordance with research findings on a similar database and research topic. Namely, Kropivnik (2000: 187) establishes that a large majority of respondents (up to 60 %) identify themselves with the central two positions on a 10-level scale, thus annulling the polarisation. This is in line with Von Beyme's (1985: 258) finding that most Europeans place themselves in the middle of the left-right scale, thus creating a triangle-like pattern that blurs the distribution on the extremities. In addition, several authors (Niemoeller 1984; Inglehart and Klingemann 1976) report that non-response increases if no individual neutral point is provided in order to allow particularly respondents with low levels of political sophistication to use the midpoint as a way out. Kroh (2007: 216) also identifies the increased political stimuli close to the centre of the scale, thus creating a moderately inflated effect. To add to some concerns about the scale, Kropivnik (2000) argues that, in addition to the middle-prone respondents who are classified in the two categories, most of them misperceived category 5 as the middle, which is obvious from the consequent respondent distributions after the 10-level scale was replaced by an 11-level scale. In order to neutralise the effects of the scale and acquire more polarised data, thus capturing more attitudinal crystallised re-

spondents who soundly self-place themselves (Converse 2000: 345), we left out the respondents positioned in categories 5 and 6.

Figure 1: Left-right cleavage on the scale from 1 to 10, according to the survey question



Each instance (respondent) is described by following attributes chosen according to the post-communist studies of party systems and alignments by Kitschelt et al. (1999: 63–69) and his proposed framework for analysis of the post-communist context, according to five dimensions of key importance: the political regime divide; the economic-distributive divide; the social-cultural divide; the national-cosmopolitan divide; and the ethnic divide. An additional indicator of potential attribute selection is provided by Kropivnik (2001) with his analysis of the left-right axis in Slovenia. His analysis confirms the broader categories/divides identified by Kitschelt, although exposing the relationship between intuitive acknowledgement of the left-right scale and unwillingness to correlate with certain values as part of the communist legacy.

In terms of attribute selection, we performed the following selections in line with the chosen theoretical framework. The political regime divide exposes attitudes to the previous (communist/socialist) regime, which is one of defining dividers in CEE countries (Castle 1996). Representative attribute *CR* was selected.<sup>3</sup> The economic-social divide corresponds to the political competition of the left, which defends hard-won social rights, the concept of the welfare state, trade union rights and labour market policies etc. and the right, which is prone to neo-liberal economic policies, deregulation of the economy, wealth creation etc. (Hough 2003). Therefore, we selected the next three attributes. The *IS* attribute expresses a respondent's view on the issue of whether individuals or the state should take more responsibility for providing (*The government should take more responsibility to ensure that everyone is provided for vs. People should take more responsibility to provide for themselves*).<sup>4</sup> *Conf\_TU* is an attribute that relates how much

3) A respondent's attitude to the previous regime is graded on a scale with 10 levels (1 meaning bad and 10 meaning very good). Instead of transforming it to a nominal, we decided to recode it into a Boolean attribute. Since it has 10 values, it was coded into 9 (10–1) Boolean attributes (see Table 3 in the Appendix).

4) Asked view is ranked on a 10-level scale (1 meaning individuals and 10 meaning the state). It was recoded to 9 (10–1) Boolean attributes (see Table 4 in the Appendix).

confidence a respondent has in trade unions.<sup>5</sup> The last attribute in the economic-social dimension is *IMP\_elim\_ineq*. It depicts a respondent's view on the state's role as an eliminator of inequality.<sup>6</sup>

Socio-cultural issues are in many ways the most diverse and difficult to quantify of all the dimensions. These issues can range from the role of the church in society to positions on social issues such as abortion and euthanasia. Such socio-cultural values are known to be defining standpoints, although they are rarely transparently exposed (Hough 2003: 5). For the social-cultural divide we chose the attributes *Conf\_CH*, *Just\_AB*, *Religious* and *Freedom\_vs\_equality*. *Conf\_CH* is an attribute that describes how much confidence a respondent has in the church.<sup>7</sup> *Just\_AB* is an attribute describing a respondent's view on abortion, whether it can be never or always justified or something in-between.<sup>8</sup> *Religious* is an attribute depicting self-described religiosity.<sup>9</sup> *Freedom\_vs\_equality* is an attribute describing a respondent's opinion regarding two statements referring to personal freedom and social (not economic) equality.<sup>10</sup> The national-cosmopolitan divide exposes nationalistic views, which are commonly generated by dangerous populist rhetoric and national debates or discourses. Leftist views are prone to the cosmopolitan values and benefits of globalisation, while rightist standpoints defend a communitarian sense of identity and nationalist agendas. As a represen-

5) *Conf\_TU* has 4 values: 1 – very much; 2 – quite a lot; 3 – not very much; and 4 – none at all. First, we recoded it: (1=4), (2 = 3), (3 = 2) and (4 = 1), and then transformed it to 3 (4–1) corresponding Boolean attributes (see Table 5 in the Appendix).

6) The attribute is measured on a scale with 5 levels (1 meaning very important and 5 meaning not at all important). We recoded it: (1 = 5), (2 = 4), (3 = 3), (4 = 2) and (5 = 1), and then transformed it to 4 (5–1) Boolean attributes (see Table 6 in the Appendix).

7) It is an ordinal with 4 values: 1 – very much; 2 – quite a lot; 3 – not very much; and 4 – none at all. Like the attribute *Conf\_TU* it was recoded: (1 = 4), (2 = 3), (3 = 2) and (4 = 1), and transformed to 3 (4–1) corresponding Boolean attributes (see Table 7 in the Appendix).

8) The view is graded on a scale with 10 levels (1 meaning never and 10 always). We transformed it to Boolean attributes in the same manner as the attribute *CR* (see Table 8 in the Appendix).

9) It has three categories: 1 – religious person; 2 – not a religious person; and 3 – a committed atheist. Since we are only interested in the straightforward status religious vs. not religious, we merged the last two categories (2+3=2) and recoded it into not religious.

10) The first statement (A) prefers freedom over equality, while the second one (B) prefers equality over freedom. The attribute has three categories: 1 – agree with statement A; 2 – agree with statement B; and 3 – neither. We dichotomised it.



tative attribute the *Proud\_to\_be\_citizen?* was selected.<sup>11</sup> To conclude with the attribute-selection process, the ethnic divide is one of the most dangerous divides due to distinctions based on ethnic lines, which often invades the area of the consideration of basic human rights and liberties. For the ethnic dimension the following attributes were selected: *Muslims*, *Immigrants* and *Gypsies*. They explain if a respondent would not like to have a certain group of people as their neighbour, namely Muslims, immigrants and Roma people.<sup>12</sup>

After the attribute-selection process, a closer investigation of missing values for each of the selected input attributes indicated there were no potential problems related to missing values (See Table 2 in the Appendix).

### 3. Method and analysis

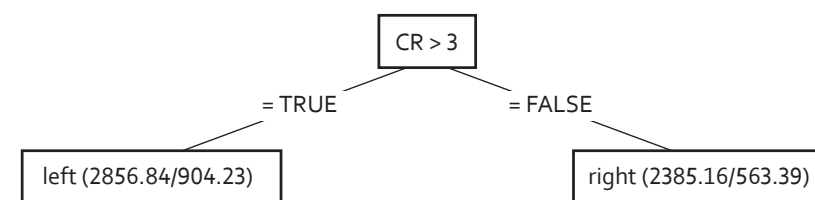
The main intention of our analysis is to identify the class attribute *Political\_view* (left-right axis) according to theoretically relevant input attributes and to investigate the success (if any) of the classification of new instances (supervised classification learning), by utilising data mining analysis with the Weka package. A J4.8 algorithm was employed, which is Weka's implementation of the C4.5 algorithm, one of most widely-used learning algorithms in the scientific community, with default parameter settings and a cross-validation method (10-fold) set as a testing criterion.

At the outset of our research we carefully investigated ordinal attributes. The initial dilemma that had to be resolved was which value on the ordinal scale provides the best possible threshold (i.e. which of the corresponding Boolean attributes is appropriate for identifying class attribute values). We examined each attribute separately as if it were the only input attribute. The following were selected as initial input attributes: *CR>3*, *Just\_AB>4*, *Conf\_CH>2*, *Conf\_TU>2*, *IS>4*, *Religious*, *IMP\_el\_ineq>3*, *Freedom*, *Muslims*, *Immigrants*, *Gypsies* and *Proud\_to\_be\_citizen>3*. Initially, a classification tree with 12 initial attributes and the class attribute *Political\_view* was built. Due to its size and lack of transparency we used `weka.filters.supervised.attribute.AttributeSelection` in order to obtain a simpler and smaller classification tree. Surprisingly, according to the applied filter only one attribute appeared to be important (*CR>3* attribute).

11) It is graded on a 4-level scale: 1 – very proud; 2 – quite proud; 3 – not very proud; and 4 – not at all proud. The attribute was recoded: (1 = 4), (2 = 3), (3 = 2) and (4 = 1), and transformed to 3 (4–1) Boolean attributes (see Table 9 in the Appendix).

12) The attributes have two values: 1 – mentioned and 0 – not mentioned.

Figure 2: Classification tree 2



On the other hand, such a result is easily the most anticipated one according to Kitschelt's framework and the research findings of Castle (1999) and Hough (2003). Namely, the abovementioned findings exposed the pervasive effect of such a divide on shaping the attitudes of post-socialist politics. The gathered results (by attribute *CR>3*) therefore provide additional support to the abovementioned presumptions, especially when we consider the high percentage of correctly classified instances.

In the following stage of the process we excluded the *CR>3* attribute from the set of our initial attributes and applied the same filter again in order to attain other most relevant ones. The following were selected: *Conf\_CH>2*, *IS>4*, *IMP\_el\_ineq>3* and *Freedom*. The classification tree produced with these attributes generated evidently a lower number of correctly classified instances (64.90%), whereas the reimputation of the *CR>3* attribute increases the percentage (72.34%), but still does not attain levels of classification with one attribute (See Figure 5 in the Appendix). Since the produced classification trees failed to provide the desired result, we decided to construct a model with provided attributes on the basis of gathered theoretical knowledge on political contestation in Central and Eastern European countries. From the set of initial attributes we selected the following: *CR>3*, *Conf\_CH>2*, *Just\_AB>4*, *Imp\_el\_ineq>3*, *Religious* and *Muslims*. The generated results, along with the percentage of correctly classified instances and value of Kappa statistics,<sup>13</sup> proved to be the most optimal up to that point (See Figure 6 in the Appendix).

13) A parameter assessing the classification compared to a random one.

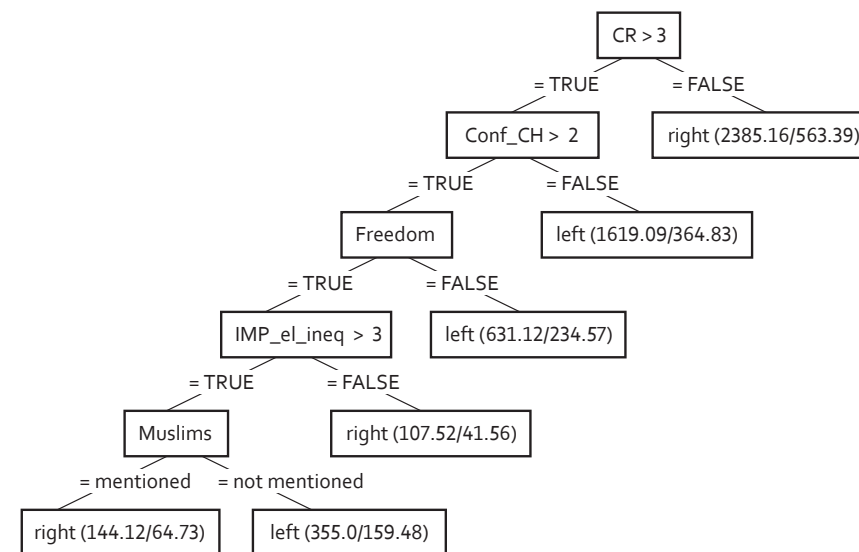
Table 1: Comparison of different classification trees

CT	Tree size	Size of tree	Time taken to build model	Classified instances		Kappa statistics	TP Rate	FP Rate	Precision	Recall	F-measure	Confusion matrix
				Correctly	Incorrectly							
	No.	%	No.	%								
1	93		3804	72.57	1438	0.4513	0.733 0.719	0.281 0.267	0.707 0.745	0.733 0.719	0.719 0.732	1844 672 766 1960
2	3		3794	72.38	1448	0.4488	0.764 0.687	0.313 0.236	0.693 0.759	0.764 0.687	0.726 0.721	1921 595 853 1873
3	15		3402	64.90	1840	0.2975	0.646 0.652	0.348 0.354	0.631 0.666	0.646 0.652	0.639 0.659	1625 891 949 1777
4	9		3792	72.34	1450	0.4478	0.756 0.693	0.307 0.244	0.695 0.755	0.756 0.693	0.724 0.723	1903 613 837 1889
5	11		3803	72.55	1439	0.4507	0.728 0.723	0.277 0.272	0.708 0.742	0.728 0.723	0.718 0.733	1832 684 755 1971
6A	13		3813	72.74	1429	0.4554	0.752 0.705	0.295 0.248	0.702 0.755	0.752 0.705	0.726 0.729	1891 625 804 1922
6B	11		3806	72.61	1436	0.4517	0.725 0.727	0.273 0.275	0.710 0.741	0.725 0.727	0.718 0.734	1825 691 745 1981
6C	11		3820	72.87	1422	0.4579	0.750 0.709	0.291 0.250	0.704 0.754	0.750 0.709	0.726 0.731	1887 629 793 1933

Legend:  
 1 – CT with initial attributes; 2 – CT with weka filters supervised attribute.AttributesSelection; 3 – CT with weka filters supervised attribute.AttributesSelection (CR>3 excluded); 4 – CT3 + CR>3; 5 – CT + Just\_AB>4 + Muslims; 6A – CT4 + Just\_AB>4 + Muslims; 6B – CT4 + Just\_AB>4 and 6C – CT4 + Muslims

Finally, we sought to build a classification tree by combining the most 'informative' attributes from classification trees 4 and 5, with tree 4 as a base. The process was completed in three steps by adding the attributes *Just\_AB>4* and *Muslims* in the first, *Just\_AB>4* in the second and *Muslims* in the third, which resulted in a classification tree with the highest percentage of correctly classified instances. All in all, the series of produced classification trees differ marginally and produce theoretically sound results, thus making the selection of the optimal classification tree a demanding task. If we take a closer look at classification tree 6C and compare the model's performance for predicting different class attribute values, we can identify a distinction between the 'left' and 'right' classes.

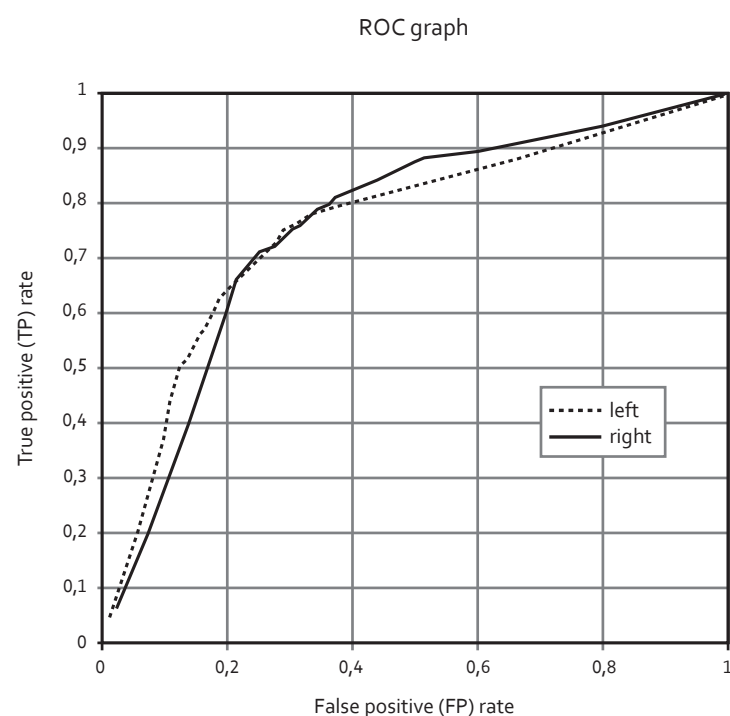
Figure 3: Classification tree 6C



In the case of *Political\_view* prediction as 'left', the TP rate is 0.750, which denotes 75 % accuracy in the prediction of 'left' *Political\_view* instances, with a FP rate of 0.291, meaning that 29 % of the 'right' *Political view* instances were incorrectly predicted as 'left'. In the case of predicting *Political\_view* as 'right', the TP rate is 0.709 and the FP rate is 0.250. As a result, we are able to observe that 6C's performance in predicting *Political\_view* as 'left' has a better performance than the 'right', which is also evident from the ROC graph for each class attribute value (Figure 4). The class attribute value, with the ROC point closer to the upper-left corner of the ROC space, has a better performance due to the higher TP rate and lower FP rate. When looking at Table 1 it is evident that for most models the performance for predicting *Political\_view* as 'left' is higher than the

'right' (with exceptions in classification tree 3 and 6B). There are two obvious explanations of such an occurrence. Firstly, such results can be ascribed to the selection of attributes that more straightforwardly identify the left-aligned public. On the other hand, such a disproportion in terms of prediction may also be a consequence of the proneness of certain attributes that identify the right-aligned public to be more country-specific. Such results are in line with some observations regarding the left-right scale as a concept with an extremely vague definition, intuitively acknowledged and unidentified by masses with conceptually related values (Kropivnik 2000).

Figure 4: ROC graphs for 'left' and 'right'



At the end, classification tree 6C was converted into the following classification rules:

- (1) If  $(CR>3=TRUE) \wedge (Conf\_CH>2=TRUE) \wedge (Freedom=TRUE) \wedge (IMP\_el\_ineq>3=TRUE) \wedge (Muslims=mentioned)$  then  $(Political\_view=right)$ ;
- (2) If  $(CR>3=TRUE) \wedge (Conf\_CH>2=TRUE) \wedge (Freedom=TRUE) \wedge (IMP\_el\_ineq>3=TRUE) \wedge (Muslims=not\_mentioned)$  then  $(Political\_view=left)$ ;
- (3) If  $(CR>3=FALSE) \wedge (Conf\_CH>2=TRUE) \wedge (Freedom=TRUE) \wedge (IMP\_el\_ineq>3=FALSE)$  then  $(Political\_view=right)$ ;

- (4) If  $(CR>3=TRUE) \wedge (Conf\_CH>2=TRUE) \wedge (Freedom=FALSE)$  then  $(Political\_view=left)$ ;
- (5) If  $(CR>3=TRUE) \wedge (Conf\_CH>2=FALSE)$  then  $(Political\_view=left)$ ;
- (6) If  $(CR>3=FALSE)$  then  $(Political\_view=right)$ .

If we put the abovementioned classification rules into a few explanatory sentences it may be observed that respondents who align themselves with the left are more in favour of the previous communist political regime, do not have confidence in the church but, if they do, they do not prefer freedom over equality. If so, they believe that the state should play an important part in eliminating inequalities and they do not mention Muslims as unwanted neighbours. For respondents who placed themselves on the right side of the continuum we may observe that their most defining attribute is their opposition to the previous communist regime. If they happen to be fond of it, they have confidence in the church, prefer freedom over equality and believe that the state should not play an important part in eliminating inequalities. If the latter attribute is alternated (believe that the state should play an important role in eliminating inequalities) incorporating all other statements of the previous sentence, they mention that they do not want Muslims as their neighbours. The gathered results are clearly in harmony with the theoretical presumptions made in the first part of this paper, most importantly with the political regime as the most important dividing attribute as was conceptualised by Kitschelt (1995) and predicted by Castle (1996) and Hough (2003).

## Conclusion

Having in mind several of the already exposed drawbacks of our research, one of them being the limitations of the 10-level scale for placing individuals on the left-right scale, the negative impact of the survey questionnaires on the research of political contents due to the intimate nature of the questions, or the nature of the database, which at the same time allows us to make an invaluable cross-country comparison and neutralises nationally distinct characteristics significant for an individual's left-right placement, several valuable findings have been collected.

First of all, we have to emphasise the attitude to the previous (communist) regime as the most predictive divide/attribute of the left-right placement for individuals from the 12 former communist states of Central and Eastern Europe. The results provide additional confirmation of the frequently expressed thesis of a distinct post-communist divide proposed by several influential authors (e.g. Kitschelt 1995). In terms of his five core political divides, the political regime divide proved to be the most influential in decrypting political contestation in the investigated post-communist countries, although other divides indicated some potential as well. Namely, the socio-cultural divide was



identified as the second most important divide due to its input attributes 'confidence in the church' and 'preference of freedom over equality'. These standpoints were consistently confirmed as subsequent to the political regime divide. On the other hand, the economic-distributive divide and the ethnic divide only indicated limited potential. The latter may be explained by the fact that the (ethnic) national revolutions of Central and Eastern Europe produced 'ethnic' nation-states where certain ethnic-related standpoints became hegemonic and are not (or only marginally) politically contested.

All things considered, we are able to confirm that the post-communist European electorate reflects some distinct properties rooted in the core mechanisms of political contestation. The attitude to the former communist regime evidently polarises the political arena, thus making it also significant for other issues that will be implanted in the left-right dimension due to the proneness of political elites and masses to comprehend new issues in terms of the old, well-established left-right framework. Whether the conflict surrounding the former communist regime remains is to be seen; nevertheless, for now it is present in CEE politics as well as the European political space since it is impossible to conceive of the common European (EU) political community without its important post-communist part and consequently heritage.

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Appendix

Table 2: Missing values (in %) for selected attributes

	political view	do you justify: abortion (Q65I)	view political system in past: bad-very good (Q61)	how much confidence in: church (Q58A)	how much confidence in: trade unions (Q58E)	are you a religious person? (Q28)	individual-state responsibility for providing (Q54A)
N Valid	5242	5025	5090	5057	4723	4947	5200
Missing	0	217	152	185	519	295	42
in %		4.14	2.90	3.53	9.90	5.63	0.80

	political view	more important: freedom or equality (Q52)	important: eliminating income inequalities (Q76A)	how proud are you to be a... (nationality) citizen? (Q71)	don't like as neighbours: muslims (Q7H)	don't like as neighbours: immigrants/foreign workers (Q7I)	don't like as neighbours: gypsies (Q7N)
N Valid	5242	4699	5159	5014	4887	4887	4887
Missing	0	543	83	228	355	355	355
in %		10.36	1.58	4.35	6.77	6.77	6.77

Table 3: Transformation of ordinal to boolean attribute for CR

Original	Transformed				
CR	CR>1	CR>2	CR>3	...	CR>9
1	False	False	False		False
2	True	False	False		False
3	True	True	False		False
...	...	...	...	...	...
10	True	True	True		True

Table 4: Transformation of ordinal to boolean attribute for IS

Original	Transformed				
IS	IS>1	IS>2	IS>3	...	IS>9
1	False	False	False		False
2	True	False	False		False
3	True	True	False		False
...	...	...	...	...	...
10	True	True	True		True

Table 5: Transformation of ordinal to boolean attribute for Conf\_TU

Original	Transformed		
Conf_TU	Conf_TU>1	Conf_TU>2	Conf_TU>3
1	False	False	False
2	True	False	False
3	True	True	False
4	True	True	True

Table 6: Transformation of ordinal to boolean attribute for IMP\_el\_ineq

Original	Transformed			
IMP_el_ineq	IMP_el_ineq>1	IMP_el_ineq>2	IMP_el_ineq>3	IMP_el_ineq>4
1	False	False	False	False
2	True	False	False	False
3	True	True	False	False
4	True	True	True	False
5	True	True	True	True

Table 7: Transformation of ordinal to boolean attribute for Conf\_CH

Original	Transformed		
Conf_CH	Conf_CH>1	Conf_CH>2	Conf_CH>3
1	False	False	False
2	True	False	False
3	True	True	False
4	True	True	True

Table 8: Transformation of ordinal to boolean attribute for *Just\_AB*

Original	Transformed					
	<i>Just_AB</i>	<i>Just_AB</i> > 1	<i>Just_AB</i> > 2	<i>Just_AB</i> > 3	...	<i>Just_AB</i> > 9
1		False	False	False	...	False
2		True	False	False	...	False
3		True	True	False	...	False
...		...	...	...	...	...
10		True	True	True	...	True

Table 9: Transformation of ordinal to boolean attribute for *Proud\_to\_be\_citizen*

Original	Transformed			
	<i>Proud_to_be_citizen</i>	<i>Proud_to_be_citizen</i> > 1	<i>Proud_to_be_citizen</i> > 2	<i>Proud_to_be_citizen</i> > 3
1		False	False	False
2		True	False	False
3		True	True	False
4		True	True	True

Figure 5: Classification tree 4

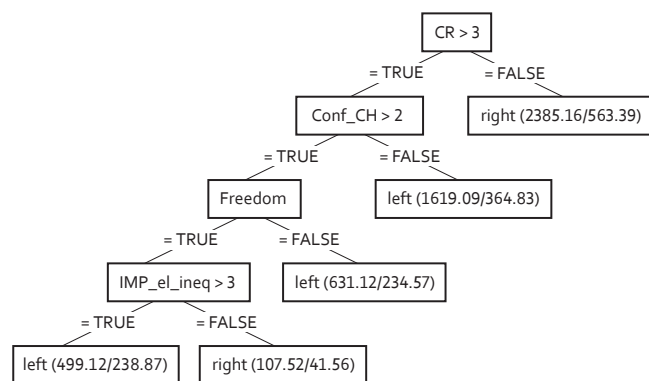


Figure 6: Classification tree 5

