

# External Validity for One-Dimensional Cumulative Scaling on Supranational Political Decision-Making

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## Abstract

*This paper examines citizens' preferences for a supranational decision-making in 21 European countries based on the data collected from the European Social Survey (ESS). The goal of this study is twofold. The first intention is to create a one-dimensional cumulative scale of political preferences at supranational level. Mokken scaling, a non-parametric item response approach is used for this purpose. We haven't found any single unified European scale and clusters of countries based on citizens' preferences regarding decision-making were carried out. Notably different levels of support emerged for supranational decision-making in different clusters. On that basis, individual scores for the level of supranational decision-making were developed. The second goal is to study the external validity of supranationalism in order to understand empirically which are the main factors responsible for determining the previously created level of supranationalism. Results show that most relevant variable is "trust in the European P" which has a strong positive effect on support for supranational decision-making, while trust in the national parliament has a negative effect on the same variable. The pattern of significant variables is similar across clusters but the ranking of most influential variables on supranationalism varies.*

**Keywords:** Supranationalism; Political Preferences; Political Decision-Making, Mokken Scaling, Cross-Cultural Comparison; Political Trust.

## Introduction

Strøm (2000) describes the chain of delegation of decision-making power in the European Union as follows: Elections determine the delegation of power from the voters to the national candidates. National parliaments have delegated part of their decision-making power to the European institutions. Such a structure could be perceived as multilevel governance (Jordan, 2000). Strøm (2000) considers the extent to which the European Commission and the different governments are responsible for different policies according to EU legislation. Responsibility is subject to the principle of subsidiarity, which, according to EU legislation determines the type of policies to be decided at each level (regional, national or supranational). Therefore, the main goal of this paper is to study the opinions of citizens living in different European countries about the connection between the level of political decision and several relevant policies.

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The principle of subsidiarity was first ideated in 1992 during the Treaty of Maastricht and rewritten in the 1997 as part of the Treaty of Amsterdam. The principle of subsidiarity was updated on 13 December 2007 by the Treaty of Lisbon, which amended the Treaty of the European Union and the Treaty establishing the European Community (Official Journal of the European Union, 2007). The principle of subsidiarity indicates that policy decisions should be made at a level as close to the citizen as possible, ensuring the lowest effective level of governance (Dekker et al., 2007; Ederveen, Gelauff & Pelkmans, 2006; Føllesdal, 1998; Pelkmans, 2006). Consequently, the application of this principle may cause decentralization and shifting of power away from supranational entities. Countries may use this principle to enhance the power of their own territories and prevent high levels of supranational intervention. Taylor (2006, 2009) studied how the principle of subsidiarity is applied between the federal and national governments in Germany. Ederveen, Gelauff & Pelkmans (2006) and Dekker et al. (2007) compared centralization and decentralization for different policies.

The first part of the article is dedicated to the study of the subsidiarity preferences by European citizens; such level of subsidiarity is measured by the citizens' preferences on the level of political decision-making for relevant policies. Preferences regarding policy levels are determined by the following question: "Which policies should be regulated by the EU and which ones by the national governments?" eight different policies (detailed later) being evaluated.

EU regulated policies are not expected to be evenly preferred by citizens living in different countries. Previous studies pointed out that, for instance, it makes more sense for the EU to govern energy or transport for policy integration. However, the limits to what can be achieved at the European level are not clear (Jordan & Jeppesen, 2000). Hence, these policies could be visualized as a scale of subsidiarity-related preferences (from highest to lowest).

## Research hypotheses

The level of preferences for supranational policies can be considerably affected by the legitimacy or trust in political entities, such as national and European Parliament (Scott, 2009; Scharpf, 2001); therefore the substantial part of the article is based on the effect of political trust on supranationalism level. Thus, legitimacy (Sweet & Sandholtz, 1997) of these institutions may be important factors in determining whether supranational decision-making for some policies will be preferred by the citizens (Thomassen & Schmitt, 2004).

A number of studies, mostly focusing on social capital framework, use trust on political institutions as the explanatory variable and focus on determining which variables affect trust in governments (Freitag & Bühlmann, 2009; Hardin, 1999; Levi & Stoker, 2000; Maloney & Rossteutscher, 2007; Newton, 2001, 2007). For this reason, a substantial part of the article will be devoted to investigate which variables are predictors of citizens' political preferences levels in different countries.

It seems likely that the trust in these institutions may have opposing effects: people who mainly trust their national parliament might not be in favour of supranational decision-making, while people who trust the European Parliament might be more open to a supranational level of political decision-making.

This distinction brings us to the formulation of the following hypotheses:

Hypothesis 1: *"People who have higher levels of trust in the European Parliament will have higher preference for supranational political decision-making"* and

Hypothesis 2: *"People who have higher levels of trust in the national parliament will have lower preference for supranational political decision-making"*.

Given these hypotheses, which will be empirically evaluated, the next section is devoted to study citizens' opinion about the level of political preferences in different European countries. In this part, the paper deals with several innovative aspects. It does not merely rank policy preferences, but it takes a step further in testing whether the policy preferences form an homogenous scale and if such scale can be considered as a cumulative scale in Europe.

The second part of the article is devoted to the study of substantive significant relationships between trust in institutions and the level of supranational preferences. Thus, the reason for which citizens' opinions on an adequate level of supranational political decision-making vary will be investigated using predictors of supranationalism preferences as "trust in parliament" (Scott, 2009; Scharpf, 2001), "interest in politics" (Lau & Redlawsk, 2001), "level of education" and "establishment in the area" (Berg & Hjerm, 2008; Gabel, 1998). The outcoming hypotheses will be studied and interpreted. The article ends with an analysis of the results and conclusions.

## European citizens' preference(s) for policy areas

Several studies have examined European citizens' opinions regarding the level of political decision-making. Dekker & Ederveen (2006) showed that in 2005, Scandinavian countries were the least in favour of further European integration, whereas new state members preferred the highest level of integration of European policies. Berg & Hjerm (2008) found that countries that have spent a longer period of time in the EU are more positive about European-level decision-making. These authors paid special attention to Scandinavian countries with Denmark as the most favourable towards European-level decision-making. These results do not differ from those obtained by Thomassen & Schmitt (2004) who studied the level of governance EU citizens prefer by using the European Election Study. Thomassen & Schmitt identified two levels of policies, specifically, the European level (which includes international conflicts, the environment, drugs and migration) and the national level (taxation, education and health care). These researchers suggested that citizens prefer the most important issues to be the responsibility of national governments. Hooghe & Marks (2001) studied the trend of citizen's opinion on supranationalism in a long-term study carried out between 1950 and 2000 for 28 policies. These authors there has been a shift in the perception of authority from national level towards the European level.

The Eurobarometer (EB58 wave 2002) indicates the proportion of European citizens who prefer policies to be decided at the European level. A summary of the 28 policies can be aggregated into global policies related to international terrorism (84%), humanitarian aid (70%), the fight against organized crime (70%), and the fight against drugs (69%), which are the policies that most citizens preferred to be decided at supranational level. In contrast, for issues that are more closely related to everyday lives, such as questions related to the police (31%), education (33%), health and social welfare (33%), and the role of the press (35%), citizens preferred lower-level decision-making.

Different levels of preferences found in the results from Thomassen & Schmitt (2004) and Eurobarometer might suggest that these different policies could be ordered forming a scale from the most to least preferred policies to decide at supranational levels. In order to study this situation a cumulative scale will be tested for eight policies from European Social Survey (ESS) data.

## Data and method

The data for this study were obtained from the European Social Survey (2002 wave), collected in 21 countries. There is no later ESS data set on this topic. In each country, a representative sample of the population was drawn. Special attention was paid to the comparability of the samples (Lynn & Häder, 2007) and the comparability of the translations of the questions into different languages (Harkness, 2007).

The specific issues probed in the ESS were derived from the EB58 by ESS experts. Eight items were chosen from the longer EB58 list of 28 policies, which had clearly inspired differing ideas about governance levels. The question, exactly as formulated in the European Social Survey, is as follows:

*"Policies can be decided at different levels. At which level do you think the following policies should mainly be decided?"*

... *Protecting the environment*  
 ... *Fighting against organized crime*  
 ... *Agriculture*  
 ... *Defence*  
 ... *Social Welfare*  
 ... *Aid to developing countries*  
 ... *Immigration and refugees*  
 ... *Interest rates*

Response categories for each policy were regional or local, national, European and international levels. The main interest of the article is to study the effect of relevant variables on supranational political preferences, and for this reason data were dichotomized so that 1 represents the supranational level (European and international level) and 0 represents lower levels (regional or local and national).

In order to measure citizen's support for supranational political decision-making a score for each individual must be established. Such score could simply be determined by counting the total number of policies that each person prefers to be decided at the supranational level. However, the disadvantage of using a counting score is that one cannot know which issues each person stipulated as appropriate for supranational control because all combinations are possible.

This problem can be solved if the analyzed items form a single dimensional cumulative scale (Guttman, 1950). In this case, a cumulative scale would indicate that, if the issues are ordered for all citizens from high support to low support, people who support an issue with lower support will also support all issues with greater support. For instance, a sum score of 3 would indicate that such person supported the 3 policies with the most general support and that a person with a score of 5 felt the same way about 5 policies.

In the situation where the order of items is essential, in this case preferences on policy level, a cumulative scale is more adequate than, for instance, Factor Analysis (FA). FA can be used for the creation of a latent factor of interest using observable indicators but this technique cannot detect the level of preferences of individuals, which is of primary interest for this article.

However, perfect is seldom found, a parametric version called Rasch scale which has strict conditions (Rasch, 1960; van Schuur, 2003). In order to avoid these strict conditions a non-parametric scaling approach called Mokken scaling (Mokken, 1971, 1997; Molenaar & Sijtsma, 1984; Sijtsma & Molenaar, 2002) is used. The Mokken scale procedure is a probabilistic model that it is used for scaling items and scoring respondents on an ordinal scale. Basically, the idea of Mokken scaling and others scaling techniques is that the probability of a positive response to an item can be seen as a function of the subject latent trait score and the item's properties. The probability that subjects possessing different amount of latent trait (supranationalism) give answers to each item can be represented by an Item Response Function (IRF).

Mokken scaling is based on two requirements. The first one is known as the Monotone Homogeneity (MH) requirement, and it tests whether a set of items form a single latent trait (this part of the procedure is similar to the use of categorical FA). The second criterion is called the Invariant Item Ordering, (IIO) and it tests whether the order of the items, in the single latent trait, is the same for different groups of subjects (Mokken, 1971; Sijtsma & Molenaar, 2002).

In order to fulfill the MH requirement, the binary items must follow some assumptions: a) Responses by the same subject are locally stochastically independent; b) Item Response Functions for different items must be monotonically non-decreasing; and c) Unidimensionality of the latent trait where all items measure a single latent trait (Mokken, 1997; Paas, 1998; van der Ark, Croon & Sijtsma, 2008).

Monotone homogeneity is not sufficient and a stricter requirement, the Invariant Item Ordering (IIO), is also necessary. If the IIO requirement fits the data, then the order of items will be the same for each group (Mokken, 1971; Molenaar & Sijtsma, 1984; Sijtsma & Molenaar, 2002). This means that a one-dimensional cumulative scale can be used to rank

items (policies). The detailed explanation of the technique and its procedure is out of the scope for this article, for more detail see references above.

## Supranationalism Cumulative Scale

In this section, the supranationalism of the citizens in 21 European countries is determined. Table 1 presents the proportion of citizens who prefer a supranational level of decision-making for different policies. An aggregate for Europe (last row Table 1) and the number of supranational policies for each country (last column Table 1) are also shown.

**Table 1:** Proportion of supranational level of governance in 21 countries for each policy

	Aid	Crime	Environ	Immigr	Defence	Irates	Agric	Welfare	Policies*
Belgium	0.798	0.815	0.689	0.699	0.724	0.548	0.593	0.384	7
Germany	0.820	0.892	0.778	0.547	0.725	0.576	0.501	0.342	7
France	0.862	0.778	0.585	0.694	0.610	0.538	0.528	0.376	7
Netherlands	0.772	0.849	0.776	0.707	0.736	0.608	0.628	0.303	7
Luxembourg	0.740	0.811	0.677	0.580	0.704	0.369	0.548	0.370	6
Czech Rep.	0.766	0.815	0.555	0.560	0.685	0.174	0.343	0.159	5
Italy	0.774	0.528	0.294	0.576	0.571	0.632	0.324	0.223	5
Slovenia	0.715	0.641	0.533	0.560	0.529	0.398	0.421	0.315	5
Austria	0.787	0.835	0.655	0.554	0.374	0.487	0.342	0.372	4
Switzerland	0.813	0.905	0.821	0.651	0.486	0.236	0.478	0.308	4
Denmark	0.503	0.719	0.605	0.453	0.600	0.409	0.493	0.138	4
Spain	0.673	0.666	0.585	0.578	0.452	0.403	0.348	0.357	4
Greece	0.744	0.602	0.590	0.581	0.289	0.390	0.290	0.281	4
Norway	0.613	0.766	0.732	0.392	0.531	0.337	0.285	0.139	4
Portugal	0.715	0.629	0.535	0.614	0.374	0.349	0.278	0.234	4
Finland	0.594	0.762	0.566	0.311	0.326	0.461	0.263	0.147	3
Hungary	0.700	0.563	0.449	0.422	0.547	0.207	0.236	0.148	3
Poland	0.770	0.555	0.344	0.651	0.439	0.230	0.251	0.104	3
Sweden	0.503	0.749	0.669	0.372	0.381	0.330	0.337	0.290	3
Great Britain	0.697	0.494	0.559	0.466	0.481	0.193	0.328	0.166	2
Ireland	0.583	0.346	0.374	0.417	0.292	0.343	0.309	0.122	1
<i>Total</i>	<i>0.710</i>	<i>0.698</i>	<i>0.590</i>	<i>0.541</i>	<i>0.513</i>	<i>0.393</i>	<i>0.384</i>	<i>0.254</i>	<i>5</i>
<i>Policies*</i>	<i>21</i>	<i>18</i>	<i>17</i>	<i>14</i>	<i>11</i>	<i>5</i>	<i>5</i>	<i>0</i>	

\*policies = Number of policies which more than 50% of citizens answered that should be decided at supranational level.

Aid = Aid to developing countries; Crime = Fighting against organised crime; Environ = Protecting the environment; Immigr = Immigration and refugees; Defence=Defence; Irates = Interest rates; Agric = Agriculture; Welfare = Social Welfare

Table 1 is organized in the following way. Policies (columns) are ordered according the total mean for all countries, thus, globally 'aid to developing countries' is the most preferred policy at supranational level (21 countries); while social welfare is the least preferred policy at the same level. Countries (rows) are ordered according to the number of total policies that citizens prefer to be decided at supranational level. For a better understanding of scores in Table 1, 79.8% of Belgian respondents (1<sup>st</sup> row) prefer the policy 'aid to developing countries' to be decided at European level; which shows that this policy is mostly supranational according Belgian citizens.

Policies can be ranked according to the proportion of individuals from all countries preferring supranational level of governance. In order to evaluate how supranationalism can be determined a lower bond level is necessary. Authors considered policies to be desired at the supranational level if most of the citizens in a country preferred that option (>.50).

Table 1 shows that the most preferred supranational policies are aid for developing countries, fighting against organized crime and environmental protection. Conversely, welfare, agriculture and interest rates are most likely to be decided at a lower level, especially welfare policy, which has the lowest score in almost all countries.

Subjects clearly considered that the first three policies, specifically, aid to developing countries (all countries), fighting against organized crime (18 countries out of 21) and environment (17 countries out of 21) should be decided at supranational level of governance. Immigration (14 countries) and defence (11 countries) were ranked in the middle of the scale. The lowest levels of preference in supranational governance were for interest rates (5 countries), agriculture (5 countries) and welfare (none of the countries). This pattern in which global policies received more supranational support, and personal policies received more national support, is comparable with the ones present in Eurobarometer - EB58 - and in Thomassen & Schmitt (2004).

The low level of support for agriculture as a matter of supranational policy might be due to the difficulty to fit a centralized policy to such a diverse geography as that of Europe which covers many different climatic zones and forms of agriculture which makes difficult to manage a good policy on this aspect and the consequent disappointment by citizens.

Another remarkable result concerns interest rates; people may not realize that interest rates are determined by the European Central Bank instead of the national banks (or do not want this condition to be the case). It is also noteworthy that the great majority of citizens generally do not prefer welfare issues to be decided at the supranational level. It is also easier for regional or national governments to understand specific domestic difficulties and detect possible needs and advantages in their own national welfare system, with the possible fear that this advantage might be lost in a supranational environment; therefore, this preference is a clear case in which the principle of subsidiarity could be applied.

In spite of these general trends, differences between the different countries do exist. In some countries (Spain, Greece, Great Britain, Poland and Portugal), aid to developing countries is the policy that people would most like to be decided at the supranational level of governance, whereas in others (Austria, Belgium, Switzerland, Germany, Denmark, Finland, Norway and Sweden) that policy ranked on the first place is fighting against organized crime.

In order to summarize the overall preferences of each country's citizens regarding supranational governance, Table 1 (last column) counts the number of supranational policies (policies that the majority of respondents in a country would like to see handled at the supranational level). Considerable differences across countries can be seen, some countries are more favourable to supranational governance (Belgium, The Netherlands, Germany and France) than others (Ireland, Great Britain, Finland, and Sweden, among others). Ireland has the lowest score, with only one policy (aid to developing countries) preferred at the supranational level, this somewhat comes as a surprise considering that Ireland is EU member since 1973 while other countries with higher score entered later in the EU.

Whether (i) or not policy preferences form a cumulative scale and whether (ii) or not these are homogenous for all European countries is the subject of the analysis presented in the table below. Up to this point, we have discussed supranationalism at state level. However, a score for each individual with respect to his or her support for supranational decision-making is necessary in order to build the concept of level of "supranationalism".

Using Mokken scaling procedure we can easily see that a single-dimensioned cumulative scale for all 21 countries would be not adequate, because violations of the requirements were found. For a detailed study of Mokken requirements inspection, see Coromina & Saris (2012) since exhaustive testing steps of the method is not the aim of this article.

Results show that four of the analyzed policies (fighting against organized crime, agriculture, aid to developing countries and interest rates) do not fulfil the requirements for cumulative scaling. A direct consequence is that a simple additive index for these 21 countries

is not appropriate for considering preferences on political decision-making at supranational level. In sum, a unique cumulative scale with these eight policy preferences at supranational level (all 21 countries) is inadequate.

A reason for such violations on the Mokken requirements at European level might be that, although political decision trends exist among countries, there are large differences across them. In some countries (Spain, Greece, Great Britain, Poland or Portugal), ‘countries aid’ policy is associated with the highest level of supranationalism; while in others (Austria, Belgium, Switzerland, Germany, Denmark, Finland, Norway or Sweden) ‘fighting against organised crime’ is the highest level for a supranational policy. Despite the lack of homogeneity for a unique cumulative scale for all countries, patterns on supranational level among similar countries seem to exist. In order to inspect where a single cumulative scale exists for similar countries a cluster analysis and posterior Mokken tests for each cluster will be carried out.

### Country classification for supranational policy patterns

In order to inspect whether a single cumulative scale exists for similar countries a cluster analysis – the Ward method with squared Euclidean distance - was used.

Cluster analysis was used to sort the countries into homogeneous groups based on information at the country level taking into account all countries in Table 1. From those results of preference similarity, countries were found to be aggregated as follows: Scandinavian countries (Norway, Sweden, Finland and Denmark); Mediterranean countries (Spain, Slovenia, Greece and Portugal); Euro-sceptic countries (Great Britain, Ireland, Hungary and Poland), in which a geographical cluster structure has not been found; and Central countries (Belgium, The Netherlands, Germany, France and Luxemburg). Austria, Italy, Czech Republic and Switzerland were discarded during the cluster analysis procedure because they do not fit any of the groups. These countries have notably different views of which decision-makers should be responsible for these policies, and thus they could not be associated with one of the other groups or with each other.

One characteristic of the Central cluster is that these countries are the same ones that (along with Italy) signed the Treaty of Rome in 1957 for the establishment of the European Economic Community. Hence, this group can be considered to be the promoters of the current EU structure or the EU founders. Anderson & Reichert (1995) and Gabel (1998) named this cluster (with Italy) ‘original members’.

Cluster results are shown in Table 2, scores can be interpreted in the same way as for Table 1, with the consideration that percentages are listed for each cluster instead of individual countries.

**Table 2:** *Proportion of supranational level of governance and in brackets the number of countries inside cluster that support supranational level decision-making*

	Aid	Crime	Environ	Immigr	Defence	Irates	Agric	Welfare	Policies*
Central	0.799 (5)	0.839 (5)	0.718 (5)	0.639 (5)	0.707 (5)	0.542 (4)	0.558 (5)	0.350 (0)	7
Mediterranean	0.703 (4)	0.630 (4)	0.574 (4)	0.565 (4)	0.405 (1)	0.396 (0)	0.328 (0)	0.302 (0)	4
Scandinavian	0.557 (4)	0.751 (4)	0.646 (4)	0.377 (0)	0.450 (2)	0.382 (0)	0.334 (0)	0.181 (0)	3
Euro-Sceptical	0.687 (4)	0.486 (2)	0.430 (1)	0.494 (1)	0.434 (1)	0.245 (0)	0.283 (0)	0.134 (0)	1

\*policies = Number of policies which more than 50% of citizens answered that should be decided at supranational level.

The main difference between clusters is the number of supranational policies supported (Table 2, last column). The Euro-sceptic group supports only one policy (aid to developing

countries) at that level. Scandinavian and Mediterranean groups support supranational decision-making for three and four policies, respectively; whereas Central countries' citizens prefer seven policies to be the responsibility for this governance level. This finding indicates which clusters are the least (Euro-sceptical) and the most (Central) pro-supranational.

The number of countries that support supranational decision-making for a policy is shown, between brackets, in Table 2. For instance, in the Mediterranean group, all four countries suggest that country aid, the fight against organized crime, protection for the environment and immigration policies be executed at the supranational level, whereas only Slovenian citizens prefer defence to be decided at the supranational level. The remaining items are viewed as having the lowest level of governance, thus higher levels of subsidiarity. In the most pro-supranational cluster (the Central group), all five countries indicate that policies should be executed at the supranational level, except for welfare policy (and interest rates in the case of Luxemburg).

In general, the Euro-sceptic group (Great Britain, Ireland, Hungary and Poland) has the lowest level of governance followed by Scandinavian and Mediterranean clusters, while the most pro-supranational citizens, according to this political decision level, are the ones belonging to the Central cluster.

## Dependent variable

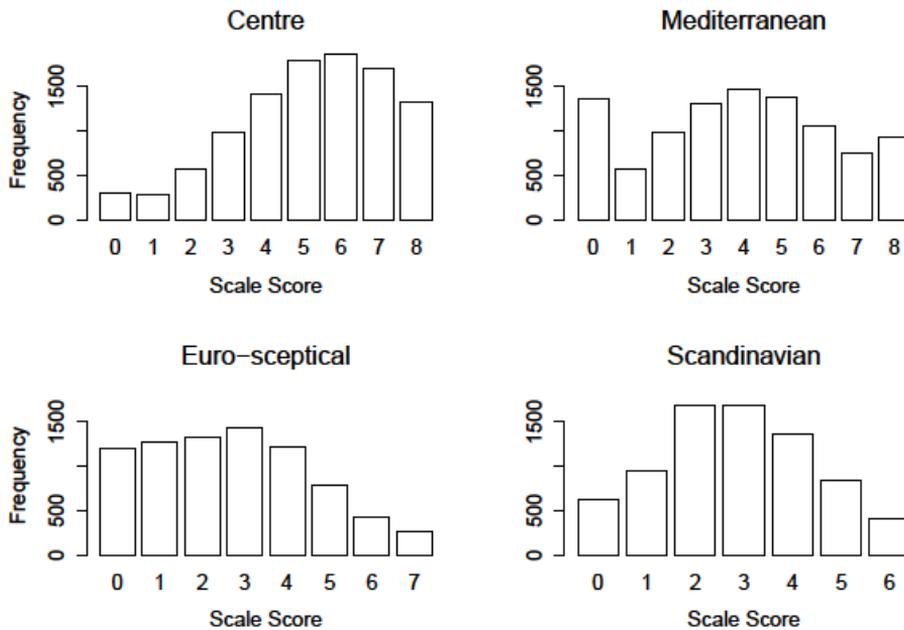
In this section we analyze whether supranational policy preferences form a cumulative scale for different clusters. Results from the Mokken procedure (Coromina & Saris, 2012) determined an adequate scale with all eight items for Mediterranean and Central clusters. This means that subjects and policies can be ordered according to a cumulative scale of preferences.

In the case of Scandinavian and Euro-sceptic an additive index of all eight items for determining supranationalism level would be incorrect due to the fact that these clusters do not fulfil invariant item ordering (IIO) requirements. Additional inspections of these clusters reveal that Mokken scaling for the Euro-sceptic cluster fulfils with seven policies (except for immigration policy). Thus, a counting of these seven policies can be used for this cluster. In the case of the Scandinavian cluster, Mokken requirements were fulfilled for six items (except defence and interest rates, which cannot be used for a cumulative scale). Thus, a counting of these six policies will be used for Scandinavian cluster.

Dependent variable is the level of supranational cumulative one-dimension scale, and one score for each person, based on the ordering of the issues in its cluster, can be computed. Given these results, scores range from 0 (no policies should be decided at the supranational level) to 8 (all policies should be decided at supranational level) for Central and Mediterranean clusters; scores range from 0 to 7 for the Euro-sceptic cluster and from 0 to 6 for the Scandinavian cluster.

Based on the ranking of the items as presented in Table 2, a score of 1 for the Mediterranean group means that only country aid policy (with the highest proportion) is preferred as supranational policy. For the Central group, the same score indicates support for organized crime as a supranational policy. A score of 2 for the Mediterranean group indicates support for aid to developing countries and fight against organized crime as supranational issues; this support for the Central group as well. Scores for other clusters can be interpreted in the same way. Even though the items on which the scores are based may differ, they still indicate levels of support for supranational decision-making.

Distributions of the supranationalism score levels for each cluster, dependent variable, are presented in Figure 1.



**Figure 1:** *Frequency distribution for the different clusters*

Scores obtained for the different groups show relatively strong homogeneity within clusters and heterogeneity between them. The mean score for the policies determined at the supranational level is 5.2 for the Central cluster, 3.9 for the Mediterranean group, 2.8 for the Scandinavian group and 2.7 for the Euro-sceptic group. Figure 1 shows that the Central cluster has a negatively skewed distribution, which indicates that the respondents are notably supra-nationalistic. The Mediterranean cluster has a normal distribution except for the extreme scores, which have high values, showing opposite preferences. The Euro-sceptical cluster, which contains seven items, has a high frequency of zeroes, and only a few people exhibit high scores for supranationalism. The last distribution, the Scandinavian cluster, contains six policies and has a frequency distribution similar to a normal distribution. The trends for the respondents in the different clusters are quite dissimilar and for this reason, supranational policies are viewed differently across clusters.

Once the one-dimensional cumulative Mokken scaling has been found for each cluster, external validity of the model and hypothesis testing are carried out.

## External validity

To address differences in orientation regarding the question of supranational authority, the effect of political trust in the national and European parliaments on the level of supranationalism is of primary importance.

Multiple regression analysis will be used to study the effect of several predictive variables on the supranationalism scale. However, it is known that measurement error has a considerable influence on the estimated effects, therefore multiple regression corrected for measurement errors using quality coefficients (Saris & Gallhofer, 2007) will be carried out.

Independent variables used in the model were constructed in the following way:

- “Trust in the European Parliament” and “trust in the national parliament” were measured using the following question for each type of political trust: “Please tell me, on a scale of 0-10, how much you personally trust each of the institutions. 0 means you do not trust an institution at all, and 10 means you have complete trust”.
- “Interest in politics” aids the decision-making capabilities primarily of those already more interested about politics (Lau & Redlawsk, 2001). The question used

for interest in politics was as follows: “How interested would you say you are in politics?” Response scale ranges from 1 (not at all interested) to 4 (very interested).

- In order to control for confounding factors, we used the following variables:
- “Education”: the question was as asked as follows: “How many years of full-time education have you completed? [To be reported in full-time equivalents, including compulsory/mandatory years of schooling]”.
- “Establishment in the area”; the question was: “How long have you lived in this area?” Responses were reported in years. This variable was also used in other studies (Berg & Hjerm, 2008; Gabel, 1998).

Scores for the dependent variable, sum score of the one-dimensional cumulative scale, are not directly comparable between clusters because the ranking of the policies and the total number of policies are different. Therefore, regression effects are estimated separately for each cluster.

Table 3 shows unstandardized regression coefficients and standard error – between brackets –, taking into account measurement error.

**Table 3:** *Unstandardized regression coefficients and standard errors by cluster*

	Central	Mediterranean	Scandinavian	Euro-sceptic
Intercept	5.150* (0.020)	3.900* (0.030)	3.302* (0.021)	2.701* (0.022)
Trust European parliament	0.415* (0.029)	0.201* (0.044)	0.320* (0.028)	0.395* (0.028)
Trust country’s parliament	-0.174* (0.029)	-0.103*** (0.043)	-0.049**** (0.029)	-0.173* (0.029)
Interest in politics	0.320* (0.023)	0.099** (0.034)	0.158* (0.023)	0.132* (0.025)
Education	0.290* (0.025)	0.664* (0.042)	0.348* (0.027)	0.272* (0.029)
Establishment in area	-0.117* (0.022)	-0.391* (0.039)	-0.075* (0.025)	-0.350* (0.026)
Adjusted R <sup>2</sup>	0.106	0.157	0.104	0.136
Sample size	9072	6133	6620	6389

Significance: \*p<0.001; \*\*p<0.01; \*\*\*p<0.05; \*\*\*\*p<0.10

Adjusted R<sup>2</sup> is significant ranging from 10.4% (Scandinavian) to 15.7% (Mediterranean); however it is not very high it has interest for the prediction of the one-dimensional cumulative scale for supranationalism.

Intercept indicates the expected mean value of the preferred level of supranationalism when predictive variables are 0. Table 3 show that the highest expected mean corresponds to the Central cluster (5.150), followed by Mediterranean (3.900), Scandinavian (3.302) or Euro-sceptic clusters (2.701).

Concerning to the main variables of interest, “trust in European Parliament” has a significant positive effect on the supranationalism scale for all clusters; which means legitimacy on European Parliament positively influences the level of supranationalism. In the case of the Central cluster, increasing trust in the European Parliament by 1 standard deviation causes an increase of .415 points, on average, in the supranational cumulative scale.

“Trust in single country’s parliaments” have a significant negative effect on supranationalism, however, the effect for Scandinavian cluster is hardly significant (p-value = 0.096). In this case for the Central cluster, increasing by 1 standard deviation the trust in national parliament causes a decrease of 0.174 points, on average, in the supranational cumulative scale. The remaining clusters can be interpreted in the same manner.

In sum, for all clusters, a 1 standard deviation change in trust in European Parliament produces more of a change in the supranational cumulative scale than a 1 standard deviation change in trust in national parliament.

These results show that hypothesis 1: “People who have higher levels of trust in the European Parliament will have higher preference for global supranational political decision-making” and hypothesis 2: “People who have higher levels of trust in the national parliament will have lower preference for global supranational political decision-making” are supported.

“Interest in politics” has a significant positive effect on supranationalism for all clusters. Citizens with more interest in politics have a higher the preference for supranational political decision-making. This would mean that interested citizens following political issues might better understand political mechanisms, which affect their supranational preferences.

Control variables have indeed a different effect on supranationalism. Duration of education is positively related with the level of supranationalism, especially relevant in the Mediterranean cluster which is clearly the most powerful predictive variable for supranationalism scale. People with more years of education have a higher preference for policies to be decided at supranational level than those with lower education. This finding could be explained due to broader and more extensive knowledge that permits a more global view of the matter. Inglehart (1970) highlighted education as a relevant predictor for European mobilization, which is also relating the effect on education on supranational actions or activities.

“Establishment in the area” has a negative effect on supranationalism. People who have spent more years living in the same area are more likely to prefer policies to be more at lower level, such national or regional; thus higher level of subsidiarity. A reason may be that the more permanently settled in the area a person is, the more they know mechanisms in that region and believe that a supranational organization could not take them into account. Establishment in the area is especially relevant for Mediterranean and Euro-sceptic clusters where the effect is the second more predictive one.

## Conclusions

Following the principle of subsidiarity as defined by Føllesdal (1998), a solution for supranational political decision-making was elaborated and computed. Characteristics of such concept were that it fulfilled some requirements in order to obtain a one-dimensional cumulative scale for supranationalism. A first research of the countries showed that supranationalism is heterogeneous across European countries; possibly due to the large differences of opinion related to the existing governance. An aggregation of countries with similar level of supranationalism was studied using a cluster classification. It showed four different types of clusters: Central (the founding countries of the EU), Mediterranean, Scandinavian and Euro-sceptical. The euro-sceptic group supports the execution of only one policy at supranational level. Scandinavian and Mediterranean give sustenance to three and four supranational policies, respectively, whereas the Central cluster supports seven policies at the supranational level of governance.

A first remarkable finding of the article is that a homogenous cumulative scale for supranational political decision-making for all countries aggregated is not adequate. A single additive index to evaluate an ordering of supranational political preferences for the 21 countries would be incorrect. However, a cumulative scale for each cluster was found where Central cluster is the most pro-supranational cluster concerning to supranationalism level.

External validity reveals that years of education has a positive effect on the supranationalism level. This is especially relevant in Mediterranean cluster, which means that in that higher educated citizens have higher preferences for supranational policies than the lower educated ones. The effect of the establishment in the area has a negative effect on supranationalism, which might also be related with closer environment and fear of not being taking in consideration in the case supranational policy was applied.

In general, clusters seem to have a similar pattern of predictive variables but with different importance on their effect on the level of supranationalism. For instance, the effect of interest in politics on supranationalism in the Mediterranean cluster is low (0.099) compared with the same regression coefficient (0.320) in the Central cluster.

Research hypotheses were both met. First hypothesis is highly significant for all clusters, it is thus important to note that clearly the level of trust in the European parliament positively affects the

level of supranational policy preferences. The Central cluster has the stronger effect. The second hypothesis is also supported; in this case the effect is less strong than the first hypothesis. Citizens with higher levels of trust in the national parliament have lower preference for supranational policies.

In summary, people who trust their own national parliament have less preference for higher levels of political decision-making, while higher levels of trust in the European parliament are associated with support for higher supranational level of political decision-making. In terms of generalization, one also could say that lower levels of political decision-making are preferred by citizens who have higher trust in the national parliament, lower trust in the European parliament, lower interest in politics, lower education level and have spent more time establish more time in living the same region.

The novel finding of this study is the inverse relationship between the two types of trust, specifically, European and national political trust, and supranationalism, which seems a relevant result as such and can be also important for further research on the topic.

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