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Regional Application of the Active Ageing Index (AAI)

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Abstract

This paper introduces the Active Ageing Index into the context of the Czech Republic through an analysis of the index and its application at the regional level (Regional Active Ageing Index – RAAI). The strengths and limitations of the Active Ageing Index are discussed, particularly with respect to its limited applicability for policy-making. The regional application to NUTS2 is done using SHARE data. The results show regional and gender disparities in the RAAI, with the region of Prague reaching the top ranking.

Keywords: Active Ageing Index (AAI), regional, population ageing, older people, Czech Republic, SHARE

INTRODUCTION

The European Year for Active Ageing and Intergenerational Solidarity (EY2012), declared by the European Commission, provided a framework for increasing sensitivity to ongoing demographic changes by emphasising the positive aspects of population ageing and related social, economic and political challenges. At the same time, EY2012 became the platform for a number of new initiatives at the European, national and regional level, including the definition of new policies. Together with their emergence, what arose was the need for long-term evaluation and monitoring of such measures. The Active Ageing Index (AAI), i.e. an analytical tool to measure the potential of ageing societies and assess the seniors' position in these societies (Zaidi *et al.*, 2013) was developed as a tool for such monitoring. The Index was created for the purposes of comparing the extent to which the potential of older people is used in the specific country and the extent to which they are allowed to participate in the economic and social life of society (Zaidi *et al.*, 2013; *Active*, 2014). At the same time, it should also serve policy makers and other stakeholders to identify the challenges and opportunities associated with ageing populations and help them to prioritise and define improvement goals. The association with the concept of active ageing is primarily on the level of ideals, and the Index is not primarily intended to express the degree to which older people “actively age” in a particular society. One of the current efforts of the Index makers is its application at the regional level. And it is the regional application of the Active Ageing Index for the Czech Republic as a tool for comparing the weaknesses and strengths of the Czech regions in achieving the objectives of preparing for demographic changes in the population that is one of the objectives of this paper. The other one includes the discussion of the Index itself, the possibilities of its use and the outline of its limitations, which will be dealt with in the following paragraphs.

ACTIVE AGEING AS THE FRAMEWORK FOR THE ACTIVE AGEING INDEX

The concept of active ageing is currently a key paradigm for policymaking aiming to prepare for ageing populations, yet from a sociological point of view, the concept is dynamic and not always adequately reflected. The original definition of active ageing introduced by the World Health Organization (WHO) (*Active*, 2002) tends to be frequently reduced significantly to productive ageing. The latest documents presenting the AAI work with the definition of active ageing perceived as “a situation where people continue to participate in the formal labour market, as well as engage in other unpaid productive activities (such as care provision to family members

and volunteering), and live healthy, independent and secure lives as they age.”(Active, 2015a: 7). The original WHO objectives, associated mainly with improving the quality of life, are reversed into assessing the quality and quantity of the older people contribution to society. The efforts to introduce old age as productive (Moody, 2001) represent most likely merely the unintended consequence of the essentially positive attempts to break the stereotype that “old age is a non-engaged and unproductive life period”. The result is, however, the afore-mentioned fundamental reduction of the concept, present in both public and professional discourse, which has been repeatedly criticised (Katz, 2000; Hasmanová Marhánková, 2013; Petrová Kafková, 2014). In the case of the Active Ageing Index itself, it can nevertheless be argued that it might be due to only an inappropriately selected name or theoretical framing, as “active ageing” tends to be an individual concept, while the AAI builds primarily on the “institutional” framework, although the Index itself does not work with the (non-)presence of policies but evaluates only selected (so-called “outcome”) indicators.

CONSTRUCTING THE ACTIVE AGEING INDEX AT THE LEVEL OF EUROPEAN COUNTRIES

Taking into account its limitations, the AAI should be understood, to some extent, as an objective assessment of the current status and the offer of possible further development, yet it does not contain instructions on how to achieve this development and in essence, it does not even define the parameters which an ideal actively ageing society should have. Individual countries may opt for different pathways to increasing the potential of older people, at a different pace and in different dimensions. Owing to its focus, it is primarily an international comparative tool, which determined the selection of indicators and source surveys. It was necessary for the data to be available at least for all EU Member States and to ensure a certain guarantee that it includes re-conducted surveys allowing for a comparison of (future) development over time. The values in the Index are therefore based on European surveys conducted between 2009 and 2012, in particular the Statistics on Income and Living Conditions (SILC), the Labour Force Survey (LFS), the European Quality of Life Survey (EQLS), the European Social Survey (ESS), and the Health and Life Expectancy Information System (EHLEIS). If other sources were considered, they were generally rejected due to the impossibility of repeating the survey.

The AAI includes four basic dimensions: 1) employment; 2) participation in society, i.e. activities outside the paid employment; 3) independent and secure living; 4) capacity for active and healthy ageing and supportive environment. While the first three dimensions capture the actual and observed experience of active ageing, the fourth dimension (capacity for active ageing) is more related to the conditions and opportunities permitting active ageing. These four dimensions then summarise 22 indicators (see Table 1 for the list of indicators in the next section). Each indicator is weighted so that whereas in the first dimension, the employment indicators are represented by the same 25% share, in the second dimension, the greater weight is attributed to care for adults; in the third dimension, the indicators with the highest weight include access to health and dental care and the autonomous living arrangement, and finally, in the fourth dimension, the greatest emphasis is placed, through individual weights, on the remaining life expectancy over the next 50 years at the age of 55 years. Using the technology and the completed seniors' education have only one-fifth weight of this indicator.

In each of the dimensions, a sub-index is created, which is again weighted for the purposes of summing up to the main Index and prior to the comparison itself: the employment has a weight of 35%, involvement in society (social participation) 35%, living conditions (autonomous life) 10%, and the capacity for active ageing 20%. The dimensions are not therefore considered to be completely equivalent.

For the purpose of the Index, all the indicators are also monitored separately for women and men, which allows for the monitoring of the so-called “gender gap”, i.e. the degree of difference in the assessment between men and women. The monitoring also covers the dynamics of the development of the “gender gap” between the examined periods.

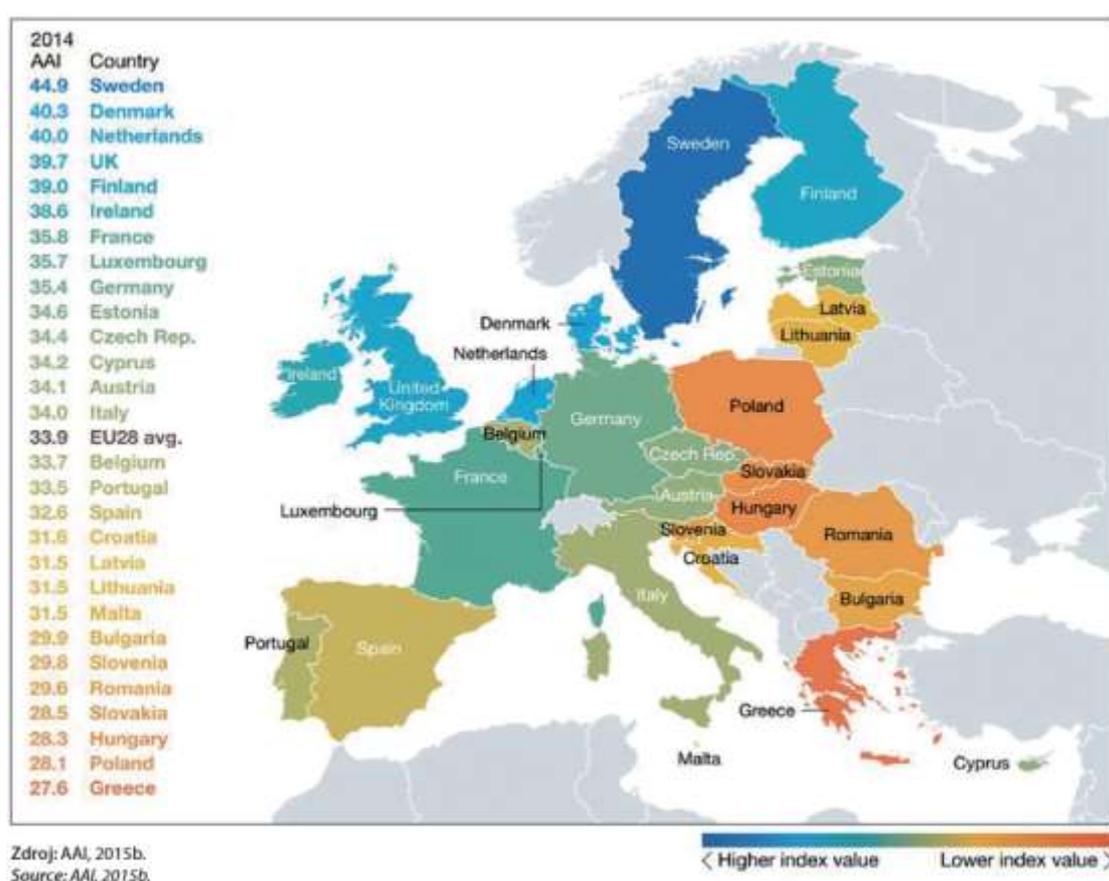
According to this comparison, the Czech Republic was ranked eleventh in the first wave of the 27 countries surveyed. With a loss of one point, the Czech Republic did not reach the European average in the field of employment, while reaching purely average values in the dimension of

the capacity for active and healthy ageing (i.e. life expectancy, mental health, ICT use, etc.). In the remaining two dimensions, the Czech Republic even slightly exceeded the EU27 average. Overall, the Czech Republic, together with the tenth Estonia, ranked best in the former Eastern Bloc countries.

ACTIVE AGEING INDEX – DISCUSSION OVER METHODOLOGICAL LIMITS

In each analytically ad hoc aggregate index, the results may be distorted (sometimes very significantly) by choosing the definitions, indicators, and weighting settings. This also fully applied to the AAI. The most prominent example may comprise the area of poverty and material deprivation. In order to illustrate this, it may be pointed out that the relative median of income and the degree of the risk of poverty, as well as the risk of deprivation in health care, are perceived better among Czech seniors than among Swedish seniors, even though the share of people *without* material deprivation is after all higher in Sweden, as well as people enjoying better health. We would like to draw attention to these apparent paradoxes within a certain methodological licence which needs to be kept in mind when using and evaluating the limits of such aggregate indices and comparative rankings. The list of issues and limitations, we put forward in the following paragraphs for discussion, is probably not exhaustive. It has been primarily based on the discussions conducted by the authors of the Index, on the experience of attempts to implement the AAI at the national level, especially in Poland (*Perek-Białas – Mysińska*, 2013), and finally on some general principles of sociological and social policy work with indicators of social phenomena.

Figure 1: Final results of the AAI (2014)



At first, it is possible to argue that some of the indicators are too “strict” or narrow. For instance, in the area of physical activity and sport, only the frequencies of every day or almost every day are considered as the fulfilled condition. This high frequency of physical activity may be inaccessible for people with a higher degree of disability, as well as for those who are still employed or caring, etc., yet even their employment and care may represent a challenging physical activity, even though it is a question of whether this form of “physical work” was reflected by the respondents in this case. There are studies of positive effects of even less frequent physical load. Systematically, some types of people, or even entire segments of the older population may be underrepresented. Other indicators are too vague or culturally variable. A typical example consists the concept of “care” which can acquire a whole range of meanings from intensive 24-hour care for a heavily handicapped grandson to occasional picking up of

grandchildren from school. Similarly, in the case of adult care, it may include cooking lunch and having a chat, as well as mentally and physically demanding care of a dying person, etc.

What is also essential are the issues which can simply be called a “zero sum game”. The seniors take on a number of roles in society, the number of which varies for each individual or various groups. Over time, these roles, their number, content, and intensity of performance are variable, not being infinitely expandable. Each role takes a certain amount of time, energy, attention, etc. Thus, if we assess the total of the employed and for example, the shares of caregivers and the shares of volunteers, we de facto look at the “combined vessels” where an increase in one area may mean a decrease in the other one. In other words, the increase in employment cannot be expected equally, at the same pace and with the same people, as we expect, for example, an increase in caregivers, since these two activities may be difficult to combine under the current conditions. Determining the ideal for a score of 100 points (or similarly unrealistically high) in each of the dimensions can thus have unintended consequences (for more details on the issues of the complementarity of the roles of young old, see *Vidovičová – Galčanová – Petrová Kačková*, 2015).

Another discussion point consists in the fact that the Index focuses primarily on young seniors. For a substantial part of the indicators, it uses the age limit of 55 – 74 years. For others, it is 55 years or more. The focus on young seniors is also evident from the fact that one dimension of the Index (out of the total of four) focuses on paid employment, while identifying the active ageing with gainful (economically active) employment is one of the main streams of criticism (*Walker*, 2014). It is a question of whether the employment dimension, represented by four indicators and weighted by 35%, does not outweigh other “alternative activities” such as volunteering or care, always represented by merely one indicator and summarised together in one dimension (see also the issue of the “zero sum” described above). Even though they are also weighted at 35%, in reality they have a quarter weight (in terms of the dimensions) or even one sixth if we count the combined weight of the dimension and the number of indicators. In addition, employment in the 55 – 59 years group has the same internal weight as employment in the 70 – 74 years group. The argument that employment is crucial with respect to the situation of pension systems to some extent underestimates / overlooks the financial burden on other systems (including, for example, transferring responsibility from individuals to institutions).

The Index also includes only engaging in organised (formalised) volunteering, which penalises the countries where these structures are underdeveloped. This, however, does not necessarily have to express a direct proportion to the quantity of the performed volunteer work (*Manual*, 2011).

In this sense, the representativeness of the sample surveys used constitutes another issue. Questionnaire surveys of the population tend to be carried out in households, leaving systematically uncovered institutionalised populations or those otherwise difficult to access for interviewers (e.g. the chronically sick, fragile but also those severely affected by social exclusion, etc.).

The overall rating of the Index may also be perceived as problematic in terms of relative distances. This means that there is a difference of approx. 15 points between the lowest-ranking countries and the best countries, yet even the best countries are lacking in over 55 points if the goal were defined as utopian 100 points. Target values, the so-called “goalpost”, are intended to represent a certain solution, as they should represent the best achievable outcome. In 2014, the target threshold for the total Index was set at 57.5 points, for employment 54.2 points, for the “independent life” dimension 87.7 points, etc.

WHAT DOES THE ACTIVE AGEING INDEX REPRESENT?

In addition to the above, it is also important to continually ask questions about what the AAI expresses, whether / what it determines and whether or possibly with what specific concepts of social reality it is related. Especially in the case of international comparison, which the AAI authors primarily seek, primarily to do, what may be perceived as problematic is the fact that a high score in a certain dimension is simply and at all times identified as achieving a positive result. For instance, high rates of employment can mean a positive climate for the employment

of older workers, yet they can also mean shortcomings in the coverage, availability and adequacy of the pension system, and therefore the necessity, rather than the choice. As a result, without framing into an adequate context, may also cause difficulties. It is thus desirable to bear in mind that the high AAI score does not (necessarily) reflect the high standard of living and well-being of older people. In interpreting the results, it is necessary to always stick to the defined and declared goal and purpose of the AAI, which is the "(un)achieved potential of the elderly" to participate, rather than necessarily well-being or well-being of older persons. *Petrová Kafková* (2015) demonstrated that the quality of life, measured by indicators such as subjective happiness, psychological stress or life optimism index, is best expressed by the AAI through its "independent life" dimension. There is also a significantly weaker but statistically still detectable link with the dimensions of the "capacity for active ageing" and "social participation". On the other hand, the link between the concepts of the quality of life and the "employment" dimension is already weak, especially in terms of employment in older age.

Through the correlation test, the AAI authors have demonstrated that the AAI is related to per capita GDP: a higher GDP points to a country's better position in the AA index, or better use of the potential of older people in a particular country, especially in terms of higher employment rates for older employees. However, there may be an opposite direction of action, i.e. the higher GDP also allows for creating better conditions for active ageing. Another statistical link has also been found in the life satisfaction of people aged over 55 years, which again can mean the positive influence of policies and open opportunities for active ageing, as well as the fact that opportunities for active ageing result in more satisfied senior citizens (*Introducing*, 2013: 11n). As quoted above, *Petrová Kafková* (2015) demonstrated that a certain link could be found between the AAI scores and the feelings of happiness in the specific population, as well as among related indicators of "life optimism" and "absence of psychological discomfort" (expressed by feelings such as increased tension, loneliness and recent depressed feelings). In other words, countries with better AAI values are also countries where people are happier and with higher well-being. From a strictly statistical perspective, however, these relationships are relatively weak. For instance, in the case of happiness, its variance is explained by the AAI values from just under 9%, and the increase in the AAI scores would potentially increase happiness in the population by only 7%. On the other hand, for example, an increase in education spending (not monitored in the AAI) would increase the feelings of happiness in the particular country by almost 34%. The author believes that the indicators used for constructing the AAI outline goals such as individualised quality of life only weakly. In her criticism of the AAI, *Vidovičová* (2015) similarly focused on how this Index reflects the existing, anticipated and preferred roles of older people in European societies. Using the secondary analysis of both Czech and European surveys, she demonstrated that older people were considered to be important contributors in their societies in Europe, taking the roles of grandparents, volunteers, consumers, financial assistance providers and employees / workers. From other empirical sources, she also showed that the seniors themselves frequently take these roles not only separately or individually but in the so-called combined role sets, which may result even in the feelings of stress and role overload due to the cumulating demands of the individual roles in the set. All roles do not have the same importance for seniors, whereas it may also change over the course of their lives. Thus, while the importance of the family does not decrease with the age of the respondents and the role of grandparents is the one offering the respondents the strongest feelings of happiness, the importance of work / employment decreases with the increasing age and the role of the employee is labelled as the main stressor in the case of role overload. From the AAI's perspective, however, better positions are held by those countries where the role of seniors as financial contributors, workers and volunteers is largely appreciated, while at the same time, the Index seems to penalise the countries whether there is a stronger recognition (presence) of the seniors' contributions to the family roles. Finally, countries with a higher status within the AAI are countries where the value of "work" as a life value is paradoxically perceived as low, while the meaning of the value of "leisure" is higher.

On the other hand, the fact that ten authors participated in the construction of the Index and the tool was offered several times for discussion to a broad scientific community in the form of calls and public presentations serves as a certain guarantee that it really is an analytical tool currently designed in the best possible manner. Already in 2007, the 38-member team of authors, led by *Ashgar Zaidi* and *Bernd Marine*, offered an 850-page publication dealing with 123 indicators to monitor sustainable ageing policies, and it is obvious that, however comprehensive and

homogeneous these proposals are, their usability for day-to-day “policy making” is de facto unimaginable. In this respect, the AAI is undoubtedly a more practical and yet still rather broad instrument which can be used for a similar purpose. Nevertheless, a number of policies within the ageing preparation are implemented at a lower than national level. As a result, there are efforts to find ways to apply the monitoring the use of the potential of seniors to the sub-national or regional level. And we would like to join these efforts in the following sections of the paper.

APPLICATION OF THE ACTIVE AGEING INDEX IN THE CZECH REPUBLIC AT THE LEVEL OF NUTS 2 COHESION REGIONS

While the overall Index allows for the comparison between countries, the focus on individual indicators and their regional variation may be better used for creating and targeting specific policy measures in accordance with the subsidiarity principle (see the example of Poland in *Perek-Białas – Mysińska, 2013*). Regional breakdowns may, however, be statistically problematic with these indicators, owing to the number of monitored cases / respondents, as shown in the following example of the Czech Republic.

Our original ambition was to create an index at the level of the regions of the Czech Republic (NUTS3); however, due to the small robustness of the data sets, the calculation of indicators at the regional level was not possible. In particular, the European Quality of Life Survey (EQLS) and the European Social Survey (ESS), when limited to the population of people aged 55 years or more, have a low number of respondents not allowing for the classification even by higher territorial units such as the Cohesion Regions (NUTS2). However, the low number of respondents also applies to the Labour Force Survey. The only sufficiently robust survey is the Statistics on Income and Living Conditions (EU-SILC). While preserving the original data sources, it is not possible at this time to perform the regional application of the Index. However, the AAI allows for some flexibility in the choice of indicators, when maintaining the original conceptual framework (the so-called “flexibility with fidelity”, cf. *Krapinska – Dykstra, 2015*), which allows us to choose alternative data sources while preserving the substantial factual fidelity of the original operationalization. As an alternative source, we selected the Survey of Health, Ageing and Retirement in Europe (SHARE), an international longitudinal survey focusing on the population aged 50 years and older (for more details see: <http://www.share-project.org/>). When limiting the population to those aged 55 years and older, we obtain the sample size (N =) of 5,885 respondents in the Czech Republic. For the purpose of creating a regional AAI for the Czech Republic, the latest available fifth wave of data collection, performed in 2013, was selected in this case.

In some cases, the question in the SHARE questionnaire was very similar to the original wording of the AAI indicator, but in most cases we had to look for alternatives which would be close enough in terms of the meaning. Instead of the original data taken from the Labour Force Survey, which does not provide representative data in the case of regional division, the indicator of the completed education of the 55-74-years-olds was replaced with the data from the 2011 Census of the Population, Houses and Flats (SLDB 2011). The complete summary of all the new indicators is shown in Table 1. It should be noted that even when using the SHARE data, it was impossible in two cases (volunteer activities and political participation) to sort data according to the sexes due to low frequencies, and therefore the total values for both sexes are used.

Now, we are going to focus on the results for each dimension. The results for the first dimension of “employment” differ considerably in individual examined cohesion regions. The difference in the overall ranking reaches 14.7 points. The share of the employed varies from 93.8% in Prague in the 55 – 59 age group, to only 47.5% in the Southeast region. At the age of 60 – 64 years, the employment drops significantly, reaching practically the zero levels in the two older age categories. Overall, the best results in the employment dimension were found in the regions of Prague and Southwest, while the lowest employment was found in the Northwest and South East regions (see Table 2).

When looking at the second dimension of the Index, i.e. the social participation (see Table 3), there is a different ranking of the regions. The largest inter-regional differences were found in volunteer work. This indicator reflects the volunteer work at least every month, so it cannot be

said that in some cohesion regions, older people do not work as volunteers, their formal volunteering activity may simply be less intense. There are also significant inter-regional differences in other indicators. Compared to other region, there is a particularly high political participation in Prague, which may also be due to the higher education of the Prague population (*Verba – Schlozman – Brady*, 1995). Overall, however, Prague fell to the fourth place in this dimension. The region with the most intensive participation of the elderly in society is the Northwest, the second is the Central Moravia region. On the contrary, the lowest participation was found in the Moravian-Silesian and Southeast regions, which ranked seventh in the employment dimension.

Table 1: Alternative indicators of the AAI for NUTS2 in the CR

Dimension	Indicator	Source of data	Weight of the indicator in the dimension	Value of the (alternative) indicator
I. Employment	1.1 Employment rate 50 – 59	SHARE	25	67.8
	1.2 Employment rate 60 – 64	SHARE	25	19.1
	1.3 Employment rate 65 – 69	SHARE	25	0.9
	1.4 Employment rate 70 – 74	SHARE	25	0.7
			100	22.1
II: Participation in society	2.1 Volunteer activities*	SHARE	25	17.6
	2.2 Care for children, grandchildren	SHARE	25	18.1
	2.3 Care for older adults	SHARE	30	18.6
	2.4 Political participation*	SHARE	20	4.3
			100	15.3
III. Independent and secure living	3.1 Physical exercise	SHARE	10	25.4
	3.2 Access to health and dental care	EU-SILC	20	99.2
	3.3 Independent living arrangements	EU-SILC	20	88.4
	3.4 Relative median income	EU-SILC	10	82.8
	3.5 No poverty risk	EU-SILC	10	97.6
	3.6 No material deprivation	EU-SILC	10	94.0
	3.7 Physical safety	SHARE	10	86.0
	3.8 Lifelong learning	SHARE	10	6.7
			100	77.7
IV. Capacity and enabling environment for active ageing	4.1 RLE at the age of 55, as share of the target of 50 years	Authors' calculations**	33	50.4
	4.2 Share of healthy life years in RLE at the age of 55 years	Authors' calculations**	23	57.0
	4.3 Mental well-being	SHARE	17	72.2
	4.4 Use of ICT	SHARE	7	47.3
	4.5 Social connectedness	SHARE	13	75.5
	4.6 Educational attainment	Census 2011	7	77.4
			100	60.5

Note: * Owing to the low number of respondents in this category, the results were not differentiated by sex.

** The indicator is based on data calculated by Jana Langhamrová from the mortality tables of the Czech Statistical Office and Ja.Ehleis database. This indicator shows the share (%) of years attained from the ideal of 50 years, i.e. model LE at the age of 55 of 25 years equals 50 points in the indicator (25 years is 50 % of the ideal of 50 years). The calculation is described in detail in Vidovičová, Petrová Kafková, et al. (2015).

The dimension of independent and secure living includes eight indicators depicting different forms of security. The differences in the overall ranking in this dimension are 12.1 points, which is similar to the second dimension (13.5). The largest inter-regional differences were found in physical activity, where 42.6% of the population in Central Bohemia, but only 16.4% in the Southeast, perform the strenuous physical activity more than once a week. Prague generally ranked best in the indicator of autonomous living arrangements, also having one of the best ratings in the indicator of the absence of poverty risk, yet it again reached the fourth place in the overall ranking. Central Bohemia was the region which ranked best in this dimension, having a margin of almost seven points ahead of the second Southwest.

The fourth dimension, i.e. the capacity for active ageing, shows the smallest differences between the regions. The difference between the first Central Bohemia and the eighth Moravia-Silesia is less than eight points. Prague ranked the second, especially owing to the above-mentioned higher education of the Prague inhabitants. In the case of the seventh Southeast region, the low position does not seem to be conditioned by external factors to such a large extent, with an average position concerning the indicators of the remaining life expectancy and

share of healthy life years in the RLE, just as in the proportion of older educated people, yet it lags behind the use of ITC and social connectedness. On the contrary, the Moravian-Silesian region, despite the lower remaining life expectancy and share of healthy life years in the RLE, which refer to the overall health of the population, ranked sixth owing to the strong social networking.

Table 2: Employment dimension (CZ NUTS2)

		1.1 Employment rate 55 – 59	1.2 Employment rate 60 – 64	1.3 Employment rate 68 – 69	1.4 Employment rate 70 – 74		
CZ	Cohesion region	SHARE 2013	SHARE 2013	SHARE 2013	SHARE 2013	Total	Rank
1	Prague	93.8	28.0	0.0	0.0	30.5	1
2	Central Bohemia	73.7	14.3	3.4	0.0	22.9	4
3	Southwest	80.0	20.9	2.0	0.0	25.7	2
4	Northwest	50.0	8.0	0.0	5.3	15.8	8
5	Northeast	58.8	18.4	0.0	0.0	19.3	6
6	Southeast	47.5	19.5	2.1	0.0	17.3	7
7	Central Moravia	77.8	25.0	0.0	0.0	25.7	3
8	Moravia-Silesia	60.8	18.8	0.0	0.0	19.9	5

Source: SHARE 2013; authors' calculations.

Table 3: Participation in society dimension (CZ NUTS2)

		2.1 Volunteer activities	2.2 Care for children, grandchildren	2.3 Care for older adults	2.4 Political participation		
CZ	Cohesion region	SHARE 2013	SHARE 2013	SHARE 2013	SHARE 2013	Total	Rank
1	Prague	10.0	21.0	25.0	10.6	17.4	4
2	Central Bohemia	14.3	25.2	12.6	1.0	13.9	5
3	Southwest	40.0	15.0	11.6	5.5	18.3	3
4	Northwest	42.9	15.5	22.3	4.9	22.3	1
5	Northeast	0.0	22.7	21.3	3.4	12.8	6
6	Southeast	0.0	10.7	21.5	1.4	9.4	7
7	Central Moravia	33.3	17.6	19.8	6.2	19.9	2
8	Moravia-Silesia	0.0	16.8	14.5	1.2	8.8	8

Source: SHARE 2013; authors' calculations.

Table 4: Independent and secure living dimension (CZ NUTS 2)

		3.1 Physical exercise	3.2 Access to health and dental care	3.3 Independ ent living arrange ments	3.4 Relative median income	3.5 No poverty risk	3.6 No material deprivati on	3.7 Physical safety	3.8 Lifelong learning		
CZ	Cohesion region	SHARE 2013	SILC- 2012	SILC- 2012	SILC- 2012	SILC- 2012	SILC- 2012	SHARE 2013	SHARE 2013	Total	Rank
1	Prague	23.6	99.3	93.0	75.9	98.8	90.8	91.7	10.5	77.5	4
2	Central Bohemia	42.6	98.4	84.1	76.1	98.1	94.1	100.0	13.6	86.2	1
3	Southwest	28.9	99.2	91.5	82.0	98.9	93.5	100.0	8.8	79.4	2
4	Northwest	17.5	98.6	91.9	88.9	96.1	93.6	78.9	4.9	76.1	5
5	Northeast	21.3	99.3	85.5	86.0	97.5	95.8	87.5	2.5	76.0	6
6	Southeast	16.4	99.7	85.0	81.0	98.0	94.9	86.4	3.7	75.0	7
7	Central Moravia	24.4	99.2	86.8	83.4	97.3	96.3	95.4	7.1	77.6	3
8	Moravia-Silesia	28.7	99.5	89.6	89.0	96.4	93.	47.8	6.7	74.1	8

Source: SHARE 2013; EU-SILC; authors' calculations.

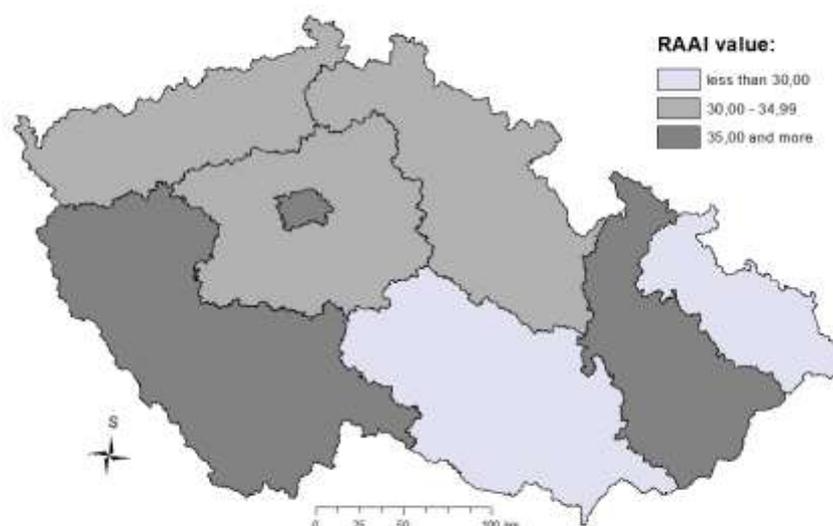
Table 5: Capacity an enabling environment for active ageing (CZ NUTS2)

		4.1 RLE at the age of 55	4.2 Share of healthy life expectancy at 55	4.3 Mental well-being	4.4 Use of ICT	4.5 Social connectedne ss	4.6 Educational attainment		
CZ	Cohesion region	Authors' calculations	Authors' calculations	SHARE 2013	SHARE 2013	SHARE 2013	SLDB 2011+	Total	Rank
1	Prague	53.0	59.1	68.9	58.1	75.2	86.7	62.6	2
2	Central Bohemia	50.0	56.7	83.3	56.8	73.3	78.3	62.5	3
3	Southwest	50.5	57.2	84.6	54.3	83.9	77.1	64.2	1
4	Northwest	48.1	54.9	60.6	37.8	75.7	71.4	56.3	8
5	Northeast	51.0	57.4	70.9	50.4	69.9	77.7	60.1	5
6	Southeast	51.7	58.0	66.8	37.0	63.8	77.1	58.0	7
7	Central Moravia	50.6	57.0	73.8	37.8	78.3	75.9	60.5	4
8	Moravia-Silesia	48.7	55.4	68.8	46.3	83.5	75.0	59.8	6

Source: SHARE 2013; SLDB 2011; authors' calculations.

For the calculation of the total results, the same weights were used as in the original Active Ageing Index, with the first two dimensions thus acquiring the greatest importance. In the total ranking, Prague came the first owing to the significantly higher employment rate (see Table 6). The Southwest region ranked on the second place, while on the contrary, the worst ranking was achieved by the Southeast region, with Moravia-Silesia ranking one place higher. The difference between the first and eighth place is less than nine points. In order to set appropriate policies, not only the overall ranking is essential, but also the position of the region in individual dimensions. This indicates whether the region lags behind or excels in general or only in some examined aspects. If we compare the ranking of the regions in individual dimensions (see Table 7), we can see that Prague, despite its overall victory, ranked twice in fourth place. The fifth region (Northwest) also showed significant differences in individual dimensions, ranking the last in two dimensions, the first in one dimension (social participation) and the fifth in another dimension. Similarly, Central Bohemia ranked once the first, the fourth, and the fifth and the third, reaching the fourth place in the overall ranking. On the other hand, the regions of the Southeast, Central Moravia and the Northeast showed a strongly consistent position in all four examined dimensions.

Chart 1: Regional Active Ageing Index in the Czech Republic (NUTS2) – final ranking



RAAI value: less than 30.00 / 30.00 – 34.99 / 35.00 and more

Source: SHARE 2013; EU-SILC; SLDB 2011; authors' calculations.

The Active Ageing Index is significantly gender-differentiated, with men generally scoring higher than women. Therefore, it was essential to focus on gender differences in the application of the Index to the cohesion regions of the Czech Republic. First, let us look at the individual dimensions (see Table 8 below). There is a clear comparison in the employment dimension: women in all regions have a lower employment rate than men, which is not quite a surprising result. If we compare the ranking of the regions for men and women, we find an extensive difference in Moravia-Silesia, a region ranking the second in the case of men, while the last eighth place in the case of women. This could be explained by the structure of jobs or the sector of the national economy, offering employment in particular to men. In the other dimensions, the scores of men and women in each region are very close, with the differences being less than two points. Even these minor differences, however, bring in some cases a more distinct ranking of the region for men and women. This is the case, for instance, in the Northeast, which ranked in the last place for men in the dimension of independent and secure living, but in the fourth place for women.

Table 6: Overall results of the RAI for the CR (NUTS2 AAI)

CZ	Cohesion region	Dimension				Results	
		1. Emp	2. Soc	3. Liv	4: Cap	Total	Rank
1	Prague	30.5	17.4	77.5	62.6	37.0	1
2	Central Bohemia	22.9	13.9	86.2	62.5	34.0	4
3	Southwest	25.7	18.3	79.4	64.2	36.2	2
4	Northwest	15.8	22.3	76.1	56.3	32.2	5
5	Northeast	19.3	12.8	76.0	60.1	30.8	6
6	Southeast	17.3	9.4	75.0	58.0	28.4	8
7	Central Moravia	25.7	19.9	77.6	60.5	35.8	3
8	Moravia-Silesia	19.9	8.8	74.1	59.8	29.4	7

Source: SHARE 2013; SLDB 2011; authors' calculations.

Table 7: Ranking of cohesion regions according to RAI results and individual dimensions

CZ	Cohesion region	Total	Dimensions				Average
			Emp	Soc	Liv	Cap	
1	Prague	1	1	4	4	2	2.8
2	Central Bohemia	4	4	5	1	3	3.3
3	Southwest	2	2	3	2	1	2.0
4	Northwest	5	8	1	5	8	5.5
5	Northeast	6	6	6	6	5	5.8
6	Southeast	8	7	7	7	7	7.0
7	Central Moravia	3	3	2	3	4	3.0
8	Moravia-Silesia	7	5	8	8	6	6.8

Source: SHARE 2013; SLDB 2011; authors' calculations.

Table 8: Gender difference in individual RAAI dimensions (CZ NUTS2)

CZ	Cohesion region	1. Employment				2. Participation in society				3. Independent and secure living				4. Capacity and enabling environment for active ageing			
		Men		Women		Men		Women		Men		Women		Men		Women	
		Total	Rank	Total	Rank	Total	Rank	Total	Rank	Total	Rank	Total	Rank	Total	Rank	Total	Rank
1	Prague	40.0	1	23.6	1	14.4	4	18.5	3	80.1	3	75.7	6	65.5	1	64.2	1
2	Central Bohemia	27.4	5	19.4	4	11.9	5	14.8	5	88.5	1	84.7	1	64.5	3	63.3	3
3	Southwest	32.3	4	20.8	2	16.1	3	16.6	4	80.3	2	78.3	2	65.4	2	64.1	2
4	Northwest	17.1	8	12.5	6	21.0	1	23.9	1	76.8	7	75.9	5	60.0	7	58.2	8
5	Northeast	23.4	6	18.3	5	7.8	7	13.5	6	74.7	8	76.8	4	59.3	8	60.1	6
6	Southeast	23.0	7	12.3	7	9.2	6	10.0	7	78.5	5	73.3	7	60.3	6	58.7	7
7	Central Moravia	32.5	3	20.3	3	16.3	2	19.9	2	77.0	6	78.0	3	62.3	4	62.3	4
8	Moravia-Silesia	33.0	2	11.6	8	7.3	8	8.2	8	80.1	4	71.2	8	61.7	5	61.6	5

Source: SHARE 2013; SLDB 2011; authors' calculations.

Table 9 shows that these minor differences between men and women add up in the total Index. Typically, women have a slightly lower value in all indicators, as is the case with the original Active Ageing Index for the EU 28. The total loss of women reaches up to 8 points in the Moravian-Silesian region. It should be noted that although the Index can theoretically acquire the values of 0 – 100, the actual variability of the values is significantly lower and the eight-point difference is therefore not insignificant. The Northeast region represents an exception to the better position of men, with women scoring 0.5 points higher than men. There was a small difference found in the overall score in the Northwest region.

However, the same points for men and women may result in another ranking of the region, as shown in the last column of Table 9. Although Prague, for example, differs by 5 points in the overall score for men and women, it ranked in the first place in both cases. Similar results were found for the Southeast and Central Bohemia regions. On the other hand, the Moravian-Silesian region ranked three places higher for men than for women (5th vs. 8th place). The Northeast region ranked two places lower for men and the Northwest and Central Moravia regions one place lower. Gender differences are therefore not negligible even when looking at the regional level, acquiring even more specific outlines in this respect.

Table 9: Total gender difference in the RAAI (CZ NUTS2)

CZ	Cohesion region	Men		Women		Difference between "Total" for men and women	Difference in ranking of cohesion regions
		Total	Rank	Total	Rank		
1	Prague	40.2	1	35.1	1	5.1	0
2	Central Bohemia	35.5	4	33.1	4	2.4	0
3	Southwest	38.1	2	33.7	3	4.3	1
4	Northwest	33.0	6	32.0	5	1.0	-1
5	Northeast	30.3	8	30.8	6	-0.5	-2
6	Southeast	31.2	7	26.9	7	4.3	0
7	Central Moravia	37.2	3	34.3	2	2.9	-1
8	Moravia-Silesia	34.4	5	26.3	8	8.1	3

Source: SHARE 2013; SLDB 2011; authors' calculations.

If we summarise the above, it can be stated that the results of the Regional Active Ageing Index showed the primacy of Prague among other cohesion regions, yet a more detailed view indicates that the first rank does not by far concern all dimensions and indicators. Prague ranked in the sixth place in the dimension of independent living for women. This is not the only inconsistency of this region. Significant diversity was also found in other regions as well as in the case of the comparison of the results for men and women. Overall, the last-ranking Southeast region represents, on the contrary, an example of a region with constantly low results. It ranked relatively the best (the fifth place) in the dimension of independent living for men. The regional application of the Index thus clearly summarises the weaknesses and strengths of each region. This contribution does not allow us to dive into such a degree of detail, but in the next step, it would be advisable to interpret contextually these disparities using more in-depth analyses.

CONCLUSIONS AND DISCUSSION

The Czech Republic is part of the geopolitical and demographic space in which the “ageing issue” is highly relevant. It also actively engages in discussions about how to deal with it. The UNECE, which is the guarantor of the Regional Implementation Strategy of the Madrid Agenda for Ageing in Europe, defined in the so-called 2012 Vienna Ministerial Declaration four objectives to be achieved by the end of the third evaluation period of the Madrid Declaration, i.e. by 2017. These include: (i) promoting prolonged working lives and maintaining working capacity; (ii) promoting participation, non-discrimination and social inclusion of older people; (iii) promoting and protecting dignity, health and independence in old age; and (iv) maintaining and strengthening intergenerational solidarity. The AAI is considered an important tool for evaluating and monitoring the implementation of the four objectives of the Action Plan and the Regional Strategy both within the ongoing evaluation cycle and in the subsequent periods.

The AAI Score reflects the extent to which the potential of older people is used, the extent to which they are allowed to participate in the economy and society and the extent to which such participation is supported. In 2014, the best countries, i.e. Sweden, Denmark, the Netherlands and Finland, each with about 40 points, began to approach halfway to the idealistic goal of 100 points. At the same time, in these countries, the inhabitants are least concerned about the increase in the number of older people in their societies (Eurobarometer 393, Active Ageing 2012). At the opposite end of the scale, there are the usual suspects with less than 30 points, i.e. the countries of Eastern Europe (Romania, Hungary, Slovakia, and Poland) and Greece. The Czech Republic represents an honourable exception with this current eleventh place within the EU 28 and it is obvious that continuous efforts to raise the importance of “ageing issues” bear fruit. The source surveys are available in national states, i.e. also in the Czech Republic, and it is thus recommendation-worthy to work with them in future and monitor whether there are ways to maintain this privileged position, or even the way to overcome it, thus moving among the actively ageing “elite of Europe”.

Even though we offered the application of the Index to the NUTS2 level, there is still a demand for a more detailed regional breakdown of the AAI into lower territorial units, e.g. regions (NUTS3) or possibly even municipalities. The available research implies and our findings presented above confirm that there are a number of regional disparities within the Czech Republic (e.g. *Petr*, 2015) in terms of employment, health, or even life expectancy, etc. These differences are not negligible. For some regions, the Active Ageing Index identified their strengths and weaknesses, in others, it revealed their overall good / bad position compared to other cohesion regions. Prague ranked the best overall, yet according to the points achieved, its victory is very tight and far from prevailing in all dimensions or indicators. Another important finding consist in the significant gender difference. In general, although men score better than women in the RAAI, just as in the original Index, the degree of difference varies.

It is also important to note that the cohesion regions at the level analysed in this paper are too large and too heterogeneous units for public administration and policy setting. The future objective should consist in creating, for example, particularly in cooperation with the Czech Statistical Office and other guarantors of the surveys used, a comparative Index of Active Ageing (AAI) at a lower regional or even local level. This is one of the directions in which the authors themselves think about the future of the AAI. Even the relatively robust SHARE survey, which was used for the NUTS2 application, does not allow for a statistically reliable elaboration to lower territorial units.

In essence, four areas of interest for further analyses of the AAI are discussed. The first is the already mentioned AAI application at the regional or local level, on which we also focused. A number of relevant policies are formulated and applied at the regional and local level. However, due to the lack of data, this can be a challenging task, as shown even in our applications at the NUTS2 level for the Czech Republic. The second area is interest in the AAI in a comparative perspective from various points of view. This means not only a primary comparison between countries and regions, but also between different groups in the population, different cohorts, etc. The determinants “behind” various measures for active ageing and their results (impacts) are also the subject of interest. In this case, the context consists of both policies and the wider economic and social situation. The third area is further work on methodology and the subject

of consideration includes, for instance, the used weights and their possible modification, the use of other or alternative indicators or domains / dimensions, or the considerations on alternatives to the calculation of the Index as such. A special issue is the general sustainability of the Index over time. The last area that has been and will be discussed in the future is the use of the AAI in countries outside the European Union. Due to the fact that the indicators are selected from primarily European surveys, their use in countries outside Europe faces a number of obstacles.

Regarding the practical applicability of the AAI to specific policy-making, it is necessary to take into account that no EU country has the best results in all indicators and dimensions. This undoubtedly serves as the impulse for ongoing discussions as to how the selected dimensions are mutually complementary and supportive or rather crowding out. In other words, this means the extent to which it is possible to learn from the effects of policies and measures in individual countries so that it does not have unintended consequences on the already positive results achieved in other areas. Since, as shown by the above-mentioned results of analyses, the emphasis placed on the activity on the labour market within the AAI may contradict the preferences of (older) Europeans, and the relationship between the AAI ranking and quality of life can be mediated by a number of other variables not incorporated in the Index and thus also not evaluated and not taken into consideration, including the aspect of (non)existing policies and the possibility of their transfer between different types of welfare states, etc. With some exaggeration, it would thus be possible to use the popular saying instead of the conclusion that the Active Ageing Index can be a good servant but a bad lord. And in our view, this finding, and in some sense a warning, can also be applied to the regional policy of preparing for ageing.

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SUMMARY

The Active Ageing Index (AAI) was constructed as a tool for comparing active ageing experiences and potential across the 28 Member States of the European Union. It can be used by policy-makers and other stakeholders to identify challenges and opportunities related to demographic change, and to help them set priorities and define goals for improvement. The Czech Republic's ranking is one of the best among the new Member States. The AAI consists of 22 indicators ordered into four domains: employment, participation in society, independent living, and capacity for active ageing. Both indicators and domains are weighted before being summed into the overall index. The strong emphasis on employment in the methodology used to calculate this index has already been criticised in sociological discussions on the active ageing concept in general. There are also other methodological concerns that relate to the selection of indicators, which tend to be either too narrow (e.g. include only intensive physical activity) or too vague and culturally dependent (e.g. the concept of providing care), and concerns about possible contra tendencies within the summed involvement in activities (e.g. expecting double burden from involvement in both caring and working). As many policies relating to preparations for ageing are implemented at the regional level, regional comparability is required; however, there are too few cases observed in the available surveys to enable this. Therefore, alternative indicators are proposed here), and using them the authors calculate the regional active ageing index (RAAI) for the NUTS2 regions in the Czech Republic. Considerable regional, dimensional and gender differences can be observed in the results. Overall, the top-ranking region according to the RAAI results is Prague, owing to the high employment rate and the weights this indicator has in the index. If the average ranking according to all the observed dimensions is taken into account, the Southeast region ranks top. Further research using the RAAI is however necessary.