



Retrieving expert opinion on weights for the Active Citizenship Composite Indicator

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Abstract

On February 2007, a detailed survey was conducted with 27 leading experts on Active Citizenship to obtain individual qualitative and quantitative estimates about the importance of the dimensions encompassed in the Active Citizenship Composite Indicators, Hoskins et al. 2006. The questionnaire was designed following the Budget Allocation Scheme and the results of the survey reported here were helpful in computing new weights, as the basis of a new version of the Active Citizenship Composite Indicator based on the elicitation of the expert knowledge. Moreover, results display a much richer diversity of opinion than is apparent in qualitative consensus summaries, such as those of the Active Citizenship Research Network. The composite indicator computed here is a first step towards a new version of the Active Citizenship Composite Indicator which provides a new ranking of countries that is not far from the original, confirming the robustness of the ACCI proved in Hoskins et al. 2006.

Introduction

On December 2006, the CRELL, Centre for Research on Education and Lifelong Learning of the European Commission, presented the Active Citizenship Composite Indicators, (Hoskins et al. 2006).

The framework and indicators used in the computation of the Active Citizenship Composite Indicators, (ACCI), are based on recommendations emerging from the research project on “Active Citizenship for Democracy” coordinated by the Centre for Research on Lifelong Learning (CRELL) of the European Commission in cooperation with the Council of Europe’s Directorate of Education and supported by a research network which is comprised of key experts from across Europe from the fields of social and political science and education.

Addressing the reader to Hoskins et al, 2006 for a complete description of the work we remind that the Active Citizenship Composite Indicator (ACCI) covers 19 European countries and is based on a list of 63 basic indicators for which the data has been principally drawn from the European Social Survey of 2002.

The structure of the ACCI is shown on figure 1 and it is based on four dimensions: Political Life, Civil Society, Community Life and Values. Then each dimension is divided into a number of subdimensions.

Nardo et al. (2005) define a composite indicator as “a mathematical combination of individual indicators that represent different dimensions of a concept whose description is the objective of the analysis” (p.7). Following this logic, the ACCI summarises the concept of active citizenship into one number that encompasses different dimensions and from a technical point of view it is a weighted linear aggregation of basic indicators following the structure described above.

Based on the Active Citizenship Composite Indicator structure, an equal weights scheme was applied within each dimension and within each sub-dimension. The assignment of equal weights to dimensions prevents rewarding dimensions with more indicators as compared to dimensions with fewer. This means that participation in political life, participation in civil society, participation in the community and “values” have the same weights for calculating the Active Citizenship Composite Indicator. In a similar way, all indicators within a sub-dimension were assigned the same weight. Therefore, as a result of the structure in which there are different numbers of indicators for the different sub-dimensions, the basic indicators will not have equal weights in the composite indicator.

The above method of equal weights approach is essentially statistical or analytical technique used to obtain relevant weights for the underlying indicators. However indicators could also be weighted using the judgement of individuals based on survey methods to elicit their preferences.

There are of course fundamental considerations around whose preferences will be used in the application of those weights and how the preferences of those individuals (or groups of individuals) will be elicited.

Where the dimensions of a composite are very technical in nature, the use of “expert” opinion has been advocated. However, one difficulty is deciding on what sort of experts should be asked and how many should be included. There may be a wide range of views about certain policy issues and it is therefore important that the group is not dominated by experts with a very specific set of interests or a limited outlook. A great deal of attention has been paid to the selection of experts in some instances.

Moreover, the weights used reflect a single set of preferences, whilst the evidence suggests there may exist a great diversity in preferences across experts. There is likely to be considerable variation in the preferences of respondents. This should temper the notion of presenting the composite as “objective” (Smith, 2002).

Even if Expert Judgement Elicitation can not be considered as a substitute for definitive scientific research, it can however provide a more systematic representation of the diversity of expert judgement that is typically provided in every experts meeting. In addition, the results of such study provide a clear indication of the nature and the extent of agreement within the scientific community and also allow conclusions to be drawn about how important the range of expert opinions is to the overall debate.

Although many different weighting scenarios were analyzed in the sensitivity analysis of the ACCI without recording noticeable effects on ranking, the members of the research network on Active Citizenship objected that not all the dimensions of the ACCI can be assigned the same weight because, in their opinion, not all the dimensions have the same importance in the concept of Active Citizenship. Then the decision to adopt the equal weight scheme for the computation of the composite indicator was strongly criticized by them.

Stimulated by these critics, the decision to compute a new version of the ACCI adopting a new weight scheme based on judgement of the experts of the research network was taken. Not existing a general consensus across the member of the network on the importance of the dimensions of the ACCI, a questionnaire was distributed to help the experts to elicit their judgment. The questionnaire, written by the author of this paper, followed the Budget Allocation Technique, and for each question the respondents were given a budget to be distributed across the different priorities, thus revealing their preferences for greater

expenditure on the indicators of greater importance. The new version of the ACCI is based on a new weights scheme given by the linear combination of the median of the distributions of the preferences elicited by the experts.

The results of the questionnaire and the set of weights obtained confirm the different level of importance assigned by experts to the dimensions of the ACCI but also show that expert' opinion varies to a large extent within dimensions. The set of new weights obtained from the survey reflect these differences by rewarding or penalizing the dimensions of the composite indicator.

The rest of the paper is organized as follows: in section 2 the questionnaire and a complete description of the survey is provided. Then in section 3 the results of the survey are analyzed. In section 4, the expert' weights are computed and compared with the equal weight scheme adopted in the ACCI. Finally in section 5 the Active Citizenship Composite Indicator using expert' weights is computed and the ranking is compared with the composite indicator presented in Hoskins et al. 2006.

The Survey Instrument

A questionnaire to help experts to discriminate the different levels of importance of the dimensions of the ACCI was developed and distributed to the members of the Active Citizenship Research Network on February 2007.

The overall questionnaire was composed by 6 questions and each question required a numerical evaluation of the level of the importance of the factors that form a part of the dimension (and subdimensions) of the ACCI, see figure 1.

An additional question asked to experts to discriminate the different level of participation in organizations (membership, voluntary Work, Donating Money, Participation). Moreover a question also investigated about the area of expertise of the respondent (Educational research, policy maker, Political scientist, Sociologist).

The survey was designed following the Budget Allocation approach. For each questions, experts were given a total budget of 100 points to be distributed across the different items, thus revealing their preferences for greater expenditure.

The main problem of the budget allocation approach is that cannot readily be applied if there are too many items and it has been argued that the approach is optimal for a maximum number of 10 items per question and in cases with more items this technique can produce biased elicitation as proofed in Bootomoley et al., 2000. In our questionnaire the maximum number of item per question is equal to 7 so this approach is appropriated for our purpose.

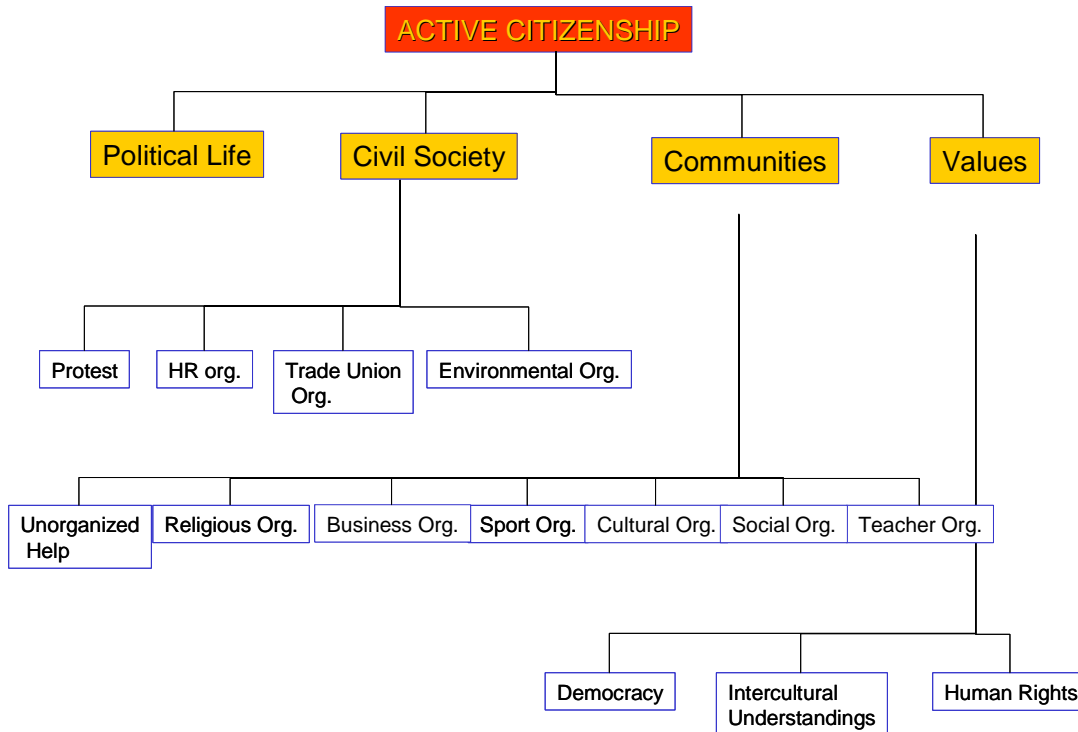


Figure 1- The structure of the Active Citizenship Composite Indicator

The questionnaire was tested and refined by the author with help of Richard Deiss (European Commission - DG EAC). A copy of the survey can be found at the end of this paper.

The elicitation of the experts' judgment on the different levels of importance of the dimensions of the Active Citizenship Composite Indicator was the purpose of the study. For this reason, the questionnaire was deliberately model-centric, not permitting discussion regarding alternative structure than that one proposed by CRELL and already discussed with the Active Citizenship Research Network, (Hoskins et al. 2006). Some of the participant criticized this aspect but a debate on the validity of the composite indicator was beyond the purpose of this exercise which is for its nature quantitative and does not permit such discussion.

The survey was distributed to two different groups of experts in two different ways. All the people contacted for participating in the survey recently stood out for carrying out some work in the active citizenship domain and for this reason they were considered as experts. In particular, the participants to the survey belong to 4 different area of expertise: sociologists, political scientists, policy makers and educationalists.

The questionnaire was distributed directly to the first group of experts that was composed by the participants to the third meeting of the Active Citizenship Research Network held in Bruxelles on February 1st, 2007. At the meantime, the questionnaire was distributed by email to a second group of experts composed by the participants of the Active Citizenship Conference held in Ispra (Italy) on September 2006. Two follow up were sent by email to

both groups on February 8th and February 15th. Finally, the survey was officially closed on February 22nd for both the groups.

In the presentation of the survey, the purpose of the study was clearly illustrated and how to answer to questions was accurately explained. We indicated in 5 minutes the expected time to complete the survey and we clarified that no honorarium was offered to those who accepted to participate.

In the follow-up, the questionnaire was sent by email and accompanied by a letter of B.Hoskins asking experts to participate.

A total number of 27 experts agreed to participate to the study. It was almost the 45% of the total number of experts contacted and it is in line with similar experience in literature. In most cases the reasons of the declination were in the basis of not accepting the CRELL model or not recognizing the survey as a useful tool for the elicitation of experts' knowledge.

Table 1 lists the experts whose responses are included in this paper along their affiliations. Some participants decided to remain anonymous, we permitted this option in the questionnaire in order to assure that experts feel free to offer their frank opinions, uninfluenced by expectations or similar pressures.

Table 1 – Some of the experts participating to the survey.

Name	Affiliation
<i>H. Biedermann</i>	<i>Department of Education, Universitat Freiburg (Switzerland)</i>
<i>C. Birzea</i>	<i>Institut de Sciences de l'Education - Bucharest (Romania)</i>
<i>E. Buk-Berge</i>	<i>Norwegian Ministry of Education and Research (Norway)</i>
<i>J. Fraillon</i>	<i>Australian Council of Educational Research (Australia)</i>
<i>U. Fredriksson</i>	<i>Joint Research Centre of European Commission</i>
<i>P. Henriette</i>	<i>Danish Ministry of Education (Denmark)</i>
<i>J. Holford</i>	<i>Division of Law and Politics, University of Surrey – (United Kingdom)</i>
<i>J. Krek</i>	<i>Faculty of Education - University of Ljubljana (Slovenia)</i>
<i>B. Losito</i>	<i>Facolta' di Scienze della Formazione, Roma Tre University, (Italy)</i>
<i>I. Martin</i>	
<i>K. Miyamoto</i>	<i>OECD – Centre for Educational Research and Innovation</i>
<i>M. Nardo</i>	<i>Joint Research Centre of European Commission</i>
<i>G. Ogris</i>	<i>SORA - Institute for Social Research and Analysis (Austria)</i>
<i>D. Popadic</i>	<i>Faculty of Philosophy, University of Belgrade</i>
<i>C. Regnier</i>	<i>Bureau de l'évaluation des politiques éducatives. et des expérimentations (France)</i>
<i>M.H. Salema</i>	<i>Department of Education – University of Lisbon (Portugal)</i>
<i>A. Saltelli</i>	<i>Joint Research Centre of European Commission</i>
<i>W. Veugelers</i>	<i>University of Amsterdam (The Netherlands)</i>
<i>R. Veldhuis</i>	<i>Public Administration Academy- (The Netherlands)</i>

Because some of the experts shared the participation in Active Citizenship network meetings and conferences or some have written papers together, we make no claim that the responses

we have received are “independent” in the sense that they have been not influenced by each other’s view. However, because our objective is to sample the range of current expert opinion, and it is the nature of expert communities to engage in such consultation, we do not view this as a problem. Readers are reminded we are not sampling from a distribution that describes the true values. The judgment of one of the outline may be correct, and those who share a consensus view may be wrong.

All of the survey responses we received were completed with a level of detail that clearly indicated that experts who decided to participate had taken the task seriously. Judging from the written comments and other indications of effort, many respondents found not easy to answer to the questionnaire so all respondents probably devoted more than the five minutes we estimated to completing the survey.

Results

In this section the results of the questionnaire are presented. For each question we have analyzed the overall distribution of the preferences in terms of mean, median and variance.

In figure 2 the distribution of the participants divided by area of expertise is shown. The distribution clearly shows that by far the largest group of respondents is Educational Researchers followed by Policy Makers. The participants that declared themselves as Political Scientists and Sociologists are much fewer.

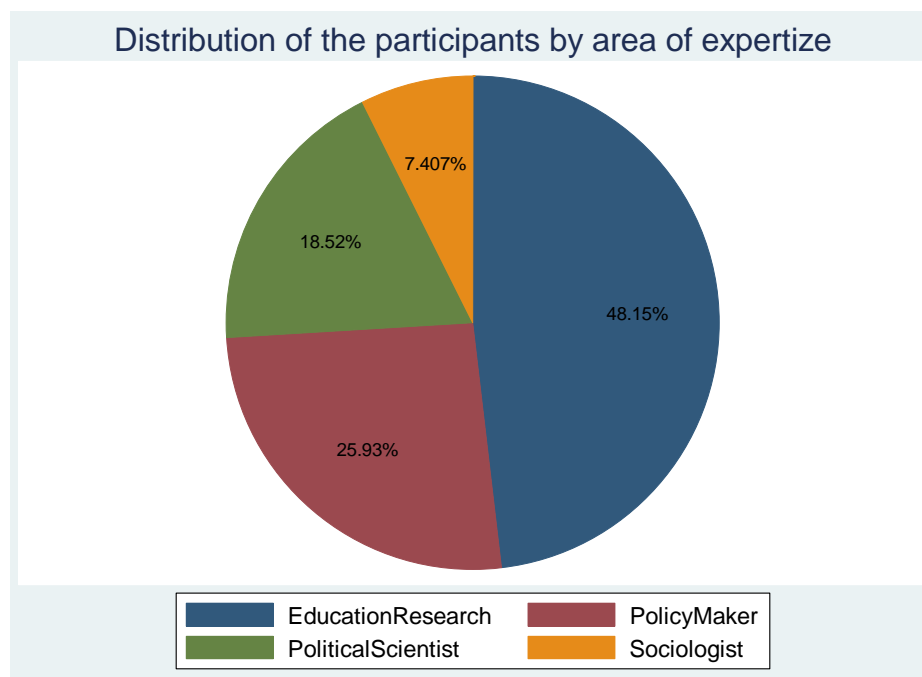


Figure 2 - Area of expertises of the participants

Since a reference population from which it is possible to extract a representative “true” sample does not exist we do not consider the variegated expertise of participants as critical for the computation of the new weights.

Figure 3 and Table 2 show the results of question 1: “A first **Active Citizenship Composite Indicator** has been prepared by CRELL based on four pillars: Political Life, Civil Society, Community Participation, Values. Please allocate 100 points indicating our view on the importance of each pillar”.

Assuming the median and the mean as measures of central tendencies of the elicited preferences distribution, these measures are not far from the weights adopted in the computation of ACCI, as in Hoskins et al. (2006). In particular, the median of the preferences accorded to Political Life, Civil Society and Values is exactly equal to 25. On other hand, when considering the mean of elicited preferences, Civil Society and Political Life are privileged by the respondents and are considered as the most important pillars of the composite indicator. Conversely, the Community Life pillar is penalized by respondents and it is considered as the least important of the four domains. A quick look to the standard deviation tell us the Political Life pillar reports the highest variances when the other three pillars show similar variances.

Table 2 - Results of Question 1

Variable	Obs	Equal Weight	Mean	Median	Std. Dev.	Min	Max
Political Life	27	25	26.66	25.00	11.28	13.04	66
Civil Society	27	25	26.86	25.00	6.43	11	40
Community	27	25	22.27	21.87	7.49	5	35
Values	27	25	24.17	25.00	7.34	10	40

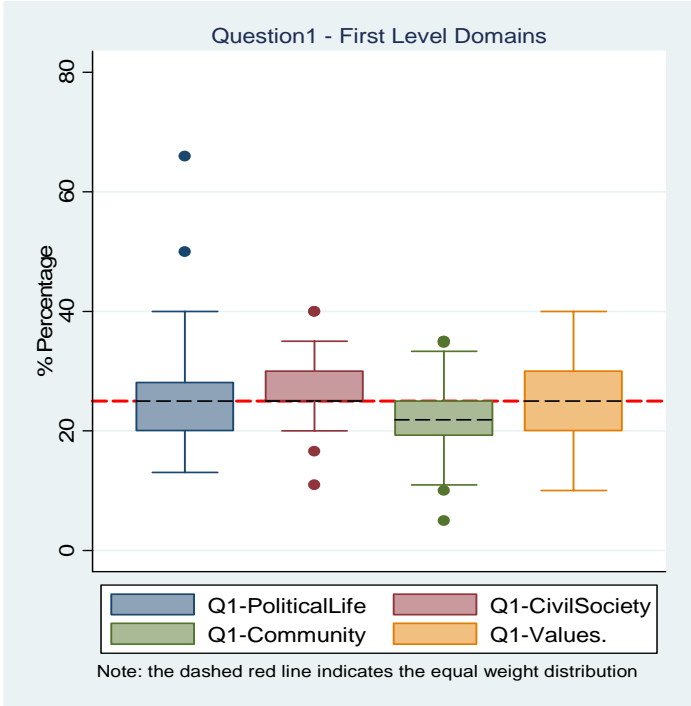


Figure 3 - Results of Question 1

Figure 4 and Table 3 show the results of question 2: “*In general, when talking about **Being Active for an Organization**, the following four different dimensions have been considered: Voluntary Work, Participation, Membership and Donating Money. Please allocate a total amount of 100 points showing your view on the importance of each indicator.*”

For this question, participants clearly distinguished the level of the importance of the different items. The experts particularly privileged the active forms of participation as the Voluntary Work and the Participation in the Organization activities while penalizing the passive form of participation as Membership and Donating Money. This picture is reflected in the distribution of the elicited preferences which is noticeably far from that assumed in Hoskins et al.:2006 the summary statistics show a large predominance of the “Participation” component, with a mean of 31.58 (median 30), followed by “Voluntary Work”, with a mean of 30.72 (median 30) and “Membership” with 23.26 (median 17,85). The “Donating Money” considered the least important with an average value of 14.44 (median: 10). All the different items present similar patterns of variances proving similar uncertainty evaluation among the experts.

Table 3 - Results of Question 2

Variable	Obs	Equal Weights	Mean	Median	Std. Dev.	Min	Max
Voluntary Work	27	25	30.72	30.00	8.16	10	50
Participation	27	25	31.58	30.00	10.03	1	50
Membership	27	25	23.26	17.85	9.46	10	50
Donating Money	27	25	14.44	10.00	9.05	0	33

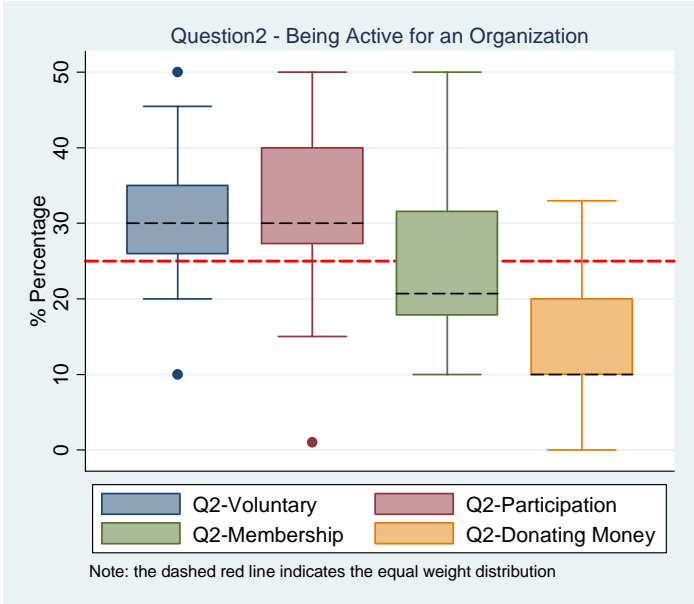


Figure 4 - Results of Question 2

The results on question 3, “*Moving into the domain of **Political Life**, the following three potential indicators have been identified: Being Active in Political Parties; Voting to election; Women participation in political life. Please allocate a total amount of 100 points showing your view on the importance of each indicator.*” are presented in figure 5 and Table 4.

Also in this case, the distribution of the preferences significantly differs from the equal weights distribution adopted in Hoskins et al. 2006. In particular, “Voting to Election” has been judged by the experts as the most important with a mean of 39.48 (median: 38.40), followed by the “Women Participation” component with a mean of 34.05 (median 34). The less important component is the “Being Active in Political Parties” with a mean of 26.42 (median: 23.80). This order of importance is maintained also considering the variance, where “Voting in Election” is the component with the smallest variance followed by “Women Participation” and “Being Active in Political Parties”

Table 4 - Results of Question 3

Variable	Obs	Mean	Median	Std. Dev.	Min	Max
Being Active in Political Parties	27	26.42	23.80	11.64	0	50
Voting to National/European election	27	39.48	38.40	8.86	22.72	60
Women Participation	27	34.05	34.00	9.92	10	50

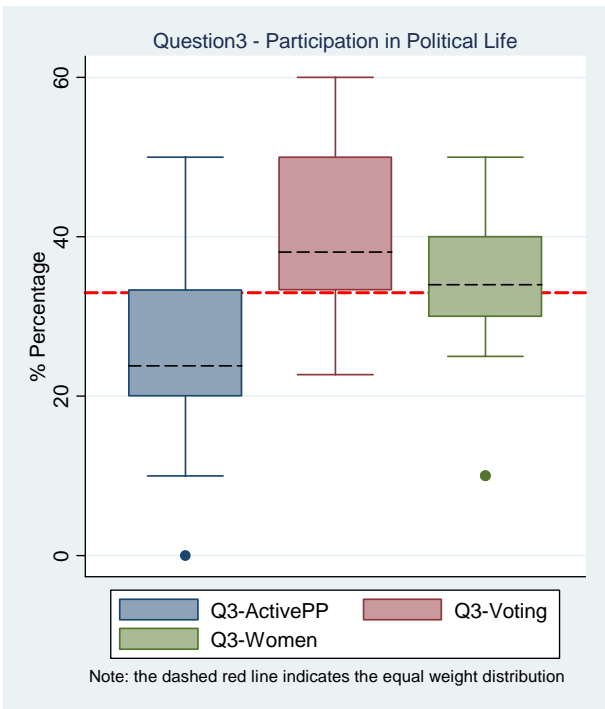


Figure 5 - Results of Question 3

An Interesting picture is then given by the analysis of the distribution of the answers to question 4, “Moving into the domain of **Civil Society**, the following four potential indicators have been identified: *Protest; Participation in Human Rights Organization, Participation in Trade Union Organization; Participation in Environmental Organization. Please allocate total amount of 100 points showing your view on the importance of each indicator*”.

Although the measures of central tendencies slightly differ from the equal weights distribution adopted in Hoskins et al., the results presented in table 4 and figure 6 clearly show the set of

items related to the Civil society are divided in two subsets by the participants. The analysis of the elicited preferences shows that the Participation in Human Rights Organization and the Participation in Environmental Organization are rewarded by the experts, conversely Participation in Protest Activities or in Trade Union organization are penalized. Experts assigned on average almost the same preference to Participation in HR organization and in Environmental Organization: 28.64 and 27.38 respectively. It is interesting to notice that also the Participation in Protest Activities and the Participation in the Trade Union Organization received similar average preferences (21.69 and 21.55 respectively). The standard deviation for all the four items is quite low, implying a similar interpretation of the question for all the participants.

Table 5- Results of question 4

Variable	Obs	Mean	Median	Std. Dev.	Min	Max
Protest	27	21.69	22.58	7.87	1.00	35
HR organization	27	28.64	27.00	4.83	20	40
Trade Union Org	27	21.55	22.22	6.14	10	33
Environmental Org	27	27.38	26.08	5.10	20	40

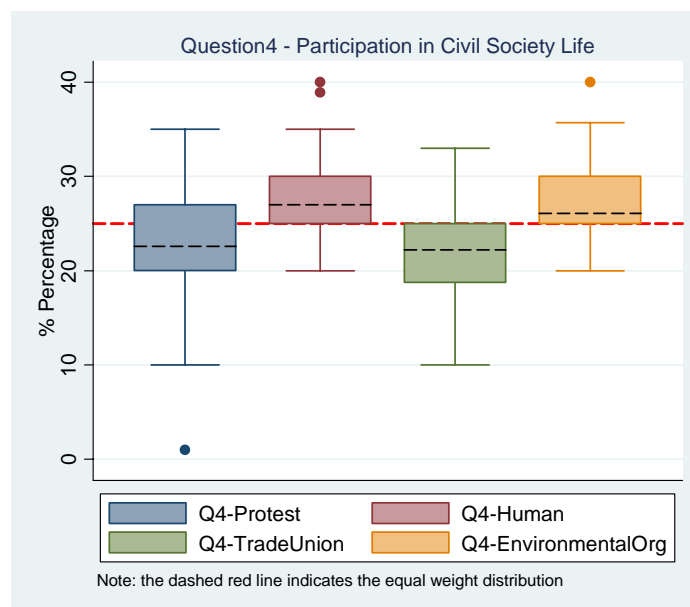


Figure 6 - Results of Question 4

An interesting picture is then given by the analysis of question 5: “*Moving into the domain of **Community Participation**, the following seven potential indicators have been identified: Providing Unorganized Help; Participation in Religious Organization; Participation in Business Organization; Participation in Sport Organization; Participation in Cultural organization; Participation in Social Organization; Participation in teacher/Parental Organization. Please allocate 100 points showing your view on the importance of each indicator.*” The elicitation of experts’ knowledge gives a particular shape to the preferences

distributions that are quite far from the uniform distribution adopted in the ACCI, Hoskins et al. 2006.

As presented in Figure 7 and Table 6, the analysis of the preferences assigned by the experts shows that “Unorganized Help”, “Participation in Cultural organization”, “Participation in Social Organization” and “Participation in Teacher/Parents organization” are the items rewarded by the participants. In contrast, Participation in Religious, Business and Sport Organization are strongly penalized. The Participation in Social Organization is the item considered as the most important component with an average value of 21.11 (median 19.35), on other hands the participation in Business Organization is considered the least important with an average value of 8.14 (median 8). Comparable levels of variances prove a uniform view among the experts for all the items.

Table 6- Results of Question 5

Variable	Obs	Mean	Median	Std. Dev.	Min	Max
Unorganized Help	27	17.10	15.15	7.18	5.00	32
Religious Org.	27	9.16	10	5.06	0	16.12903
Business Org.	27	8.14	8	5.11	0	16.12903
Sport Org.	27	10.47	10	5.25	1	20
Cultural Org.	27	15.98	15	7.59	1	40
Social Org.	27	21.11	19.35	7.08	10	37.83784
Teacher/Parents Org.	27	17.71	18	5.14	9.09	31

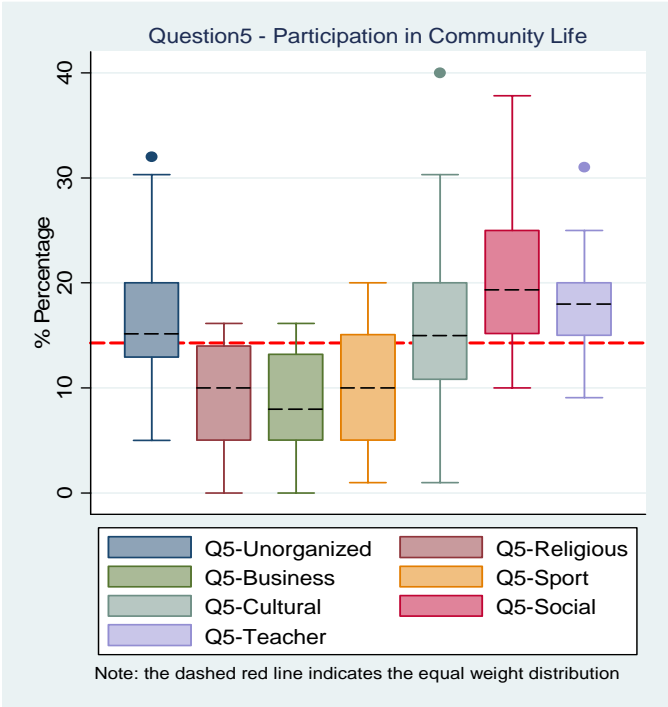


Figure 7 - Results of Question 5

Figure 8 and Table 7 show the results of question 6: "Moving into the domain of **Values**, the following three potential indicators has been identified. Please allocate points showing your view on the importance of each indicator." show a picture very close to the equal weights distribution adopted in the ACCI report.

The median and the mean are not far from the equal weights adopted in the original computation of ACCI. In particular, the respondents identified the Democracy as the most important component with an average value equal to 36.20 (median 33.33) followed by the Human Rights component, with an average value equal to 34.34 (median 33.33). The least important component is judged to be the Intercultural Understanding with a mean of 29.46 (median 30). For all the items, the recorded variances are quite low and uniform.

Table 7 - Results of Question 6

Variable	Obs	Mean	Median	Std. Dev.	Min	Max
Democracy	27	36.20	33.33	6.78	25	50
Intercultural Understandings	27	29.46	30.00	4.33	20	33.33
Human Rights	27	34.34	33.33	5.78	20	50

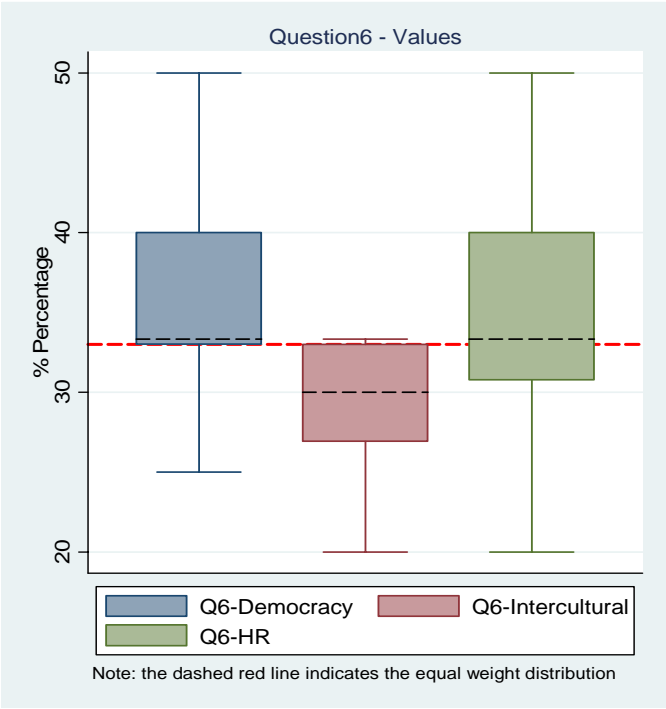


Figure 8 - Results of Question 6

Computation of the experts' weights.

The results of the survey presented in the previous section suggest that the experts assign different level of importance to the dimensions of the active citizenship composite indicator and provide a different picture respect to the equal weights scheme adopted in Hoskins et al, 2006. In this section, a new non-equal weighting scheme is computed using the preferences elicited by experts.

Within each dimension, for each item a measure of central tendency is chosen as new weight. Due to the small sample size, the use of the median is suggested because it is much less sensitive to outliers than the other indicators of central tendency. In fact, in small samples the effect of outliers on the mean can be quite considerable by biasing the resulting weights.

In this preliminary report, within each dimension, the medians of the distributions of the different items will be standardized to make their sum equal to 100 fulfilling the basic weight condition. These new values will constitute the new weights for the considered dimensions.

On table 7 the new weights based on the experts' preferences elicitation are presented and compared with the equal weights scheme adopted in Hoskins et al, 2006. It is worth noticing that the most penalized dimension is the Donating Money component (Question 2, -54% respect to equal weight schema) followed by the Participation in Business Organization and in Sport and Religious Organization (Question 5 -41% and -26% respectively). On other hands, the most rewarded components are the Participation in Social and Teacher Parental Organization (Question 5, +41.89% and +31.99% respectively) and the Voluntary Work and Participation components of question2 (+36.6 for both the components).

Moving to the basic indicator level, due to the structure of the Active Citizenship Composite Indicator, the weights assigned to each basic indicator are a linear combination of the weights assigned to the different dimensions and subdimensions. For this reason, at the basic indicators level the differences among the new non equal weights and original equal weights are smoothed or amplified. In table 8 the new weights for the basic indicators are listed and compared with the equal weight scheme adopted in Hoskins et al, 2006.

Table 8 - NonEqual Weights based on experts' elicitation

	Domain	Median of the elicited preferences	Expert Weight	Equal Weights	Difference %
Question 1	Political Life	25.00	25.81	25	3.23
	Civil Society	25.00	25.81	25	3.23
	Community	21.87	22.58	25	-9.69
	Values	25.00	25.81	25	3.23
Question 2	Voluntary Work	30.00	34.15	25	36.60
	Participation	30.00	34.15	25	36.60
	Membership	17.85	20.32	25	-18.73
	Donating Money	10.00	11.38	25	-54.47

Question 3	Being Active in Political Parties	23.80	24.74	33.33	-25.77
	Voting to National/European election	38.40	39.92	33.33	19.76
	Women Participation	34.00	35.34	33.33	6.04
Question 4	Protest	22.58	23.07	25	-7.72
	HR organization	27.00	27.58	25	10.34
	Trade Union Org	22.22	22.70	25	-9.19
	Environmental Org	26.08	26.64	25	6.58
Question 5	Unorganized Help	15.15	15.86	14.28	11.09
	Religious Org.	10.00	10.47	14.28	-26.67
	Business Org.	8.00	8.38	14.28	-41.34
	Sport Org.	10.00	10.47	14.28	-26.67
	Cultural Org.	15.00	15.71	14.28	9.99
	Social Org.	19.35	20.26	14.28	41.89
	Teacher/Parents Org.	18.00	18.85	14.28	31.99
Question 6	Democracy	33.33	34.48	33.33	3.46
	Intercultural Understandings	30.00	31.04	33.33	-6.88
	Human Rights	33.33	34.48	33.33	3.46

Table 9 - Non equal weights based on experts' elicitation of basic indicators

<i>ID</i>	<i>Description</i>	<i>EQ weights</i>	<i>Expert Weights</i>	<i>Difference %</i>
S1	Tried to improve things in your country by working in an organization or association	0.01	0.01	0.77
S2	Tried to improve things in your country by Signing a petition	0.01	0.01	0.77
S3	Tried to improve things in your country by Taking part in lawful demonstrations	0.01	0.01	0.77
S4	Tried to improve things in your country by Boycotting products	0.01	0.01	0.77
S5	Tried to improve things in your country by Ethical consumption	0.01	0.01	0.77
S6	HR organizations – membership	0.016	0.01	-9.59
S7	HR organizations – participation	0.016	0.02	51.94
S8	HR organizations - donating money	0.016	0.01	-49.35
S9	HR organizations - Voluntary Work	0.016	0.02	51.94
S10	environmental organizations – membership	0.016	0.01	-12.67
S11	environmental organizations – participation	0.016	0.02	46.77
S12	environmental organizations - donating money	0.016	0.01	-51.08
S13	environmental organizations - Voluntary Work	0.016	0.02	46.77
S14	Trade Union organizations – membership	0.016	0.01	-25.60
S15	Trade Union organizations – participation	0.016	0.02	25.04
S16	Trade Union organizations - donating money	0.016	0.01	-58.32
S17	Trade Union organizations - Voluntary Work	0.016	0.02	25.04
S18	Contacted a politician	0.01	0.01	-0.77

S19	<i>Unorganized Help in the community</i>	0.036	0.04	11.11
S20	<i>Religious organizations – membership</i>	0.009	0.004	-46.63
S21	<i>Religious organizations – participation</i>	0.009	0.01	-10.30
S22	<i>Religious organizations - donating money</i>	0.009	0.004	-70.10
S23	<i>Religious organizations - Voluntary Work</i>	0.009	0.01	-10.30
S24	<i>Sport organisations – membership</i>	0.009	0.004	-46.63
S25	<i>Sport organizations – participation</i>	0.009	0.01	-10.30
S26	<i>Sport organizations - donating money</i>	0.009	0.004	-70.10
S27	<i>Sport organizations - Voluntary Work</i>	0.009	0.01	-10.30
S28	<i>Culture and Hobbies organizations – membership</i>	0.009	0.01	-19.94
S29	<i>Culture and Hobbies organisations – participation</i>	0.009	0.01	34.55
S30	<i>Culture and Hobbies organizations - donating money</i>	0.009	0.004	-55.15
S31	<i>Culture and Hobbies organizations – Voluntary Work</i>	0.009	0.01	34.55
S32	<i>Business organizations – membership</i>	0.009	0.004	-57.30
S33	<i>Business organizations – participation</i>	0.009	0.01	-28.24
S34	<i>Business organizations - donating money</i>	0.009	0.003	-76.08
S35	<i>Business organizations - Voluntary Work</i>	0.009	0.004	-57.30
S36	<i>Teacher/Parents organizations – membership</i>	0.009	0.01	-3.93
S37	<i>Teacher/Parents organizations – participation</i>	0.009	0.01	61.46
S38	<i>Teacher/Parents organizations - donating money</i>	0.009	0.004	-46.18
S39	<i>Teacher/Parents organizations - Voluntary Work</i>	0.009	0.01	61.46
S40	<i>Social organizations – membership</i>	0.009	0.01	3.27
S41	<i>Social organizations – participation</i>	0.009	0.02	73.57
S42	<i>Social organizations - donating money</i>	0.009	0.01	-42.14
S43	<i>Social organizations - Voluntary Work</i>	0.009	0.02	73.57
S44	<i>Immigrants should have same rights</i>	0.027	0.03	9.85
S45	<i>Law against discrimination in the work place</i>	0.027	0.03	9.85
S46	<i>Law against racial hatred</i>	0.027	0.03	9.85
S47	<i>Allow immigrants of different race group from majority</i>	0.027	0.03	-1.21
S48	<i>Cultural life undetermined/enriched by immigrants</i>	0.027	0.03	-1.21
S49	<i>immigrants make country worse/better place</i>	0.027	0.03	-1.21
S50	<i>how important for a citizen to vote</i>	0.017	0.02	4.69
S51	<i>How important for a citizen to Obey laws</i>	0.017	0.02	4.69
S52	<i>How important for a citizen to develop an independent opinion</i>	0.017	0.02	4.69
S53	<i>How important for a citizen to be active in a voluntary org.</i>	0.017	0.02	4.69
S54	<i>How important for a citizen to be active in politics</i>	0.017	0.02	4.69
P1	<i>Political Parties – membership</i>	0.028	0.02	-14.25
P2	<i>Political Parties – participation</i>	0.028	0.04	44.11
P3	<i>Political Parties - donating money</i>	0.028	0.01	-51.96
P4	<i>Political Parties - Voluntary Work</i>	0.028	0.04	44.11
P5	<i>Worked in political party/action group last 12 months</i>	0.028	0.04	44.11
P6	<i>Donated money to political organization/action group last 12 months</i>	0.028	0.01	-51.96
P7	<i>European Parliament - Voting Turnout</i>	0.028	0.03	2.42
P8	<i>National Parliament - Voting Turnout</i>	0.028	0.03	2.42
P9	<i>Women Participation in national parliament</i>	0.028	0.03	2.42

It is interesting to notice that indicators of the Community dimension are strongly penalized with the new weights scheme. Conversely, indicators measuring the participation in any kind of organization are generally rewarded whatever will be the dimension of reference. The most penalized indicators are those measuring passive forms of participation as “Donating money” or “membership”. For instance the weight of “donating money to business organization” is penalized up to 70% respect to equal weight approach. In the same way, the most awarded weight is the “Participation in social organization” that is rewarded of the 73% respect to the previous scheme.

The basic indicators receiving the highest weight are those measuring the participation in political parties and the unorganized help. In contrast, the lowest weights are assigned to indicators measuring passive form of participation in business and religious organizations

Computation of the Active Citizenship Composite Indicator using non equal weights based on experts’ elicitation.

In this section a preliminary version of the Active Citizenship Composite Indicator is computed by using non equal weight based on experts’ elicited preferences as developed in the previous section. We address the reader to Hoskins et al. 2006 for a complete overview of the construction of the composite indicator, in particular for the description of the aggregation method adopted and the standardization technique applied.

In what follows, the results of the Active Citizenship Composite Indicator are presented, first, according to each individual dimension, and then as combined indices. The new weights mainly perturbed the dimensions of Civil Society and Community. This fact is reflected in their ranking where some countries gain or lose positions with a considerable extent.

The ranking of the Political Life domain is presented in figure 9. The ranking appear very robust and very few changes are recorded in the ranking. The large change concerns the United Kingdom that lose 2 positions in favor of France and Portugal, then Germany and Spain swap their position with Luxemburg and Finland respectively.

<i>Rank</i>	<i>Country</i>	<i>difference</i>
1	Austria	
2	Norway	
3	Belgium	
4	Sweden	
5	Denmark	
6	Germany	+1
7	Luxemburg	-1
8	Ireland	
9	Netherlands	
10	Greece	
11	Spain	+1
12	Finland	-1
13	Slovenia	
14	Italy	
15	France	+1
16	Portugal	+1
17	United Kingdom	-2
18	Hungary	
19	Poland	

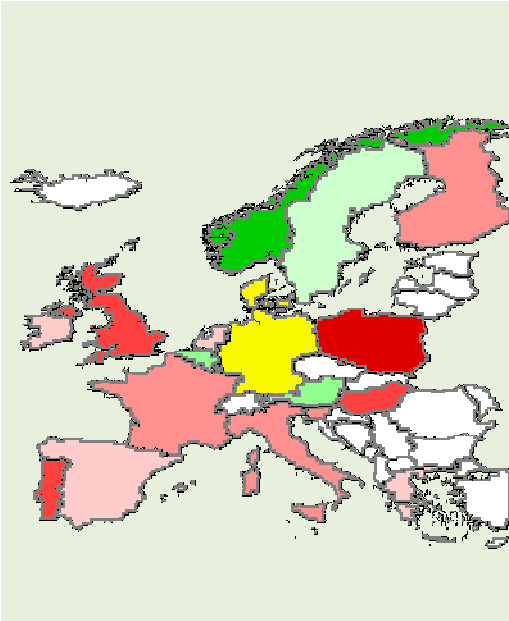


Figure 9 – The Political Life dimension using non equal weighting based on experts’ elicited preferences.

In figure 10 the ranking of the Civil Society domain is shown. The use of the weights based on experts’ elicited preferences causes some change in the ranking. In fact, Sweden takes the place of the Norway as leader of the ranking of this dimension. Then, Germany and France gain 2 positions and take the place of United Kingdome and the Netherlands which lose 1 and 3 positions respectively. On the bottom of the ranking, Italy and Spain gain 1 position with Slovenia that loses two. Finally, Hungary and Greece swap their positions in the bottom of the ranking.

Rank	Country	Difference
1	Sweden	+1
2	Norway	-1
3	Denmark	
4	Belgium	
5	Austria	
6	Germany	+2
7	France	+2
8	United Kingdom	-1
9	Netherlands	-3
10	Ireland	
11	Luxemburg	
12	Finland	
13	Spain	+1
14	Italy	+1
15	Slovenia	-2
16	Portugal	
17	Hungary	+1
18	Greece	-1
19	Poland	

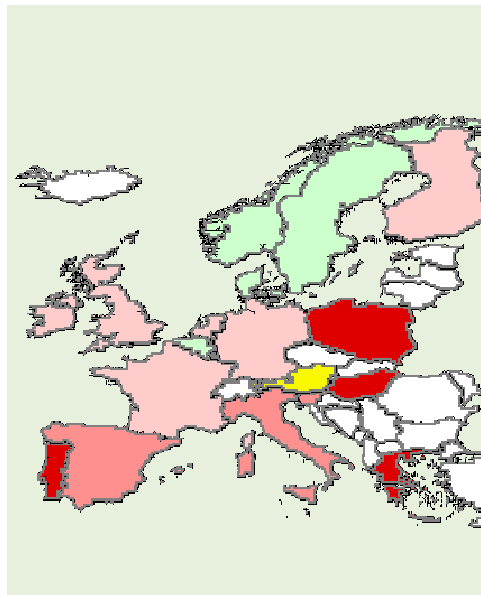


Figure 10 – The Civil Society dimension using non equal weighting based on experts' elicited preferences.

The ranking of the dimension of Community is shown in section 11 and it is the most affected by the new weighting scheme. Although the leader and the laggard of the ranking remain unchanged, a lot of countries change their position with a considerable extent. In particular Denmark loses 4 positions, followed by Netherlands and Ireland that lose 3. Slovenia, Luxemburg, Spain and Greece slightly change their ranks losing 1 position. In contrast, Belgium is gaining the second place by racking up 3 positions. Germany and France improve their ranking gaining two positions. Finally, Austria, Hungary and Italy gain 1 position.

Rank	Country	difference
1	Norway	
2	Belgium	+3
3	Sweden	
4	United Kingdom	
5	Netherlands	-3
6	Germany	+2
7	Denmark	-4
8	Austria	+1
9	Ireland	-3
10	France	+2
11	Slovenia	-1
12	Luxemburg	-1
13	Finland	
14	Hungary	+1
15	Spain	-1
16	Portugal	
17	Italy	+1
18	Greece	-1
19	Poland	

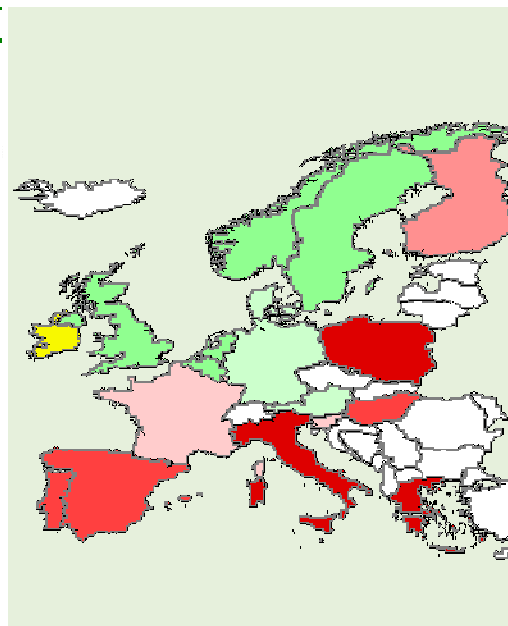


Figure 11 – The Community dimension using non equal weighting based on experts' elicited preferences.

The ranking of the Value dimension is presented in figure 12 and it is not too affected by the new weighting scheme. In particular, Italy loses two positions and Spain and United Kingdom gain two positions. Then, some countries swap their positions, it is the case of Finland and Norway, Ireland and Portugal, Germany and Austria, France and Slovenia, Hungary and Greece.

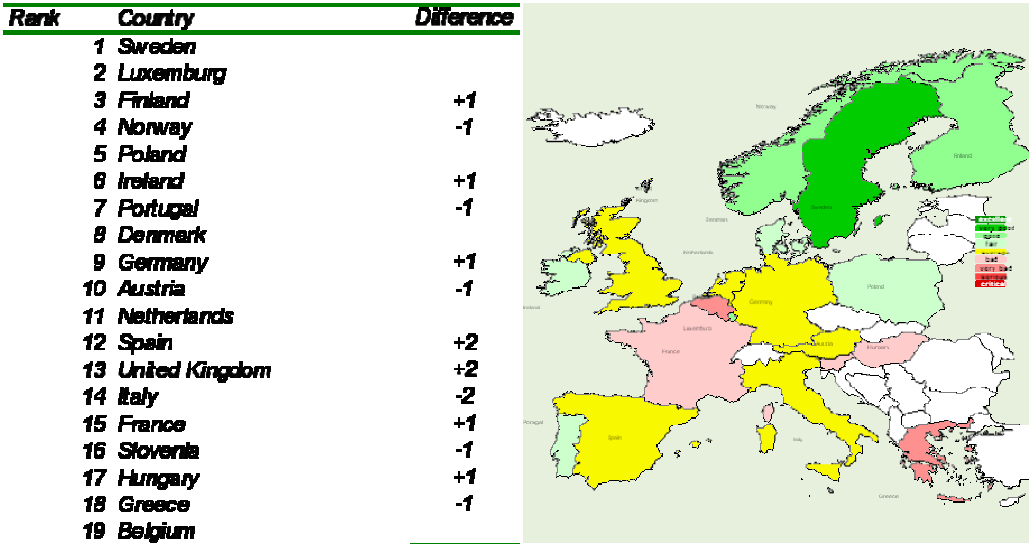


Figure 12 – The Values dimension using non equal weighting based on experts’ elicited preferences.

In figure 9 the ranking of the Active Citizenship Composite indicator is presented. It is worth noticing that the composite indicator confirm its robustness and very few change occurred in the ranking with the adoption of this weighting scheme. In particular, leaders and laggards remain the same but some countries gain or lose some positions. It is the case of Germany and Ireland that gain (and lose) 3 positions as well as some other countries that gain (or lose) 1 position.

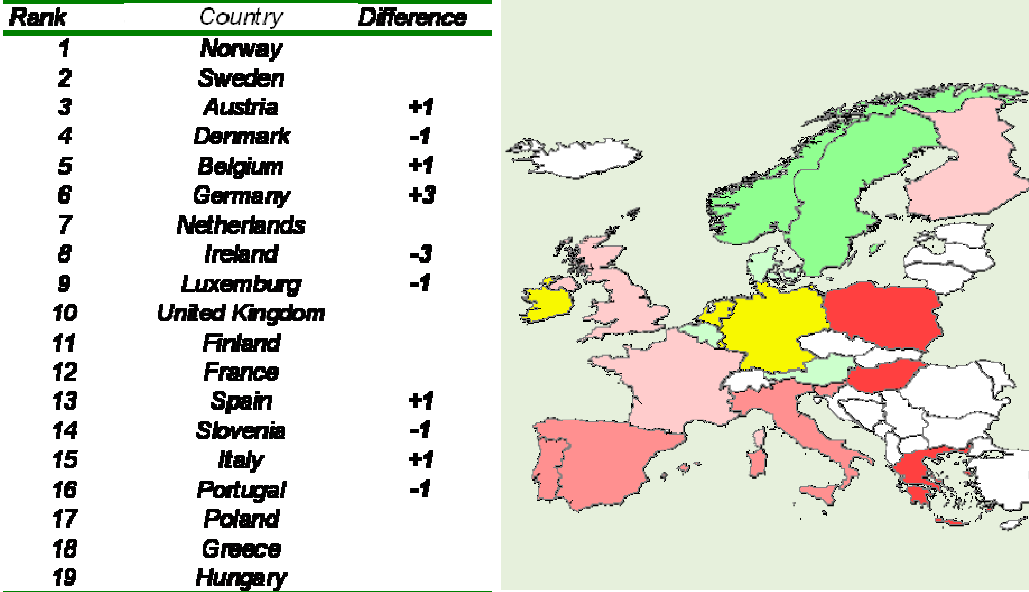


Figure 9 – The ACCI using non equal weighting based on experts’ elicited preferences.

Conclusion

In this paper the results of the questionnaire "Retrieving Experts Opinion on Weights for the Active Citizenship Composite indicators" has been analyzed. The computation of a new weighting schema based on experts' elicited preferences permits to compute the Active Citizenship Composite Indicator using the prior information provided by the participants.

Even if the range of uncertainty assessed by a number of experts is significantly larger, the distributions of the weights obtained in this survey are generally consistent and a clear picture of which pillars are considered more important for Active Citizenship has been given.

In this paper, the normalized values of the median of the distributions of the preferences elicited by the respondents have been adopted as new weight in a non equal weighting scheme based on the experts' elicited preferences. We have decided to use the median instead of the mean because is a more robust estimator of central tendency in presence of outliers and small sample.

The Computation of a preliminary version of the Active Citizenship Composite Indicator using the new weighting scheme confirms the robustness of the composite indicator proposed in Hoskins et al. providing non dissimilar rankings from the original one. The new weighting scheme affects more the dimensions of Civil Society and Community Life, but the overall ranking appear to be consistent and not too perturbed by the new weighting scheme.

Further research will be addressed in developing a Markov Chain Monte Carlo simulation on the weights elicited by the experts, in order to make them reaching the convergence and computing the Active Citizenship Composite indicators in a more robust sound basis.

Acknowledgements

We thank the experts who participated for their cooperation and assistance. Many of them, even founding our questions strange, still decided to participate to the survey and for this reasons we would like to thank all of them. We also thank Richard Deiss for the assistance in the development of the survey.



Questionnaire

**Retrieving expert opinion on weights for
the Active Citizenship Composite
Indicator**

Name (optional):.....

Area of Expertise (please tick just one of the box below):

- Political Scientist
- Sociologist
- Education Research
- Policy Maker

In case of publication of this analysis, do you like to be cited in the list of experts?

- Yes
- No

Instructions: For each question, please allocate a **total number of 100 points** for each factor to indicate how important each factor would be in your point of view. A high score means that the factor would be important. **Please consider that the scores need to sum to 100.**

Question 1

A first **Active Citizenship Composite Indicator** has been prepared by CRELL based on four pillars.

Below is a list showing the four pillars. Please allocate points indicating your view on the importance of each pillar.

Points (max 100)	Pillar
	Political Life
	Civil Society
	Community Participation
	Values

Question 2

*Moving into the domain of **Participation in Political Life**, the following three potential indicators have been identified. Please allocate points showing your view on the importance of each indicator.*

Points (max 100)	Indicators
	Being active for a Political Party
	Voting in national and European Elections
	Women participation in political life.

Question 3

*In general, when talking about **Being Active for an Organization**, the following four different dimensions have been considered. Please allocate points showing your view on the importance of each indicator.*

Points (max: 100)	Indicator
	Voluntary Working for the organization
	Participation in the organization activity
	Membership
	Donating Money to the organization

Question 4

*Moving into the domain of **Civil Society**, the following four potential indicators have been identified. Please allocate points showing your view on the importance of each indicator.*

Points (max: 100)	Indicators
	Being active in Protest Activity
	Being active in Human Rights Organization
	Being active in Trade Union Organization
	Being active in Environmental Organization

Question 5

*Moving into the domain of **Community Participation**, the following seven potential indicators have been identified. Please allocate points showing your view on the importance of each indicator.*

Points (max 100)	Indicator
	Unorganized Help
	Being active in Religious Organization
	Being active in Business Organization
	Being active in Sport Organization
	Being active in Cultural Activity
	Being active in Social Rights Organization
	Being active in Teacher/Parents Union Organization

Question 6

*Moving into the domain of **Values**, the following three potential indicators have been identified. Please allocate points showing your view on the importance of each indicator.*

Points (max 100)	Indicator
	Democracy
	Intercultural Understandings
	Human Right

Thank you for filling in the questionnaire!

European Commission

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Abstract

On February 2007, a detailed survey was conducted with 27 leading experts on Active Citizenship to obtain individual qualitative and quantitative estimates about the importance of the dimensions encompassed in the Active Citizenship Composite Indicators, Hoskins et al. 2006. The questionnaire was designed following the Budget Allocation Scheme and the results of the survey reported here were helpful in computing new weights, as the basis of a new version of the Active Citizenship Composite Indicator based on the elicitation of the expert knowledge. Moreover, results display a much richer diversity of opinion than is apparent in qualitative consensus summaries, such as those of the Active Citizenship Research Network. The new version of the Active Citizenship Composite Indicator provide a new ranking of countries that is not far from the original, confirming the robustness of the ACCI proved in Hoskins et al. 2006.

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