A Multilevel Approach to Measuring Social Capacity in a European Context

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Abstract

The focus of this article's research was to measure and compare the social capacity, social quality, quality of life, and subjective well-being of four Scandinavian countries (Denmark, Finland, Norway, and Sweden) and four postsocialist countries known as the Visegrád Group (the Czech Republic, Hungary, Poland, and Slovakia) in order to analyze similarities and differences. The analysis was conducted utilizing both micro and macro approaches. On the micro level, four new complex indicators were developed from the social well-being model of the 2012 European Social Survey, based on the social quality approach, while the macro-level analysis consisted of indicators from the Eurostat Regions database and the 2011 population census. The analysis demonstrates that using complex indicators and combining a micro-macro approach can complement each other, bringing about an understanding of nuances and subtle differences not found in singular approaches and creating a more accurate assessment of the social quality in local, city, and national levels of society.

Keywords: Scandinavian countries, social quality, social capacity, social deficit, solidarity, Visegrád Group

This study is an experimental one, conducted before a subsequent, and more comprehensive and lengthy examination. The goal is to obtain a conceptual cross-sectional analytical view of two very different European macro regions. The selected regions were the Visegrád Group (the Czech Republic, Hungary, Poland, and Slovakia—hereinafter referred to as V4) and four Scandinavian countries (Denmark, Finland, Norway, and Sweden—hereinafter referred to as S4).[1] The article introduces a phenomenon that can be described by several concepts. These terminologies are obviously overlapping in the literature in which they mean slightly different aspects and frames of interpretation for revealing the state of the societies. We mean the following:

- Social capacity (or its counterpole, anomie or social deficit),
- Well-being (its objective and subjective sides are separated),
- Quality of life,
- Social quality (in terms of the concept developed by representatives of the International Association on Social Quality).

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Analysis of the two groups of European countries was conducted within these concepts. Obviously, it would be impossible to put similar emphasis on these four theoretical approaches. At this stage, we need some restriction. We intend to underline our social capacity perception on the one hand and to build on the social quality concept on the other. We find this the most fruitful approach.

We have selected these two groups of countries because they represent two distinctive types of the versions of contemporary capitalism. While S4 countries can be regarded as examples of the "social welfare system" (Esping-Andersen 1990), V4 countries turned toward a social market economic approach after a regime change that is not as liberal as in the Baltic States but can be labeled as "embedded liberalism" (Bohle and Greskovits 2012). Although there have been several analyses on this topic about these two groups (Abbott and Wallace 2014; Hansen 2015), they used data from 2003 and 2007, and they report on a more favorable economic condition before the financial crisis of 2008.

Based on more recent data, the current research basically uses two types of measures; a micro- and a macro-level approach are applied. At the micro level, the sixth round of European Social Survey (ESS) data from 2012 were used, taking advantage of the opportunity that one of the special rotating modules of this data collection contained personal and societal well-being, and it included questions in this context. The macro-level indicators in connection with development and objective well-being were taken from the Eurostat Regions database and the 2011 population census.

Besides the application of the micro-macro data in the international comparison, the study goes beyond the fact that countries serve as the basis of the observational unit of the research. Recently, an increasing number of publications, applying the spatial representativity of the ESS, have revealed regional differences (Kaasa 2009; Kaasa et al. 2013, 2014; Savelkoul et al. 2011). Since macro indicators are also available in regional divisions, in line with the international trends, our analysis has been conducted on the NUTS 2 (Nomenclature of Territorial Units for Statistics) level. It allows the exploration of finer spatial differentiation of social capacity and social quality and its comparison to indicators showing social-economic development applied in spatial sciences. Consequently, new phenomena and connections can also be revealed that might remain hidden in studies on a national level.

Considering the basic questions of the research, the two country groups provide an excellent possibility to examine what capacities and qualities the former socialist countries have twenty-five years after the regime change compared to the Scandinavian countries. In addition, the state of these societies after the 2008 financial crisis can also be examined, based on the current data. The latter is considered an important issue because, according to European-level studies, the crisis had a lesser effect on societies of countries with an extensive welfare safety net and a relatively less segmented labor market (like the S4 countries). This is not the case of those having the opposite characteristics—namely, where the freely applicable income of households significantly

decreased and the society as a whole is more vulnerable and fragile. This latter group contains the Mediterranean member states, the Baltic countries, Ireland, and the V4 countries as well (European Commission 2013). This explains why it is getting more important to see what regional differences can be found in social capacity or deficit and the social quality within the individual countries.

Theoretical Background

This research focuses on the regional differences measured within the two aforementioned theoretical frames of reference. From the perspective of social capacity/anomie/social deficit, anomie is probably one of the more problematic terms in social sciences (including economics and law). The word "anomie" comes from ancient Greek and means "the absence of rules." In the late nineteenth century, Jean-Marie Guyau used it in a similar meaning, because he thought that the individualization of modern societies will bring an end to universal moral laws, so the morality of the future will be anomic. However, Émile Durkheim could not accept Guyau's theory and considered anomie a pathological phenomenon. In his viewpoint, anomie means the lack of restriction of goals, and Durkheim made differentiation between progressive and regressive anomie (Besnard 2001). The first type is connected with the period of economic growth when new horizons bring unlimited desires and then lead to frustrations. For example, the frequency of committing suicide caused by anomie tends to increase in these years (Durkheim 1982: 229), but later studies did not confirm Durkheim's progressive or economic growth anomie hypothesis (Besnard 2001). The latter can be the acute form of an extended crisis situation when new norms are restricting possibilities for individuals; this will lead to fatalism. While this dual type of anomie is not completely worked out by Durkheim, it is an interesting concept to evaluate at a regional level for which the 2008 financial crisis gives a good opportunity for investigation.

Robert Merton's view of anomie clearly differs from Durkheim's because for him it means the restriction of means to reach preferred success symbols and goals (Besnard 2001). This process is the source of strain that may lead to criminal behavior and points to the permanent limited opportunity of individuals to reach their goals and the importance of sustained poverty (Uggen 2001). The latter is an important indicator of spatial inequalities in regional science and indicates anomie/social deficit can be in connection with the deterioration of the quality of life at a regional level (Wilson 2006), but they are not factors changing together.

Anomie can also be connected to bottom-up or local development. Mel Evans and Stephen Syrett (2007) have based their thinking on Michael Woolcock's effort to introduce the inner context of local development. Two factors are highlighted: intracommunity ties, which are the inner connections (network) between local society members, and extracommunity ties, which are the outbound linkages, and the balance

of these two factors is desirable. Too much intracommunity ties lead to "inward-rewarding development," while too much extracommunity ties (activities) lead to anomie. In fact, this interpretation returns to Durkheim because the wide range of (outer) possibilities is the main reason for anomie, but the lack of integration is also assumed. This reasoning is important from our point of view because (1) it connects the micro/individual level to the macro/community level in the regional development process, and (2) it builds connection between anomie and regional development and with social capacity.

In addition to the classic concept of anomie, the category of social capacity is not completely unknown in the literature. Primarily, the so-called capability approach related to Amartya Sen (1993)—the Nobel prize winner, economist, and philosopher—must be mentioned. The essence of his proposed approach is that the emphasis lies not merely on resources but also on possibilities: what a society and its individual members are able to do and what they can become. Sen develops this concept within the frame of well-being analysis and states that well-being depends not merely on tools but also on personal qualities and characteristics that influence how a society is able to utilize its assets and resources to reach a goal are also important. On the other hand, there is one point where we disagree with Sen, namely that he questions the relevance of the subjective well-being, for example, that people can be satisfied with their lives in an objectively bad situation.

Even if we do not intend to go deeply into well-being research from a theoretical perspective, the methodological benefits of the well-being studies cannot be denied. For example, such regional analyses like the *How's Life? Measuring Well-Being* (OECD 2015) is particularly important for this article because of to its innovation. In addition to the national level analysis, it contains a regional level analysis, in which the measurement of well-being is conducted along three main factor groups: the place-based geographical unit; the personal-based individual unit; and the societally based unit of people.

From this pragmatic perspective, we refer to the series of publications called *World Happiness Report* (edited by John F. Helliwell, Richard Layard, and Jeffrey Sachs) in which the ranking according to gross national product includes the subjective ranking according to "Gross National Happiness" with the same value and validity (Layard 2005). In this *World Happiness Report* publication (Helliwell et al. 2015), for example, Hungary ranks 104 out of the list of 158 countries in which Switzerland is first and Togo is last.

In this context, it makes sense to refer to the work by Rudolf Andorka (1996) and his colleagues who examined the Hungarian society by using statistical indicators. Issues that they applied contained concepts like ability for navigation, aimlessness, unpredictability, or crisis of self-assessment. It is no coincidence that in this theoretical circle, the authors talk about the subjective indicators of anomie beside the broad sense of dissatisfaction (e.g., Spéder et al. 1998). Obviously, this approach has a statistical perspective, when the Eurostat European Union Statistics on Income and

Living Conditions (EU-SILC) program (including also the Hungarian Central Statistical Office) started to measure—basically the same thing but labeling it again as well-being. This shows clearly a kind of theoretical mismatch when research turns to empirical analysis.

In this article, we will use the social quality approach to underpin our empirical analysis theoretically (Beck et. al. 1997, 2001; Lin and Herrmann 2015). The approach provides a complex analytical and methodological framework aiming to describe the quality of society in a multidimensional manner. The crucial distinction is that the social quality approach deals with relational issues; it is process oriented and emphasizes the interdependency of the processes. Consequently, the social quality approach goes beyond the usual quantitative indicators and assessment of consumption or well-being by suggesting other components and developing four analytical fields or conditional factors of social quality: socioeconomic security, social cohesion, social inclusion, and social empowerment. These four factors appear as four quadrants expressing the relationships between processes at the global and biographical level, as well as at the level of institutions and communities. From the perspective of our study, it is important to underline that the approach also assumes an active citizen attitude when the person is able to develop and renew. In this approach, individuals as well as groups and communities formed from them are integrated into the institutional and organizational network of the community, organically. In other words, these four related factors enable the actors in the society to experience and influence human interrelationships. In this sense, these factors are conditional, and influence the opportunities and resources for individual and collective action.

Empirically, we develop and use indicators at the micro and macro level, and these indicators will be grouped in line with four conditional factors of the social quality approach (the conditional factors), following the conceptual grounding by Laurent van der Maesen and Alan Walker (2012) and in particular by Herrmann and colleagues (2011) but taking into account the features of the data available for the analysis. This holds particularly for the micro-level indicators, where the ESS well-being module contains basically only subjective measures (attitudes). The macro-level indicators from Eurostat are of objective character.

As an important bridge between the various concepts and as a first experiment, a municipality-level anomie or social deficit index was developed (Bódi et al. 2014). It can essentially be interpreted as a reciprocal indicator of social capacity. However, the index also showed the strong decline in social values and the related crisis phenomena (e.g., the rate of crime, the frequency of abortion, etc.).

In the present research, we are developing a social deficit/capacity frame, which, contrary to the previous index, is not only based on objective data related to territorial units but was also created from survey variables based on subjective opinions in line with Merton's recommendation. A further added value of this experiment is that the current analysis builds on and benefits of the social quality approach.

Data, Variables, and Methods

The first overview of indicators related to measuring aspects of our theoretical frameworks—namely, anomie—was mentioned in the second part of Merton's seminal work, *Social Theory and Social Structure*. In this part, Merton (1968: 217) outlined two options: on the one hand, analysis based on statistical data (e.g., the rate of immigrants, the number of crimes, etc.) and, on the other hand, using a questionnaire to measure the level of anomie. Of these two methods, he considered the second one better, but to take advantage of each one, we used the combination of a micro (ESS) and a macro (Eurostat) approach in our investigation.

Our concept was designed in line with the social quality theory, where our key question asked how much the inhabitants of a given area/region are able to participate in the maintenance and in the development of the local community as active citizens. Answering this question is very challenging because, as experience shows, the recent upsurge in data related to societal well-being is still insufficient to carry out proper analyses of relational processes (Herrmann et al. 2011).

As mentioned earlier, the study contains a surveillance level according to countries ($N = 8$) and a NUTS 2 surveillance level according to regions ($N = 60$). Thus, in terms of the applied variables, the study follows a complex micro-macro approach. Micro data on the level of individuals are derived from the personal and social well-being module of the ESS 2012, round 6.[2] When the V4 and S4 country groups were selected from the ESS international database, the number of the observations was $N = 15{,}086$[3] in the personal-level data. These micro data were used with the addition of the questions in the questionnaire to develop four indicators: assessment of the "own situation," ability to change, image of the future, and extent of solidarity. The logical background and the process of developing the variables was as follows.

For the assessment of a participant's own situation, the individual assesses their situation from two aspects: how happy they are generally and where they are situated in terms of society as a whole. The indicator is likely to express a situation that can serve as a starting point for individuals, where they place themselves in a virtual three-dimensional space of happiness, appreciation, and societal position.

In the case of the ability to change, it is assumed that this is a part of human nature—the desire to improve their current mental and living conditions. Generally, there are people who feel they can freely decide about their lives, have the opportunity to learn, and can deal easily with problems, but there are also some who represent the opposite end of the spectrum. This indicator measures the balance between these two sides.

The image of the future indicator follows the same logical structure. It measures how much the respondents trust the future of the world, whether they see the situation of the inhabitants in their own country deteriorating or improving, and finally how they see the direction their own life is taking. Based on the answers to these questions, the respondents get into the "box" of the image of the future. There will be some who

are hopefully regarding the future of the world, think the life of their country's inhabitants is improving, and feel that their own career is going well. However, there will be some who report the opposite tendencies.

The fourth variable is solidarity, which serves to measure how much the individual feels that the people around them are helpful and how big the amount of giving and getting help is according to their own perception. The role of this indicator is to give information about the mental and physical readiness of the regional society to help the unemployed, the excluded, and those who are pushed to the bottom of the society. It may measure the social capital (measured in the practice of other research studies by confidence data), particularly in transition countries where its existence or absence could/should be taken into consideration because of the changes in welfare systems.

Thus, four indicators have been individually based on three different survey questions, which means that they aggregate to twelve variables altogether. Because of the ESS measurement practice, the answers given to most but not all of the questions were placed on a scale from 0 to 10. As in the case of the indicators, each question was taken into consideration equally, but in some cases the questions had different measurement scales. Thus, they had to be transformed to a new comparable scale from 0 to 10.[4] For the self-situation indicator, this process was not needed at all; transformation was applied to the ability for change (one question), future image (two questions), and solidarity (all three questions). Thus, the four indicators applied in the analysis in terms of measurement were on the same scale from 0 to 10. The analysis will introduce the differences between countries and within them between the NUTS 2 levels in light of the aforementioned four indicators. Parallel with the analysis of the differences among the countries, an analysis of variance (ANOVA) was performed on the personal level database, which gives information about the differences among societies on a general level. For more detailed regional-level analysis, variables developed on the personal level were aggregated—that is, on each NUTS 2 level, the average of indices developed on the base of the respondents living in the given region can be seen. In this regional database, the differences among countries and regions are examined using the four indicators. In addition, a cluster analysis was performed.[5] The aim of the latter was to examine how each regional unit participates in the developed clusters based on the micro-level personal measurements from the ESS data.

For the macro-level regional data, indicators used for measuring development and well-being were selected. In addition, indicators that could be expected to have a connection with the authors' own indicators developed from the ESS results were included as well. This was driven by the idea that analysis results from two different types of data collection should be compared. The Eurostat database[6] and the 2011 census[7] served as the source of the data selected from 2011 to 2013, which is close in time to the ESS survey, which was made in 2012.

As mentioned, the complete data for the sixty NUTS 2 regions were not always available (e.g., number of persons who use computers), so the missing values were replaced by the values of the year closest to the missing ones (e.g., data about using

computers for Polish regions). This is a common problem in international comparative analyses, which is why the recent study could not use several variables that were projected to be analyzed (e.g., causes of death, rate of Internet users, different poverty indicators).

As the number of the macro indicators selected from the regional database was too big to examine the differences among the regions one by one, a factor analysis was performed. In the results, three factors had greater than 1 eigenvalue, but only the first (rotated) factor could be considered truly valid, because it has outstanding eigenvalue and proportion to total variance (61 percent).[8] Thus, the analysis shows the regional differences according to the first factor.

Results

Comparison among Countries (Micro Data, Personal Level)

As the first step of the research in the personal level database, ANOVA was performed in the eight country samples and in both of the four country groups. ANOVA was performed using the four indicators. There was a significant difference for all four variables between the countries. The eta-squared values show the effect size for each indicator (see the results in Table 1).

Within the V4 and S4 countries together, the differences are greater, but significant differences can be seen between the two country groups as well. It is not surprising that the differences are the biggest while examining all eight countries, but bigger differences seem to be within the V4 countries than within the S4 countries. Regarding the differences between the V4 and S4 country groups, the most important factor is the difference in the development of the future image, while this indicator has the smallest difference within the V4 countries. In S4 countries, the ability for change plays the smallest role. V4-S4 differences are relative small for solidarity and relative bigger when examining the two country groups separately.

Table 1. Differences among Countries Measured along Micro-level Indicators

	V4 + S4 Countries		V4 Countries		S4 Countries	
	F-value*	**Eta²**	**F-value***	**Eta²**	**F-value***	**Eta²**
Own situation	398.934	0.160	111.235	0.043	75.535	0.31
Ability to change	284.898	0.118	102.011	0.039	31.115	0.13
Future image	494.466	0.192	39.946	0.016	73.583	0.30
Solidarity	152.457	0.068	120.866	0.046	103.346	0.041

* Each F-value is significant on $p < 0.000$ level; it is 7 in the case of all the countries (V4 + S4), with 3 degrees of freedom for the V4 and S4 country groups.

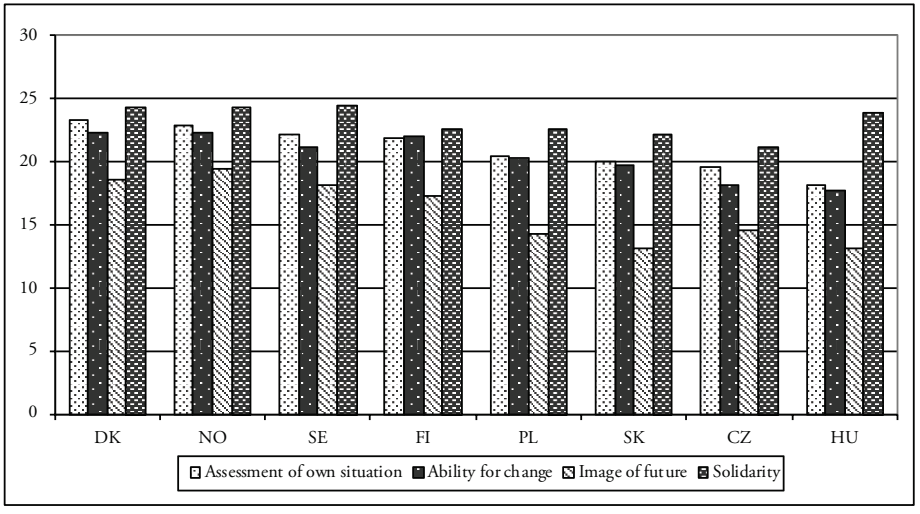
Source: ESS (2012) (own calculation).

The differences among countries can be better seen by each indicator's average values in the sample of each country. Figure 1 shows these averages where the countries are ranked from Denmark, which is in the most favorable place, to Hungary, which shows the greatest lack of social capacity and social quality. Bascially, for the first three indicators measured on the micro level, with very few exceptions, this rank can be seen in the S4 and V4 countries. One exception in the S4 countries is that the capacity for change is stronger in Finland than in Sweden; another exception is that Norway is higher than Denmark regarding the future image, but the differences are not significant. The third exception can be seen in the V4 countries. The future image is more favorable in the Czech Republic than in Slovakia. The solidarity indicator average is the highest in Hungary among the V4 countries.

Based on the analysis of the individual survey data, the V4 countries were much worse on the developed indicators. With the exception of the solidarity indicator, the V4 countries always had the worse values, but, except for the ability for change, these values are located within standard deviation distance compared to the average of the S4 countries. The values for Hungary, except for the solidarity indicator, always seemed to be the worst. However, the solidarity indicator is very interesting because in comparison it is close to that of the S4 countries and better than the solidarity indicator of Finland. Another interesting result is that the solidarity indicator is the worst in the Czech Republic, which might potentially and indirectly be related to the fact that in the past eight years, significant reforms have been made in their societally based support system.

The effects of the 2008 financial crisis can be seen in the values of the own-situation indicator because the Czech Republic and Hungary, the two countries that were previously considered the success countries of the regime change, still cannot get

Figure 1: The order of S4-V4 countries based on the various micro-level indicators.



up and are still struggling with serious socioeconomic difficulties. In contrast, Slovakia and Poland have been more able to exploit the opportunities arising in recent years, for example, with the introduction of the Slovak euro or the European Football Championships organized by Poland. These steps in the long run seem to be favorable for these two countries in terms of treating the effects of the crisis.

For S4 countries, Finland's weak results could be expected, as it has had strong connections with the Russian economy, which has been in strong recession since 2008. In addition, a significant decline can be seen in demand for the traditional Finnish wood and paper products. Their situation is further aggravated because at the end of the 2000s, unsolvable problems arose in the leading Finnish technological industry, Nokia, which was regarded as the country's driving force during the past two decades (Portfolio.hu 2015).[9]

Regional Differences in the V4 and S4 Countries (Micro Data)

Additional analyses have been derived on a regional level, where the observation unit is the sixty element NUTS 2 level within the eight countries. At the personal, micro-level ESS data, the examination focused on how each of the regions differentiates in the eight countries along the four indicators. Results can be seen in forms of maps in Figures 2 to 5. The regions were classified into five classes by the regional average value of the four indicators. The classes represent the quantile of the regions. In connection with the spatial description of their own situation (Figure 2) and the future image (Figure 4), a well-defined north-south decline can be seen. Although not to a significant degree, this trend can be seen in the ability for the change indicator as well (Figure 3). Examining the solidarity indicator as a result of high values associated with the V4 countries, this picture changes. In any case, the results fall within the differentiation between the developed Global North and the underdeveloped Global South.

The regional level analysis for the S4 country group shows that Norway and Denmark have the highest values of the indicators, followed by Sweden and Finland, which indicates a west-east decline as well. In addition, the regions of Norway and Denmark seem to be rather homogeneous based on the four points of view, while in Sweden and in Finland there are spatial differences, for example, in the ability to change. Finland seems to be the lowest scoring among the S4 countries, probably because the development of the country has stagnated for several reasons during the past five to ten years.

Among the V4 countries, the Hungarian and Czech regions score the lowest, while the Polish areas are halfway in the scores compared to the Finns. In Slovakia and the Czech Republic, it is important to mention the capital regions because, for example, the evaluation of their own situation, the ability for change and the future image of the inhabitants living in and around Prague are better than in the other Czech regions. In some respects, Bratislava and its surroundings show a similar picture. (This "capital

Figure 2: Assessment of the personal situation in life.

Figure 3: Assessment of the ability to change.

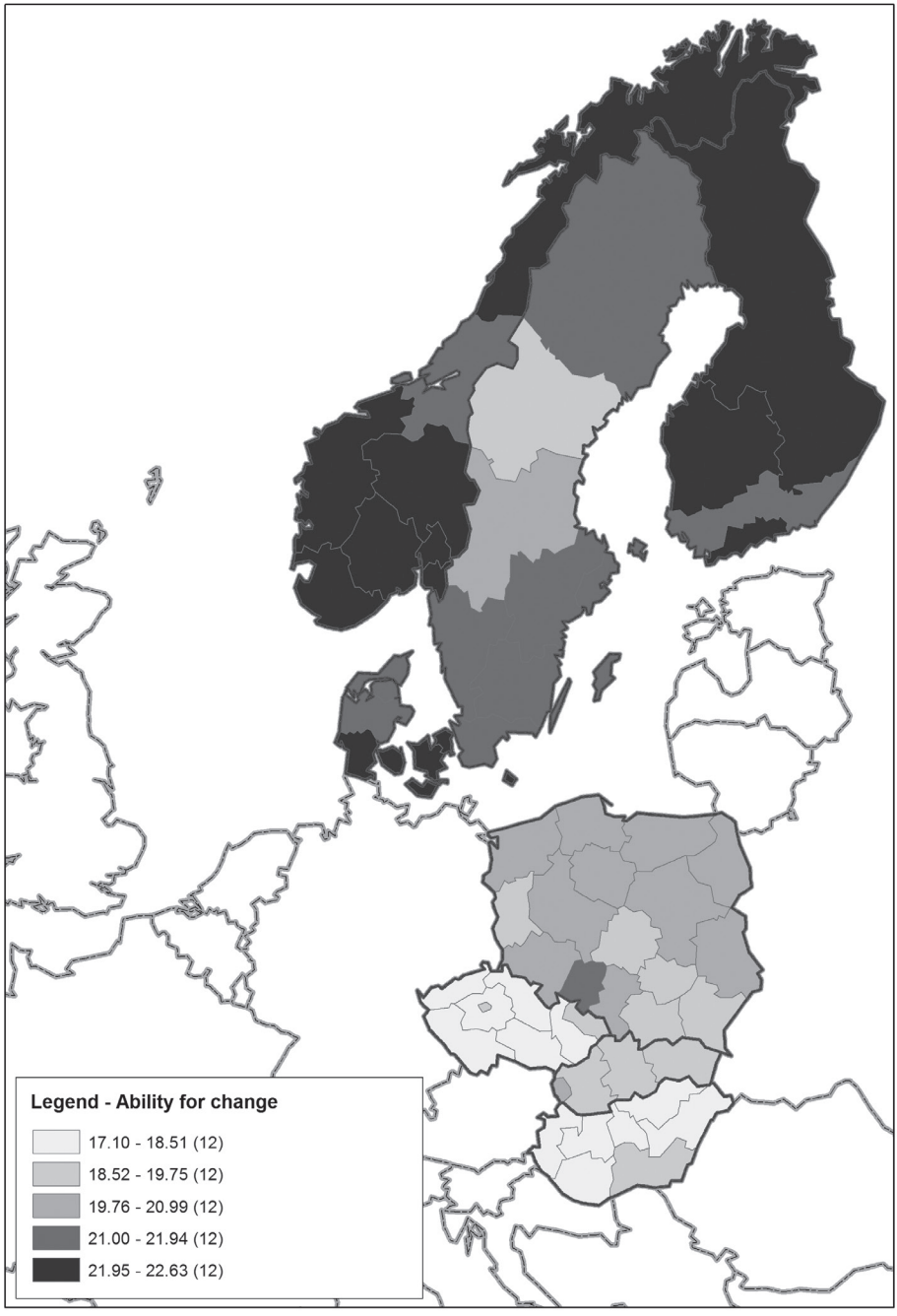


Figure 4: Assessment of the vision of future.

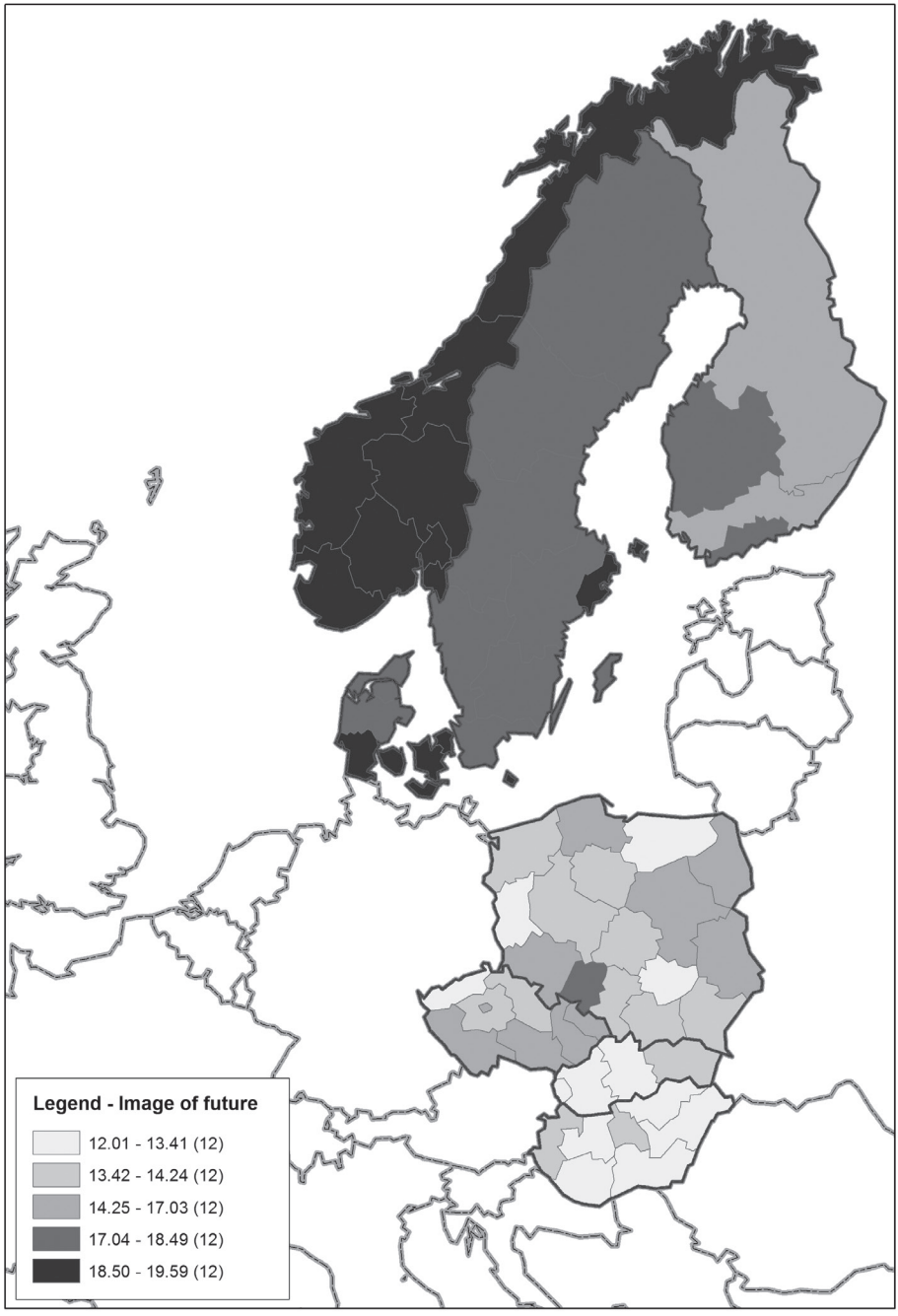
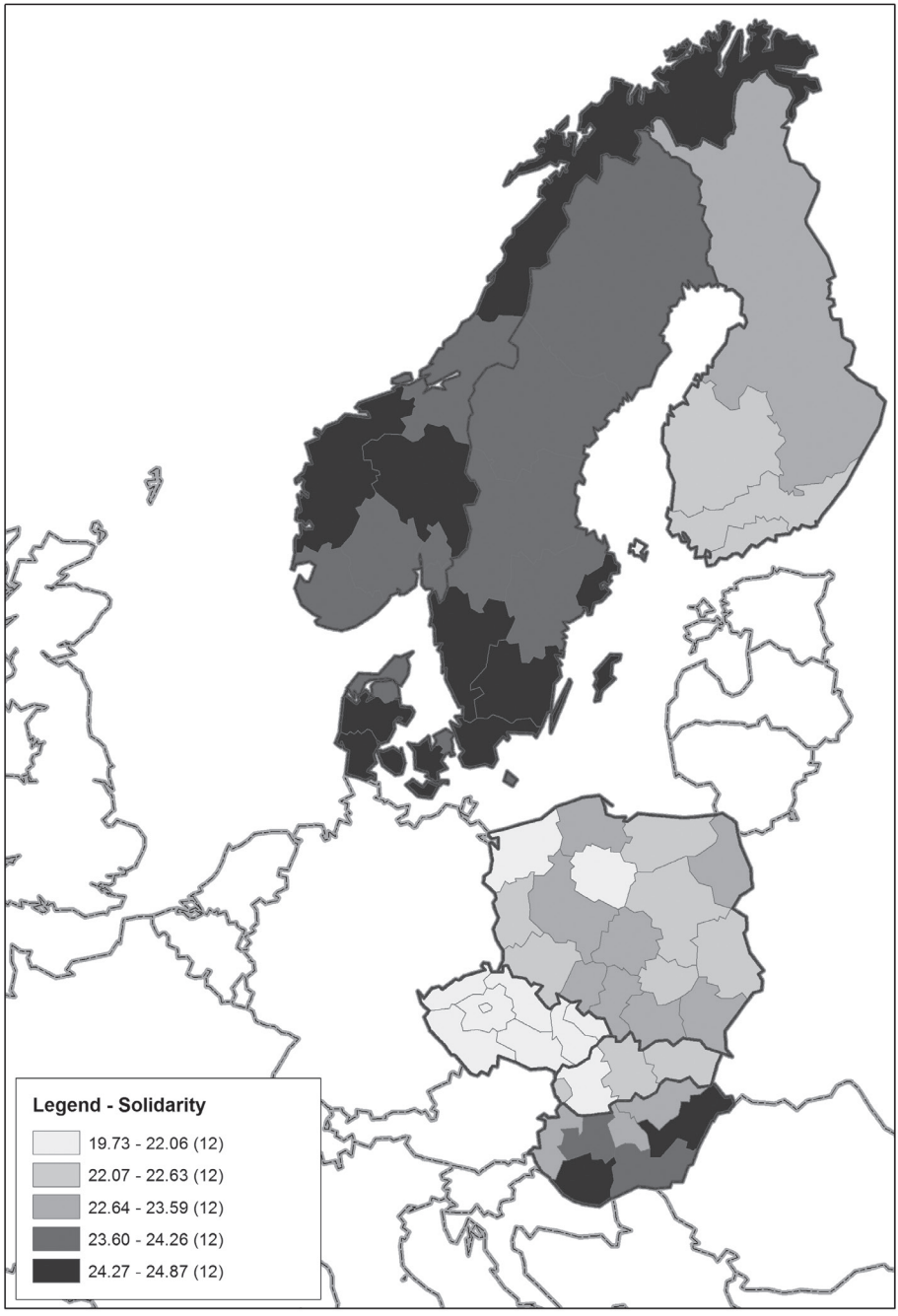


Figure 5: Assessment of the solidarity.



effect" can also be partly seen in an S4 country, Finland.) All this points to the "strength" of the central regions and the resulting regional differences within these countries. In Poland, however, this strength is lacking. This is not surprising, as the Warsaw-based Mazovia region contains both the most developed and the most disadvantaged (with the highest unemployed rate) regions. Hungary—despite the known regional differences—however, shows a rather homogeneous picture, although for the future image a minimal "capital effect" can be seen.

Among the V4 countries, the differences between the Polish regions is worth mentioning, as the Opolskie NUTS 2 region has an outstanding average regarding the micro data. Opolskie itself is a rather rural region (with approximately one million inhabitants, and the most populous city has only 130,000 people). At the same time, it is quite industrialized (with more than twenty types of industry, and significant foreign direct investment) and has a strong higher education (with several universities and colleges); is has about 150,000 Silesian Germans, as 90 percent of the German minority in Poland live here (according to the Opole Voivodeship Self-Government website). All these factors together support the conclusion that in the personal survey, those living in this region had a more favorable opinion than the residents of any other regions of the V4 countries.

Regional Differences in the V4 and S4 Countries (Micro Data, Typologies)

The last comparison conducted with micro data based on the survey of the population refers to the results of the cluster analysis (Figures 6 to 9 in a map format).

Classification into two groups (Figure 6), where the V4-S4 micro data made it possible to reproduce the differences almost precisely, yielded an interesting result. The only exception was the previously identified Polish Opolskie region, which, based on distance function, seems to appear as a Scandinavian island. This might be attributed to the previously mentioned individual characteristics. In addition, the social capacity or well-being indicators of the region also show strong similarities with the developed Scandinavian regions with low density.

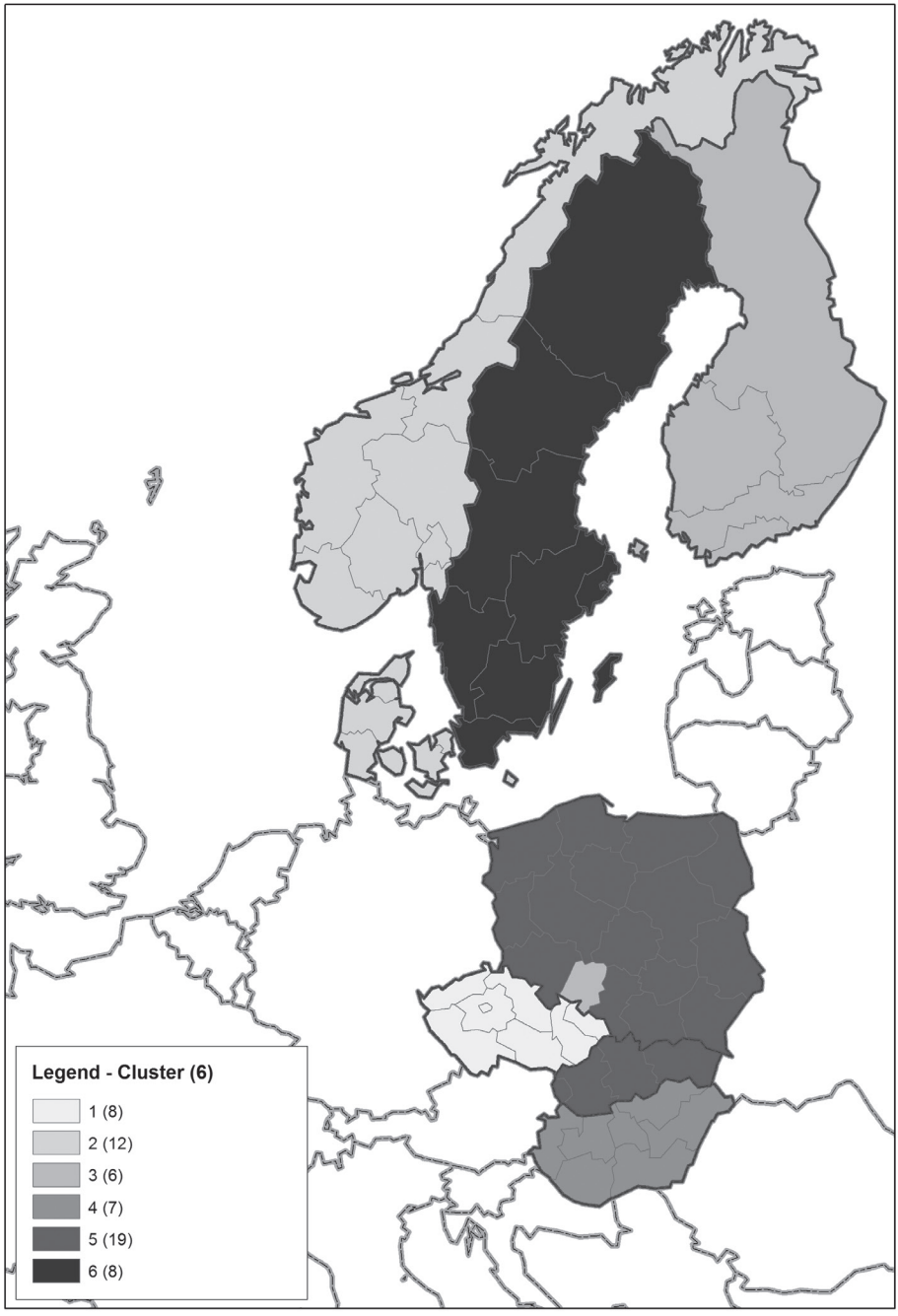
For the three-cluster typology (Figure 7), Hungary separates entirely from the V4 countries, which, based on previous findings, is not surprising. It basically stems from the long-lasting protraction of the financial crisis in Hungary, as well as from the opinion and subjective evaluation of the population reflecting on this situation. For the four-cluster solution (Figure 8), the Czech Republic separates from the V4 countries and, based on the statistic of the distance function, the S4 countries remain homogeneous. Again, the reason might have been the protracted crisis, as both the Czech economy and society have been fighting against difficulties and tensions during the past five years. Compared to Hungary, the difference might be that the standard of living is slightly higher. However, the development is similarly low, which could be reflected in public opinion and in the lack of social capacity or well-being.

Figure 6: Two-cluster typology by four indicators.

Figure 7: Three-cluster typology by four indicators.

Figure 8: Four-cluster typology by four indicators.

Figure 9: Six-cluster typology by four indicators.



For the five-cluster version, the unity of the S4 splits Denmark with Norway and Sweden with Finland get into one group. This result shows the close connection with the order of the analysis of the micro-level data. A six-cluster version (Figure 9) has also been prepared, where the Sweden-Finland common cluster splits. In this respect, it is interesting to observe the Polish Opolskie region's changing in rank as well. For the five-cluster version, based on the distance function, it got to the Swedish-Finish, that is, within the S4 countries to the "weaker" class, while in the six-cluster version it was ranked to the Finish regions that have the worst data within the S4 countries based on the indicators of the research study. This essentially means that in the comparison based on micro data, the V4 region having the best indicators reaches the level of the worst S4 regions.

Regional Differences in V4 and S4 Countries (Macro Data)

This part of the study introduces the results of the analysis conducted on the variables of the macro data, the 2011 census, and the Eurostat regional indicators. A factor analysis has been conducted on these regional-level data where the first factor had the greatest explanatory power (61 percent). It is a development factor or—with a fashionable term, based on its content—an "inclusive growth" factor. The positive elements of the factor are the disposable income per capita at purchasing power parity, the rate of those graduated from higher education, the proportion of service sector employees, the rate of those working in science and research within the active population, and life expectancy. On the other side, the negative elements are the rate of unemployment, the rate of long-term unemployment, and the rate of those employed in industrial sector.

To analyze the macro data, the variable showing the factor scores was divided into seven levels according to its deviation. Each region was assigned to these levels (Figure 10),[10] From factor 1 the regional distribution gives a typical bell curve where only 1-1 region belongs to the highest (+2.5 deviation and above it) and the lowest (–2.5 deviation and under it) development level, while approximately half of the regions (twenty-nine) are on a relative medium level around 0 (between –0.5 and +0.5 deviation).

Based on the first developmental factor, it can be said that the Norwegian regions can be characterized by the highest deviation—2.5 above the average (0) or even higher)—and for the other Scandinavian regions, the development rate is at least average. The lowest point of the development measured by macro indicators is the "cross-border" area between Eastern Slovakia and Northern Hungary, where the deviation of the developmental level is –1.5 or lower than the average. In this region, both in Hungary and in Slovakia, the high rate of the Roma population might be an important characteristic. In Slovakia, the inadequate restructuring of a former heavy industrial region might contribute to the low value. Toward the north, two southeastern regions of Poland are connected, where the value of the factor is also under the average.

In the south, two low-developed Hungarian regions, Southern Great Plain and Southern Transdanubia, belong to this area. (If the analysis was extended to the connected Romanian and Ukrainian areas, it would obviously result in a bigger continuous depressed region).

For the V4 countries, development measured by macro indicators reaches the average in Poland, in the Czech regions close to Austria, and in Hungarian regions close to the Austrian border. Only capital regions reach a level higher than the average in V4 countries: the central region in Hungary, Prague and its surroundings in the Czech Republic, Bratislava and its surroundings in Slovakia, and Warsaw and its surroundings in Poland belong to the most developed regions. This result is confirmed by the literature as well (OECD 2011). In Poland, the Mazóvia region (with Warsaw at its center) is outstanding. It is truly the most advanced region within the country, but as has already been mentioned, it has positive and negative elements. Based on the development factor, it is clear that in the Czech Republic, Slovakia, and Hungary, because of the high values of the capital regions, regional differences are big; they are states with small territories built around one center where real subcenters could not develop.

In Poland, with its bigger size and bigger population, however, regional differences are smaller. These regional differences are minimal in the Scandinavian countries, although capital regions are the most developed there as well. Compared with the Czech Republic, Slovakia, and Hungary, where neighboring Austria influences the value of the macro indicators, the situation is different in Poland. No developmental differences can be seen in the regions that once belonged to the Austro-Hungarian Monarchy, nor can the effect of the German border, as the neighboring regions belong to the former GDR. Their situation within unified Germany is especially bad (migration, aging, social problems).[11]

When comparing the results based on the personal level micro data and macro data, both matches and differences can be found mainly in V4 countries. They are summarized in Table 2.

The most significant and important difference in the macro measurement seems to be the emergence of capital regions in the V4 countries. One of the possible explanations for this finding may be that, because of the long crisis in these countries and the lack of capacity, the deficit of well-being. Perhaps this situation is not typical for Poland because it came out of the 2008 crisis the earliest and there the population saw the possibilities of better development prospects in 2012. Consequently, positive national identity and the country's improvement of the financial situation affected the personal responses more favorably. (In Hungary, its opposite may influence the results of the personal indicator measurement.)

Figure 10: Regional differences based on the first factor of macro indicators.

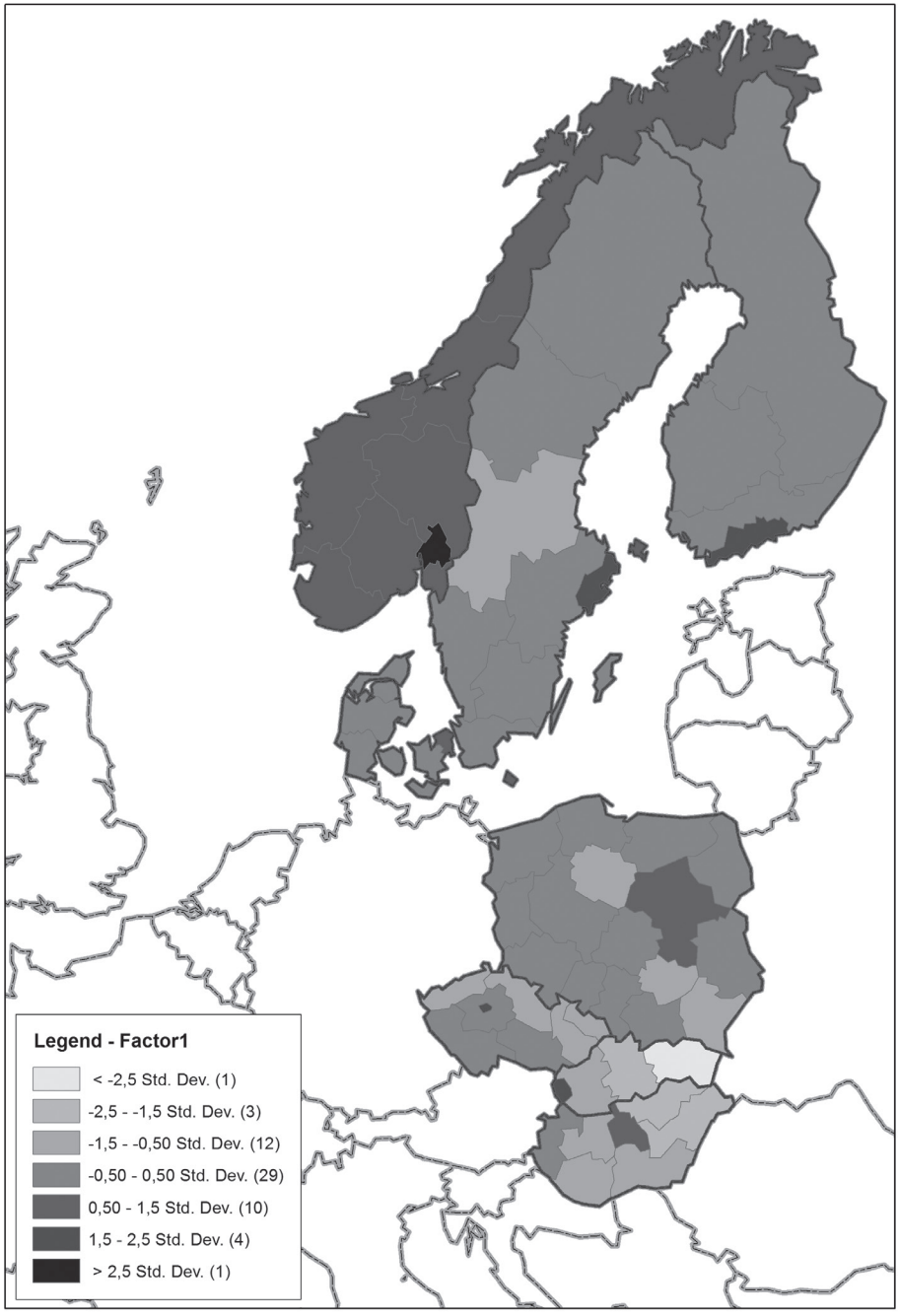


Table 2. Comparison of the Results of Micro and Macro Measurements

	Similarities	**Differences**
S4 Countries	Their developmental advantage can be seen in both measurements.	Based on Factor 1 (development), Norway exceeds Denmark
	Western-Eastern decline can be seen in both analyses.	In the case of the personal indicators based on micro-level indicators, capital regions are more outstanding.
		Overall, the results of the micro measurements draw a more homogeneous picture with smaller regional differences.
	Similarities	**Differences**
V4 Countries	The 'transitional' role of Poland and the Polish regions between the two country groups	Bigger regional differences and more complex spatial structure based on factors
		Appearance of capital effect in the results of macro data
		Appearance of Western-Eastern decline in Slovakia and Hungary

Connection between the Micro-level and Macro-level Measurements

The final part of the study analyzes the connection between the personal micro-level indicators and the macro-level indicators. Table 3 shows the correlation between the indicators obtained from factor variables and the ESS data. Calculations were performed on an aggregated regional database, with the result that the correlations relate to the sixty NUTS 2 region case numbers. For the development factor, the medium *r* values of the correlation analysis show that there are similarities between the results of the two measurements, but there are differences as well. Examples of this were shown at the end of the previous section. Economic development affects the evaluation of people's own situation, the ability to change, and the future image only "moderately," while a relationship cannot be found with the solidarity indicator.

The connection between micro-level and macro-level indicators was also examined in a form when the connections with macro indicators were examined one by one. The indicator relating to solidarity was left out. This calculation was also performed on the regional NUTS 2 database with $N = 60$ case numbers. Results are shown in Table 4.

Table 3. Connection of the Factors of Micro Indicators and Macro Indicators

Micro Indicators	Macro Indicators: Factor 1 (Development)
Own situation	0.550***
Ability to change	0.575***
Future image	0.592***
Solidarity	0.190

*** significant on $p < 0.001$ level

The macro indicators show the strongest correlations (at least 0.7) with the image of future indicator derived from ESS data. In terms of macro-micro measurements, a less close relationship could be seen with the assessment of the own situation and the ability to change than with the future image. This result may reflect the difference of measuring processes versus status/condition, which is one of the main variations between social quality and other multidimensional approaches. Disposable income measured by purchasing power parity is connected with each of the three micro indicators. It indicates that spendable money has more relevance for the people than the propaganda about the current economic development.

Table 4. Connection of Micro Indicators and Some Highlighted Unique Macro Indicators

Macro Indicators	Own Situation	Ability to Change	Future Image
disposable income per capita at purchasing power parity	0.797	0.733	0.860
life expectancy	0.832	0.728	0.896
total fertility rate	0.746		0.826
rate of those having university degree		0.697	
GDP per capita at purchasing power parity, in the average of the EU-28			0.707
rate of those who have never used computers			–0.700
rate of permanent unemployed			–0.720
rate of migrants from non-EU countries			0.696
rate of those working in industry			–0.695
rate of service sector workers			0.757

Note: The table contains correlations only whose value rounded up is at least 0.7 or stronger. They are naturally significant on < 0.001 level.

Life expectancy is the other macro indicator that shows a strong positive connection with the whole circle of the personal-level opinions measured in this study. Life expectancy is a complex indicator that shows the state and development of health care, the health awareness of individuals, and the "sustainability" of their life (perhaps it can be said how stress-free their life is).

It is worth mentioning that the rate of people with a university degree is related only to the ability to change. High-level human capital is an obvious requirement if people want to change their situation. However, high-level education and the assessment of the own situation or the future image do not have such a close relationship. The presence of those who have never used computers measures another segment of competencies, digital illiteracy, which, together with the rate of the permanent unemployed, form strong negative indicators; in this case, the negative correlation coefficients indicate that the future image is less favorable when such characteristics occur.

The positive correlation between the rate of migrants out of the EU and the future image is interesting. It might be because these people go where they see better possibilities. Finally, an important connection is that basically the existence of local service-oriented economies connects with the perspective future image, while the rate of those working in the industry shows an opposite connection. It is not surprising in the case of the crisis regions of Northern Hungary or Ústí nad Labem (Czech Republic) fighting with industrial structure change.

Summary and Perspectives

The focus of this research was to measure and compare social capacity and anomie between four Scandinavian states and four postsocialist countries to analyze similarities and differences in the light of the social quality approach. Four new complex indicators were developed from the ESS social well-being module reflecting the social quality of society in the given countries. While determining the observational units, the study went beyond the national level, and the research was carried out at sixty NUTS 2 level regions. The analysis was conducted utilizing both micro and macro approaches. The empirical measurements were macro-level indicators on the one hand, and our own indicators developed from micro-level polling questions related to the assessment of people's subjective well-being on the other.

Countries and regions were examined separately first with variables obtained from micro-level data and with regional macro-statistical indicators. Finally, the results of the two measurements were compared and correlations were examined as well.

The correlation analysis revealed a connection that has already been described by several authors (e.g., Stiglitz et al. 2009)—namely, that there are better indicators than the regional GDP per capita for characterizing (see our objective) social capacity and social quality at a specific place and time. Accordingly, the research reveals that

disposable income is much more closely related to the satisfaction, well-being, and capacity of the local community—in sum, to essential characteristics of social quality. Consequently, in extreme cases, even the situation may arise where there is a significant economic growth in a region, which is favorable in economic terms, but the associated low employment still adversely affects the state of the local community. Another important result of this correlation analysis highlights that the assessment of both the own situation and the future image show a significant negative correlation with the unemployment indicators.

Based on the aforementioned connections and the results of the analysis of the two country groups, it is confirmed that employment possibilities and fair income are needed, first of all, in a given region for preserving the social capacity and social quality for those living there. In addition to these basic conditions, an adequate institutional system that is able to serve the demands of the society in health care and educational services is necessary (Soelter and Lawson 2012). These requirements can strongly support socioeconomic security, social cohesion, social inclusion, and social empowerment.

Of course, where the first two factors are missing (temporary or permanently), it is the task of the national welfare system to stop or keep the negative processes under control. The significant differences between the S4-V4 country groups and the underlying connections, revealed in our investigation, confirm the assumption that the 2008 financial crisis created far more trauma with respect to social quality for individuals in countries with a weak safety net.

The results clearly show that both micro-level, survey-type data and macro-statistical indicators must be examined together if we want to understand how social capacity and social quality operate in a region, as they provide a kind of orientation, a reference point to each other for interpretation. The macro-level indicators refer only to a specific date, while micro-level data reflect the opinion, sensation, and attitudes of the inhabitants, and over a longer period of time. For example, even if the question asks how many times somebody was happy during the last month, the response will include the psychological imprint of the person for a longer period. In other words, the macro-statistical data might be more favorable without this showing up in the survey results, yet, as the members of the society have not yet felt the positive change, or can perceive it only later. Today's Hungary can be a good example, where the macroeconomic situation and the state of the budget have been improving during the past years, while the same hopelessness still exists in the average person's mind.

The current research is intended to be further developed and extended: (1) In light of the conclusions drawn in the summary, the theoretical framework of the research should be extended. We plan to elaborate further in the application of the social quality approach in order to strengthen the theoretical basis of the general conclusions. (2) The aim is the expansion of the social geography–type spatial analysis and the associated correlation analysis. The broadening of the examination is necessary for drawing more valid conclusions on a European scale, and for the demonstration of

progresses achieved so far both in place and time and in terms of macro indicators. (3) Finally, overall analysis is needed for deeper exploratory studies of the relations of certain countries for the strengthening of the theoretical basis of the general conclusions.

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Notes

1. In the geographical sense, Finland is not a Scandinavian country. However, in political, economic press and in public discourse, it is increasingly being regarded as a Scandinavian country. To facilitate the writing of the study, we accepted this position in this study.
2. The European Social Survey (ESS) is an international comparative study; it started in 2002 with round 1, and empirical public opinion research on nationwide random samples is carried out every other year. More information on this topic can be found on the ESS website at http://www.europeansocialsurvey.org/methodology/ess_methodology/source_questionnaire. Concrete questions can be found in block D within the entire questionnaire of the ESS 6 round (D1–D39) (ESS 2012) .
3. The number of cases was similar in each country, the highest was in Hungary and in the Czech Republic (2,014 and 2,009), and the lowest was in Norway and in Denmark (1,624 and 1,650). The database was weighted according to the ESS guidelines.
4. Where it was necessary, the following formula was used:

   $$(MAX - MIN)\left(\frac{x - \min}{\max - \min}\right) + MIN$$

   Where the upper case minimum and maximum are the minimum and maximum of the new scale, the lower case minimum and maximum are the minimum and maximum of the original scale and x is the observed value.
5. Thus, N = 60 regions were categorized; the hierarchical merging clustering was performed by Ward's method, and to determine the distance of the units from each other, the function based on the Euclidean square of the distance was applied.
6. The Eurostat database can be found at http://ec.europa.eu/eurostat/web/regions/data/database.
7. The European Statistical System's census information can be found at https://ec.europa.eu/CensusHub2/query.do?step=selectHyperCube&qhc=false.
8. Practically a principal component analysis (PCA) has been performed; the method of rotation was Varimax with Kaiser's normalization; the self-values in the order of the factors were: 9.15, 1.54, and 1.12; the explained variance also in the order of the factors was 61.0, 10.2, and 7.5 percent.
9. Although Nokia has been temporarily excluded from the cell phone market (the owner, Microsoft, has not been using the brand name either), but it is a still operating company developing network infrastructure serving telecommunication companies and is an increasingly dominant actor of the market (Szalai and Csurgó 2015). In 2017, Nokia released new cell phones to the market again, after Microsoft sold the brand.
10. The average of the factor variables is mutatis mutandis 0, standard deviation 1. The deviation might show positive or negative difference, and it would be possible to speak about 1, 2, or 3 deviation difference from the average to positive or negative direction.
11. After World War II, a total population replacement took place in the substantial territory of the formal Prussian territory. As a result, a special situation emerged that affected the economic development as well. For example, instead of small farms that remained in the other territories of the country, cooperatives were organized here. After the regime change, it was favorable for the formation of large estates that played a significant role in the appearance of unemployment in the agricultural sector.

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