

Active Ageing Index at subnational level in Romania

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Note

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EXECUTIVE SUMMARY

WHAT IS ACTIVE AGING?

The concept of active ageing developed in the past two decades reflects the changes in the social understanding of life course, older people not being anymore considered as a burden to society, but as a group with a potential to contribute to it. By remaining active longer in their lives, older persons bring an added value to the development of their societies and preserve their physical and mental skills.

Active ageing is strongly connected with economic development. Economic development fosters seniors' capabilities for conducting an active life enabling their active engagement with labour market and society. Active ageing may sustain the economic growth by making use of the potential of older persons who are an important resource and fuel for the economic and social development.

The Active Ageing Index aims at measuring the extent to which the potential of older persons to contribute to economy and society, as reflected by the definition of active ageing, is used. The index includes 22 indicators grouped into four domains: employment, participation in society, independent, healthy and secure living, and capacity and enabling environment for active ageing. Because lack of economic resources goes hand in hand with lower level of engagement with life among older people, the Active Ageing Index (AAI) tend to have the highest values in the most developed countries (UNECE / European Commission, 2015).

WHAT IS INCLUDED IN THIS REPORT?

This report focuses on active ageing in Romania, employing comparisons between Romania and the European Union (EU) member states and across the eight NUTS 2 regions in Romania (North West, Centre, North East, South East, South Muntenia, Bucharest - Ilfov, South West Oltenia, West) and points in time (2010, 2012, 2014, and 2016), and answers several questions:

- How does AAI vary across regions in Romania?
- Does AAI change over time?
- If so, is the trend the same as the average one in EU?
- Is there any gender gap in AAI in Romania?

MAIN FINDINGS AND POLICY IMPLICATIONS

Romania scores low on both economic development and the Active Ageing Index as compared to the EU28 average. The results presented in this report show that Romania follows the same trend with respect to active ageing as the rest of EU member states between 2010 and 2016. However, the gap between Romania and the other member states grew bigger, as almost all

the EU countries moved in the same direction, but the average speed was higher than the one in Romania. Moreover, there are important differences across NUTS 2 regions in Romania and the overall picture is not a homogenous one. Regions differ with respect to the level of economic development and the Active Ageing Index, but the variation among regions does not reflect a linear positive relationship between active ageing and economic development. Furthermore, the variation over time is not homogenous across regions, some of them following the general trend of growing AAI as the rest of EU, while in others (like South West Oltenia) AAI went down.

In 2010 and 2012, three regions had higher AAI scores than the national average and were above or at parity with the EU average: South West Oltenia, North East region and South Muntenia. Bucharest - Ilfov had the lowest score of AAI in 2010 and 2012, followed by Centre, North West and West regions. Bucharest - Ilfov, North West and Centre regions follow the European trend, as their AAI scores have been on the rise. Presently, the regions with the highest AAI scores in Romania, are the ones that have the highest poverty rate and the highest emigration rate. The uneven variation across regions can be better understood with breaking down AAI into its domains and indicators.

The engagement of older population in the labour market after reaching retirement age is rather high in Romania. However, employment rates vary notably across age groups and regions. In general, the employment rate is high among the age group 55 to 59, though it varies a lot from one region to another. In 2016, the highest employment rates for this age group were observed in North East and North West regions (66.1 and 59.1 per cent, respectively). The average employment rate among 55–59 years old was growing continually between 2010 and 2016 gaining 6.2 percentage points. In North East and South West Oltenia employment rate of 70–74 years olds is just about 10 percentage points lower than that of pre-retirement age (60–64), reaching 36.7 per cent and 22.6 per cent respectively in 2016. South Muntenia and South East regions also record double digit employment rates in this age group.

Although the national average score of participation in society among those aged 55+ went up in the past years in Romania at a rate similar with the EU average, there is a lot of variability among underlying indicators and regions. The score of overall social participation is pulled up in Romania by two indicators, i.e. *Care to children and grandchildren*, and *Care to infirm and disabled*. According to the data from 2010 to 2016, the national average grew for these two indicators, but went down for Voluntary activities and Political participation.

The overall score of independent, healthy and secure living domain points to a big gap between Romania and most of the EU member states. Romania scores the second lowest in EU in this domain. The data show that, between 2010 and 2016, the score grew to some extent in Romania. For Centre, West, North West and South East a positive trend can be observed, while in Bucharest - Ilfov and South West Oltenia the score has been going down. The data show that less than 2 per cent of Romanian population 55+ do sports and exercise, except for those

living in Bucharest - Ilfov and in South East region. Bucharest - Ilfov scores constantly almost double the South East region scores, 6 per cent of the population aged 55 and above practicing sports/physical activities and exercising weekly. Material deprivation is higher in Romania as compared to the EU average, but the gap has narrowed since 2010. North East had the highest speed of change and the highest level of material deprivation in 2010, only 55 percentage of the population over 55 reporting no deprivation. It appears that, after the age of 55, Romanian population stops attending any type of formal education and rarely practice any a type of sport/physical activity.

With respect to capacity and enabling environment for active ageing, the most rapid change happened in the case of educational attainment and mental well-being. The speed of change was also high in the case of the use of ICT by people aged 55–74. At the same time, the remaining life expectancy achievement of 50 years at the age of 55 increased, but the share of healthy life years in the remaining life expectancy at the age of 55 saw a slight decrease in the analysed time span. Social connectedness of population aged 55+ is the highest in the West region, followed by North West and Centre. These are regions with high ethnic and religious diversity, which are known to foster social capital. The indicator which measures the subjective evaluation of mental well-being of seniors saw the most heterogeneous evolution across regions. It is worth noting that the regions with the best self-assessment of mental well-being in 2016 were also the regions with the highest life expectancy achievement, Bucharest - Ilfov and Centre, and among the most developed regions when considering GDP per capita.

There are substantial differences in active ageing between men and women. The Active Ageing Index is higher in case of men. However, there are important differences across regions and domains. The gender gap in Bucharest - Ilfov was closer to zero, meaning that women and men are realising their potential to a similar extent later in life.

In West, South East and North West, and South West Oltenia gender gap in employment widened, pointing to a higher engagement of men in the labour market. The gap in employment is the highest among the age group 55–59, reflecting the gender gap among people of working age and it goes down with age, employment rate being almost equal among women and men from 70 to 74 years old. This is the outcome of disengagement with work life among men, after retirement, the exits from the labour market balancing the difference between the two genders. In 2016, only in two regions (North East (-8.8) and South West Oltenia (-6)) the gap in employment domain in favour of men was smaller than 10 points.

The data point out to a higher level of social participation among women, who tend to be more involved in social life than in the labour market. Moreover, the gender gap in political participation is negative in 2010 and close to zero (0.4 points) in 2016, but the regional disparities are very high. Thus, in 2016 the gap ranges from -18 in Bucharest - Ilfov to +15 in South Muntenia.

The gender gap in independent living shows that men conduct a more independent and active life after the age of 55. This is true across regions and for all years covered by this analysis. In 2016, the gap was the highest (over 7.5 percentage points in favour of men) for Centre and South East.

The gender gap in capacity for active ageing is close to zero, pointing out that on average men and women are equally prepared to assume an active engagement with society. However, the range of variation among the regions is quite high, going from -4.1 in South Muntenia to +4.1 in Bucharest - Ilfov.

The policy measures aiming at the improvement of participation in society among seniors in Romania should consider increasing the provision of public and private care services and further support for families having members in need of care. Particular attention and resources should be directed to the share of the population of 85 years or more who are more likely to be in need of dedicated medical and/or social care (MMSJ, 2018).

Regional differences should be considered when designing social policies for active ageing. No Romanian regions score on the top of the Active Ageing Index, but this can be improved by adequate policies. The variation across regions is uneven, reflecting local particularities. Therefore, regional programmes should address local factors that impede active ageing and should make use of local economic, human and social capital existing in different regions.

Economic development goes hand in hand with active ageing. However, beyond the level of income and material deprivation *per se*, there are other structural factors that matter for the active ageing. Demographic factors, like migration or life expectancy, labour market and the main economic activity can interfere with economic growth changing the odds of remaining active later in life. Because regional differences are not only the product of the uneven economic development, analysing the Active Ageing Index and its components across regions can reveal insightful knowledge with great potential for policy recommendations.

INTRODUCTION

The concept of active ageing developed in the past two decades reflects the changes in the social understanding of life course. The core change resides in replacing the definition of the oldest phase of life as one of inactivity and exclusion (Boudiny & Mortelmans, 2011) with one aiming to activate and use the potential of seniors by encouraging and creating conditions for them to stay active in labour market, social and political life. Thus, older people are not considered anymore as a burden to society but are seen as a group with a real potential to contribute to economy and society. By remaining active longer in their lives, older persons bring an added value to the development of their societies and preserve their physical and mental skills.

The perspective of active ageing promoted by the European Council is rooted in the World Health Organization (WHO) (2002) approach which emphasises the connection between activity and health. According to the European Council (2010, p. 5):

Active ageing means creating opportunities for staying in the labour market longer, for contributing to society through unpaid work in the community as volunteers or passing on their skills to younger people, and in their extended families, and for living autonomously and in dignity for as much and as long as possible.

The Active Ageing Index (AAI) aims at measuring the potential of older persons to engage actively with society, as reflected by the definition of active ageing. The Active Ageing Index was developed in 2012, the European Year for Active Ageing and Solidarity between Generations. The index consists of 22 indicators grouped into four domains:

- employment
- participation in society
- independent, healthy and secure living
- capacity and enabling environment for active ageing.

The index was originally calculated at country level, allowing for cross-national comparisons and the analysis of changes over time in the European Union member states.

The comparisons across European Union (EU) member states pointed out to the association between active ageing and economic development (UNECE / European Commission, 2015). Economic development leads to the enhancement of seniors' potential to engage actively with life and society, by improving their capacities to contribute to society and by creating opportunities for their social and economic inclusion. At the same time, older people can actively contribute to the development of their societies, in this sense being an asset for social and economic development.

This report focuses on active ageing in Romania, analysing the potential of seniors living in Romania and their actual engagement with life from cross-sectional, as well as dynamic perspective. The analysis employs comparisons between Romania and the European Union member states and across NUTS 2 regions in Romania. NUTS 2 regions differ depending on their level of economic development and there is important heterogeneity among regions in Romania. On the other hand, NUTS 2 regions are important for developing and implementing social, economic and territorial cohesion policies in EU member states. Thus, assessing the differences across regions can help in designing public policies for enhancing active ageing in Romania.

The report answers several research questions:

- How does AAI vary across regions in Romania?
- Does AAI change over time?
- If so, is the trend the same as the average one in European Union?
- Is there any gender gap in AAI in Romania?

The analyses provide information for the eight regions of Romania (North West, Centre, North East, South East, South Muntenia, Bucharest - Ilfov, South West Oltenia, West) and for four points in time (2010, 2012, 2014, and 2016). The data are broken down by sex at regional level, allowing the investigation of the gender divide in AAI.

The report consists of four chapters. The first one introduces the NUTS regions in Romania, providing relevant information about economic development, demographic trends and historical roots of regional disparities in Romania. This information helps in interpreting the results of the empirical analysis. The second part presents the methodology employed to calculate AAI in Romania and the sources of data. The third chapter includes the results of data analyses, describing the interregional differences by domains and indicators and by gender. The final chapter draws some conclusions and suggests several policy recommendations.

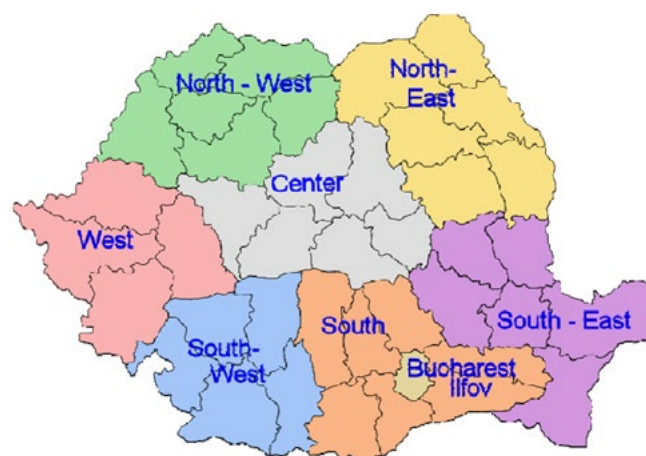
REGIONAL DIFFERENCES IN ROMANIA

NUTS 2 REGIONS IN ROMANIA

The main regional administrative unit in Romania is the county (*judet*) that stands for level 3 in the Nomenclature of Territorial Units for Statistics (NUTS). The 41 counties and the capital city are clustered in eight regions (North West, Centre, North East, South East, South Muntenia, Bucharest - Ilfov, South West Oltenia and West) that stand for NUTS 2. The eight regions have been formally established in 1998 based on the Green Card of Local Development in Romania (1997), based on criteria such as the economic development, existence of a big urban centre, complementarity in terms of resources, and cultural homogeneity. Although they do not function as administrative territorial units, they represent an important instrument in implementing regional development programmes and in absorbing EU funds, territorial cohesion being one of the core concepts of the EU development policies (Poledníková, 2014).

The eight regions are heterogeneous in terms of economic development, GDP per capita placing them in very different positions among NUTS 2 regions in EU, from the poorest one (North East) to one above the average in EU, that is Bucharest - Ilfov. Apart from pure economic disparities, several other factors account for cross-regional differences. Among them one can mention: main economic activity, demography, existence of well-established industrial infrastructure, infrastructure for transportation, and proximities to Western market (Antonescu, 2016; Sandu, 2011; Cîrnu, 2010). The multiple intersections among these factors and the touch of history put their imprint on regions in Romania, opposing the poorer East to the better-off West and the regions along the Eastern border and the Danube to the Centre (Goshin, 2007; Sandu, 2011).

Figure 1. Development regions of Romania (NUTS 2)



Source: Popescu & Popescu, 2011

Cross-regional differences are significant, as shown in Table 1, GDP per capita being in 2006, the year of pre-accession to the EU, three times higher in Bucharest - Ilfov, as compared to

North East and South West Oltenia. GDP per capita is two times higher in Bucharest than in the second most developed region of Romania, West. That was the case in 2006 and, despite significant development experienced by Romania in the past years, the size of disparity remains the same in 2017. Bucharest follows the trend of the capital cities in Europe which attract resources and have the highest level of development in their countries (European Commission, 2017). Bucharest has the highest labour productivity (MDRAP, 2014) and attracts most of the foreign investments in Romania (ibid; Heller and Ianoş, 2004).

Table 1. GDP per capita by NUTS 2 region in Romania, 2006–2017
(Purchasing Power Standards, at current market prices)

	2006	2010	2012	2014	2016	2017
North-West	8,900	11,100	12,500	13,400	15,700	16,900
Centre	9,300	11,900	13,800	14,100	16,500	17,900
North-East	6,000	7,600	9,000	9,300	10,600	11,600
South East	8,100	10,000	12,300	13,600	14,500	15,800
South Muntenia	7,900	10,000	10,900	12,800	13,900	15,100
Bucharest - Ilfov	21,500	29,200	33,700	35,500	40,600	43,200
South West Oltenia	7,400	9,300	10,800	10,800	12,500	13,600
West	10,700	13,900	15,200	15,300	18,500	20,000

Source: Eurostat 2019a

At the opposite end, one can talk about the pole of poverty in the EU that is the North East region. North East Romania “competes” with Severozapade in Bulgaria for the place of the poorest region of the EU (Perrucchini and Ito, 2017). South West Oltenia and South Muntenia are on the second lowest position regarding the GDP per capita. Although they seem to be better-off as compared to North East, the literature places them all together in a poverty pocket affected by long-term underdevelopment but having different profiles of poverty, with direct impact on social development (Sandu, 2011).

North East has higher share of young population (Eurostat, 2019b) and higher fertility rate (Eurostat, 2019b) as compared to the rest of the country. Here poverty is rooted in a high rate of employment in agriculture and in the considerable disparities between rural and urban areas. The outcome was low level of incomes and high material deprivation which pushed young population to migrate for work shortly after the beginning of post-communist transition.

South West Oltenia and South Muntenia are rather depopulated regions, with high share of older population and reduced fertility rate, as shown in the next section. Several factors contributed to the underdevelopment of these regions. Proximity of a big city, which attracted the youth, dried out the active labour force, reducing the potential for economic recovery (Sandu, 2011). The monoindustrial profile of economy, which was the outcome of the centralised development policy, drastically reduced the employment opportunities once the

local companies were closed due to economic restructuring (Antonescu, 2016). Although the level of deprivation is lower in the South, the prospects for long-term development are limited by compositional factors (aged population, low stock of education, low fertility rate).

Centre and Western regions are better-off as compared to the East and South (Sandu, 2011). They have better industrial infrastructure and they are more attractive for foreign investments from the beginning of the transition due also to the physical proximity to the Western border (Antonescu, 2016). However, there are notable intraregional differences, some of them due to high attractiveness of the main developed cities in the region, like Cluj Napoca and Sibiu, which dried out the young active population from Sălaj and Alba (Sandu, 2011).

DEMOGRAPHIC TRENDS IN ROMANIA

In recent years, a series of demographic challenges have become more visible in the public discourse and current characteristics of the population constitute premises for their enhancement: decreasing population, migration, low fertility and population ageing. The size of the resident Romanian population decreased in the period 2010–2016 from almost 20.3 million inhabitants to 19.76 million. Out of these, in 2016, 15.5 per cent were aged 0–14 years, decreasing from 15.8 per cent in 2010, while the population aged 55 years and above was 30.9 per cent, increasing from 29.4 per cent in 2010. The older population, generally measured as the population aged 65+, started to surpass the youth aged 0–14 in 2009 (own calculation using Eurostat 2019b data), and it continues to increase as the other decreases.

Table 2. Resident population in Romania: total and share of age groups 0–14 and 55+

	2010	2012	2014	2016
Resident population, millions	20.29	20.09	19.94	19.76
Population of 0–14 y.o., per cent	15.80	15.85	15.51	15.52
Population 55+, per cent	29.42	29.59	30.40	30.90

Source: Eurostat 2019b.

The decrease of population is visible in all regions, with the exception of Bucharest - Ilfov, which recorded a small positive balance between in- and outmigration. Over the period 2010–2016, the most affected by the loss of population was the North East region. However, the data in 2010 at regional level is slightly overestimating the size of the population (see note below Table 3), and if we consider only the period 2012–2016, South Muntenia, South East and South West regions registered the highest decrease of population. At the opposite end, the most developed regions have a smaller drain of population in both time frames. The stock of Romanians abroad was estimated at 3.6 million in 2017 (UNDESA, 2017a). Alongside international migration, internal migration determines new distributions of population. People in search of better life opportunities leave less developed regions for Bucharest - Ilfov or West/ North West (Gheţău, 2018b). At the same time, there is significant heterogeneity within regions, between rural and urban areas, but also between bigger cities which offer more work

opportunities and smaller ones which have been in many cases affected by de-industrialisation during the post-communist transition.

Table 3. Resident population, by NUTS 2 regions (million people)

	2010*	2012	2014	2016	Change 2010–2016	Change 2012–2016
North West	2.72	2.60	2.59	2.58	-0.14	-0.02
Centre	2.52	2.36	2.36	2.34	-0.18	-0.02
North-East	3.71	3.29	3.27	3.26	-0.46	-0.04
South East	2.81	2.54	2.51	2.47	-0.34	-0.07
South Muntenia	3.27	3.13	3.09	3.03	-0.24	-0.1
Bucharest - Ilfov	2.26	2.28	2.28	2.29	0.03	0.01
South West Oltenia	2.25	2.07	2.03	1.99	-0.25	-0.07
West	1.92	1.83	1.82	1.80	-0.12	-0.03

Source: Eurostat 2019d

* "At the national level the population data were revised for the time period 2003–2012. For the time period 2003–2011, the sum of total populations of all regions is higher than the total population at the national level because of different methodologies applied in measuring international migration" (Eurostat metadata Population change — Demographic balance and crude rates at regional level).

The significant outmigration flows reduce the active part of population and create skill shortages in different areas, amplifying the effects of population ageing. This situation has an ambivalent impact on the active ageing of the remaining population. On the one hand, labour market shortages create demand for labour force which can be supplied in part by the senior population. On the other hand, staff shortages in the health care or social care can have negative effects on the health state of the population (Galan et al., 2011), reducing the potential for active ageing.

Another consequence of international migration with implications for active ageing and which gathered more attention in the public space is the issue of intergenerational support. This is a multifaceted problem. Firstly, migration for work means that in many cases children are left behind with one or no parent, which creates a demand for care from the grandparents' side (Romanian Presidential Administration, 2018). While this activity contributed to their ageing in an active way, it sometimes might be a demanding task for seniors (Pantea, 2012). Secondly, having their children abroad means that while they may benefit from material support (remittances), emotional support and help in day-to-day activities are more limited. This is particularly important in Romania, where the family traditionally takes the role of looking after seniors (Someşan and Hărăguş, 2016). The lack of support is generally thought as more severe in urban areas where community bonds are weaker and there is not so much support for older people from their neighbours or local community. At the same time, the depopulation of villages and the changing of social values have negative implications on local community involvement in care provision to older persons in rural areas, too. (Kulcsár and Brădăţan, 2014).

FERTILITY

If in the 1990s and in the first decade of the 2000s, international migration had a major contribution to the decline of the population, after 2011 the most important role is played by the decrease in birth rate relative to mortality rate, thus by the natural decrease (Ghețău, 2018c). Moreover, together with the decline in mortality and increasing life expectancy, decreasing fertility contributes to the population ageing process.

In Romania, the total fertility rate (TFR) of recent years continues to be far from the level of replacement of generations (2.1). In 2016, TFR amounted to 1.64 children per woman, close to the average of the EU28 (Eurostat, 2019c). The total fertility rate dropped sharply at the beginning of the 1990s, from 2.2 children per woman in 1989 (Rotariu et al., 2017) to 1.59 in 1991, subsequently decreasing at a steady pace and remaining constant at the level of 1.3 children from the middle of the 1990s, until 2008 when it started to slowly increase (Eurostat, 2019c).¹ Across regions, there is some diversity, with the North East having the highest TFR, 1.95 in 2016, and Bucharest - Ilfov — the lowest TFR, 1.32. Low fertility levels are also reported in the Western part of the country, with values of 1.51 in West, 1.52 in South West Oltenia, 1.59 in North West (Eurostat, 2019c). Low levels of fertility are accompanied by the postponement of the first birth, with the mean age of women at the first birth being 27 years in 2016 (INS, 2018) approaching the EU mean.

Under these circumstances, the demographic trends in population decline and ageing will amplify and become more and more visible in the years to come. On the one hand, the large generations born in the communist period, particularly as consequence of pronatalist policies of the time, are soon reaching retirement age. On the other hand, the young population is expected to decrease more and more rapidly given the persistently low fertility rate that leads to the declining number of women of reproductive age in the coming years, when the small size cohorts will reach the reproductive age. Moreover, a cohort fertility analysis suggests that the generation born in 1961, i.e. women aged 55 in 2016, is the last to have given birth to the number of children necessary for their replacement (Ghețău, 2018c). The senior population analysed in this report starts with this generation.

LIFE EXPECTANCY

The importance of analysing the potential for active ageing resides first and foremost in the potential represented by the increasing of life expectancy and thus of the size of older population.

According to Eurostat data, in 2016, the life expectancy at birth in Romania was 75.3 years, with a gender gap of 7.4 years in favour of women. Romania is at the bottom end of the life

¹ In the last years, there have been some changes in the calculation methods of TFR, and starting with 2014 it refers only to women who reside in Romania (Rotariu et al., 2017).

expectancy range in EU28, ahead of only Bulgaria, Latvia and Lithuania. With respect to the gender gap, however, it is in top five, together with the Baltic states and Poland — countries where women's life expectancy is significantly (from 7 years in Romania to almost 11 years in Lithuania)² higher than that of men (UNDESA, 2017b). Life expectancy at the age of 55 in 2016 was 26.6 years for women and 21.2 years for men, with a gap of 5.2 years (the European Health and Life Expectancy Information System (EHLEIS)).

For a feasible active ageing process, long life expectancy is but one of the preconditions, the other being the health state of the older population. Regarding the healthy life expectancy at birth, in 2016, women could look up to 59 healthy years, while men had in front of them 59.8 years. In other words, the difference between men and women is reversed in the case of healthy life expectancy compared to life expectancy, albeit smaller in absolute values. For comparison, in the EU, the balance goes in favour of women, with the 64.2 healthy life years that women are expected to live compared to 63.5 in the case of men (Eurostat 2019e).

Thus, at old ages, the number of women in the population surpasses that of men and even if women tend to live longer than men, but it is likely that these remaining years are affected by physical limitations. Furthermore, at the last census, in 2011, single-person households accounted for almost 59 per cent of households with a member aged 85 or above. In another 26 per cent of the cases, the older person lived in two-person households (United Nations Statistics Division). Moreover, in Romania, only a small proportion of seniors 85+ live in institutions (less than 2 per cent reported at the 2011 census, according to Eurostat 2017), looking after them being the task of the extended family.³ For instance, according to the Generations and Gender Survey data collected in 2005 in Romania, 45 per cent of respondents considered that caring for older people is mainly the task of the family, while another 22 per cent said it was more for the family than for society (United Nations 2005).

ROMANIA AS AN AGEING SOCIETY

The most important demographic challenges faced by the Romanian society in the present are the decline of population size and the change of its structure, with the proportion of older population increasing and the young population shrinking. Within the population aged 55 years and above that increased in both absolute and relative terms in the period of interest for this report (2010–2016), the fastest growing proportion was its older population subgroups of 65–74 and 85+ (Table 4).

At the same time, in the next 30 years, it is estimated that the population aged 65 and above could go from 17.4 in 2016 to as high as 32.6 (highest estimate, under low fertility assumption),

² Data for 2015.

³ Unless someone else takes the responsibility to care for the older person by, for instance, signing a maintenance contract.

according to Eurostat projections (Eurostat 2019f). In this timeframe, the 'old old' population might see a fourfold increase.

Table 4. Population 55+ by age group (per cent of resident population)

	2010	2012	2014	2016	2050
Population 55–64 y.o.	13.29	13.46	13.88	13.52	12.8–14.1
Population 65–74 y.o.	8.94	8.88	8.84	9.42	13.3–15.1
Population 75–84 y.o.	5.92	5.94	6.15	6.23	10.7–12.5
Population 85+ y.o.	1.28	1.32	1.53	1.73	4.3–5.2

Source: own computation based on data from Eurostat 2019b for 2010–2016, and based on projections from Eurostat 2019f for 2050.⁴

The share of the senior population varies across regions and its evolution in the past years suggests that the ageing process is more accelerated in some regions than in the others. In the case of those aged 65 and above, the regions where the ageing process is the most advanced are South Muntenia and South West Oltenia, both regions losing population in the past years. The share of the population aged 55 and more places the same two regions at the top of the hierarchy and following them at a small distance is the South East region.

Table 5. Regional differences in percentage of population 55+ and 65+, 2016 (per cent)

NUTS 2	Population 55+	Population 65+
North West	29.45	16.38
Centre	30.61	16.85
North East	29.75	17.21
South East	32.50	18.15
South Muntenia	32.70	19.33
Bucharest - Ilfov	28.50	15.21
South West Oltenia	33.04	19.31
West	30.95	16.99

Source: own computations based on Eurostat 2019d

Under current conditions or continuing trends of migration, fertility and life expectancy, these issues will become more and more visible and they come together with social and economic dilemmas as well as with opportunities. From the economic perspective, the main issues arise with regard to the balance between incomes and pensions, and size of the working age population (Mladek et al., 2012). Socially, difficulties can arise in the provision of social and health care in terms of facilities and human resources (ibid). Nevertheless, an increasing share of older population represents also an untapped potential for contribution to society and

⁴ Apart from a baseline projection, the Eurostat database includes a series of results of sensitivity tests (e.g., assuming higher/lower/no migration). The table includes, for 2050, the minimum and maximum percentage of older people based on all six types of projections available in the Eurostat database cited.

economy in various domains in formal and informal ways. Thus, in support of a sustainable society in the years to come, appropriate policy responses need to be formulated. For instance, responsible policies must consider building opportunities to activate the potential for active ageing of the society, which is for the benefit of both seniors and the society as a whole.

ACTIVE AGEING INDEX: HISTORY AND METHODOLOGY

The Active Ageing Index was developed in 2012, the European Year for Active Ageing and Solidarity between Generations, starting from the definition of active ageing employed by the WHO (Zaidi et al., 2013). In a 2002 document discussed by the Second United Nations World Assembly on Ageing, active ageing is defined as “the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age.” (WHO, 2002: 12). This definition includes the basic principles of active ageing. Firstly, it speaks of opportunities expressed as individual capacities and independence (e.g. good health), focusing also on the positive structural context for involvement of seniors (e.g. social support and social protection, safe environment). Second, it implies actual participation in formal and informal activities in a wide variety of areas.

The meaning of active ageing that the AAI project works with is “the 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.” (Zaidi et al., 2013: 6). Following this framework, AAI reunites 22 indicators under four domains: employment, participation in society, independent, healthy and secure living, and capacity and enabling environment for active ageing (see Figure 2).

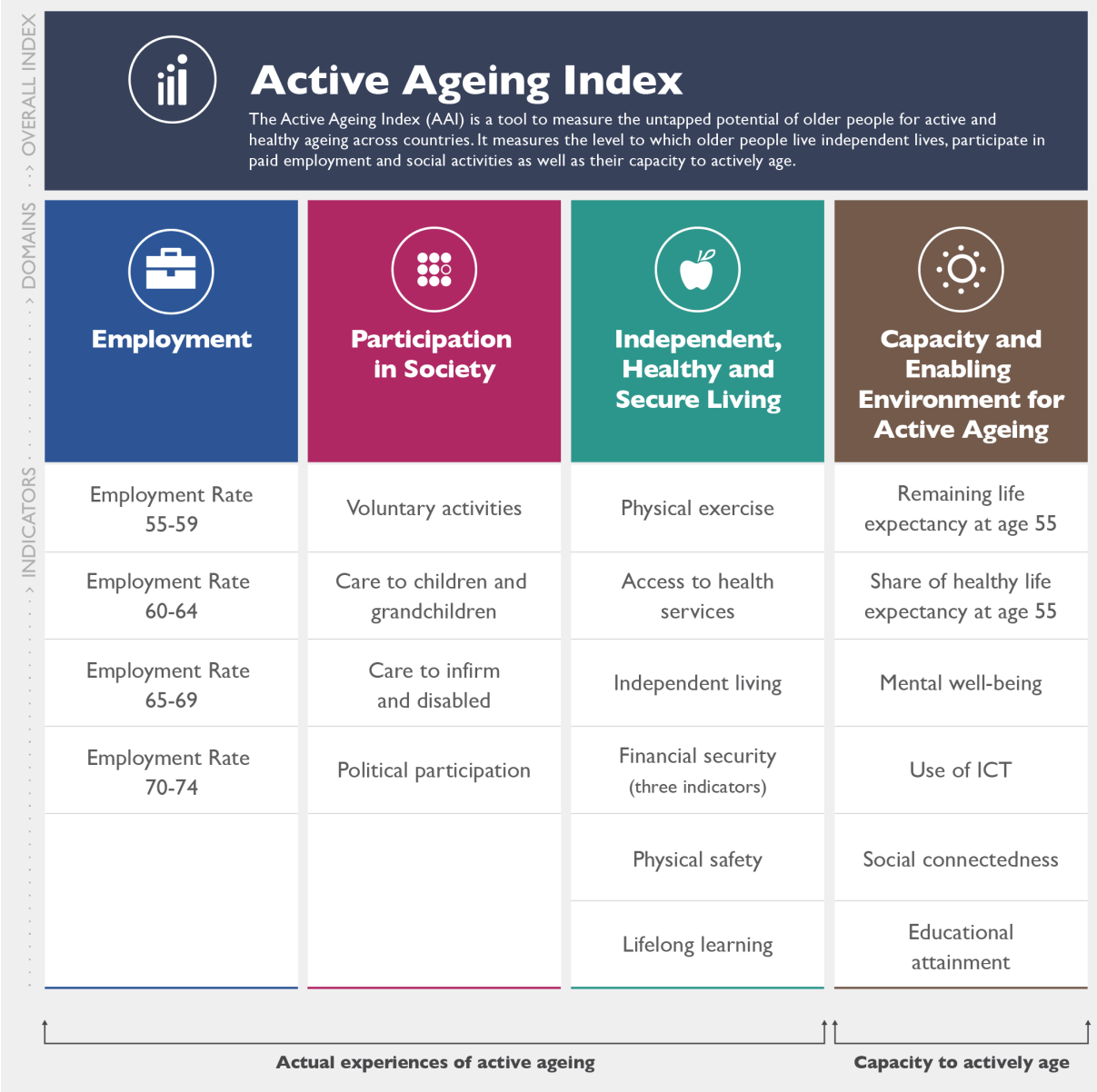
Initially, AAI was computed only at national level, but recently the project expanded to include the subnational level in the form of the NUTS 2 and NUTS 3 regions in some EU countries (e.g. Germany, Poland). This line follows the trend of EU regional development policies, which are the main political instrument to insure territorial cohesion across the Union. In the case of Romania, for this report, AAI was computed for all eight regions of the country (North West, Centre, North East, South East, South Muntenia, Bucharest - Ilfov, South West Oltenia, West), for four points in time (2010, 2012, 2014, and 2016). The data are also broken down by sex at regional level, allowing for the investigation of the gender divide in AAI.

The main limitations of this study come from data availability constraints. However, the proxy variables used proved to be valid measures and are close to the variables used in calculating the original AAI (please see Appendix 2 for details). For most variables, the data employed to calculate AAI in Romania come from the European Union Labour Force Survey (EU-LFS), European Union Statistics on Income and Living Conditions (EU-SILC), European Quality of Life Surveys (EQLS), and Community survey of ICT usage in households and by individuals.⁵ The original index includes two questions based on the European Social Survey (ESS) data (2010, 2012, 2014, 2016), which were replaced here with variables from EU-SILC and EQLS. Life expectancy data were provided by the National Institute of Statistics of Romania. For the

⁵ The authors are grateful to the Romania's National Institute of Statistics for providing the data from EU-LFS, EU-SILC, and the Community survey of ICT usage.

calculation of the healthy life expectancy, the Sullivan method with unabridged life table was used. The raw data came from Eurostat and the National Institute of Statistics (size of resident population and number of deaths for each year), and from the EQLS survey (estimates of the percentage of people self-perceived long-standing limitation in daily activities). Some variables are not available for all four points in time and the missing values were imputed with data coming from the other years. However, the proxy variables used proved to be valid measures and are equivalent to the variables used in calculating the original AAI (please see the Appendix 1 and Appendix 2 for more details). The sources of data and year of data collection for each domain of AAI are provided in Table 6. An additional limitation is rooted in the sampling design of EQLS which is representative for Romania, but not for NUTS 2 regions. Therefore, the comparisons across regions based on EQLS data should be considered with caution.

Figure 2. Active Ageing Index domains and indicators



Source: Active Ageing Index project. <https://statswiki.unecce.org/display/AAI/Active+Ageing+Index+Home>

Table 6. Indicators and source of data

INDICATOR	Year1 2010	Year2 2012	Year3 2014	Year4 2016
1. Labour market (contribution through paid activities)				
1.1. Employment rate for the age group 55–59	LFS 2010	LFS 2012	LFS 2014	LFS 2016
1.2. Employment rate for the age group 60–64	LFS 2010	LFS 2012	LFS 2014	LFS 2016
1.3. Employment rate for the age group 65–69	LFS 2010	LFS 2012	LFS 2014	LFS 2016
1.4. Employment rate for the age group 70–74	LFS 2010	LFS 2012	LFS 2014	LFS 2016
2. Participation in society (contribution through unpaid activities)				
2.1. Voluntary activities	EQLS 2011	EQLS 2011	EQLS 2016	EQLS 2016
2.2. Care to children, grandchildren	EQLS 2011	EQLS 2011	EQLS 2016	EQLS 2016
2.3. Care to infirm and disabled	EQLS 2011	EQLS 2011	EQLS 2016	EQLS 2016
2.4. Political participation	EQLS 2011	EQLS 2011	EQLS 2016	EQLS 2016
3. Independent, healthy and secure living				
3.1. Physical exercise	EQLS 2011	EQLS 2011	EQLS 2016	EQLS 2016
3.2. Access to health and dental care	EU-SILC 2010	EU-SILC 2012	EU-SILC 2014	EU-SILC 2016
3.3. Independent living arrangements (for those aged 75+)	EU-SILC 2010	EU-SILC 2012	EU-SILC 2014	EU-SILC 2016
3.4. Relative median income	EU-SILC 2010	EU-SILC 2012	EU-SILC 2014	EU-SILC 2016
3.5. No poverty risk	EU-SILC 2010	EU-SILC 2012	EU-SILC 2014	EU-SILC 2016
3.6. No severe material deprivation	EU-SILC 2010	EU-SILC 2012	EU-SILC 2014	EU-SILC 2016
3.7. Physical safety	EQLS 2011	EQLS 2011	EQLS 2016	EQLS 2016
3.8. Lifelong learning	LFS 2010	LFS 2012	LFS 2014	LFS 2016
4. Capacity and enabling environment for active ageing				
4.1. Remaining life expectancy achievement of 50 years at age 55	NIS 2008	NIS 2010	NIS 2012	NIS 2016
4.2. Share of healthy life years in the remaining life expectancy at age 55	NIS 2010/ EQLS 2011	NIS 2012/ EQLS 2011	NIS 2014/ EQLS 2016	NIS 2016/ EQLS 2016
4.3. Mental well-being	EQLS 2011	EQLS 2011	EQLS 2016	EQLS 2016

INDICATOR	Year1 2010	Year2 2012	Year3 2014	Year4 2016
4.4. Use of ICT	ICT 2010	ICT 2012	ICT 2014	ICT 2016
4.5. Social connectedness	EU-SILC 2015	EU-SILC 2015	EU-SILC 2015	EU-SILC 2015
4.6. Educational attainment	LFS 2010	LFS 2012	LFS 2014	LFS 2016

RESULTS

AAI — OVERALL SCORE: REGIONS IN ROMANIA

Romania scores below the EU average on AAI over the time span under consideration, as shown in Figure 3. Over the years, the gap grew bigger, as the value of AAI increased in the rest of EU. The speed of change was slower in Romania, as compared to the EU average: the difference between the score in 2010 and the one in 2016 was of 0.6 points in Romania and 2.3 points for the EU 28 average. The data point out that Romania is not homogeneous in exploiting the capabilities of its seniors and even if the direction of change is positive, social change occurs at a slower pace. As data presented in this report show, there is a lot of variation among regions, as well as between men and women.

The AAI score varies from one region to another, while the magnitude and the trend of change over time are different too. In 2010 and 2012, three regions had higher AAI scores than the national average and were above or at parity with the EU average (Figure 3 **Error! Reference source not found.**): South West Oltenia, North East region and South Muntenia. Bucharest - Ilfov had the lowest score of AAI in 2010 and 2012, followed by Centre, North West and West regions.

While the general trend in EU is an ascending one, in some of the Romanian regions the index goes in the opposite direction. South West Oltenia and West regress to lower AAI values in 2016, in North East, in South Muntenia and South East the variation of the values of AAI is rather low. Bucharest - Ilfov, North West and Centre regions follow the EU trend, as their AAI scores are rising.

When comparing the regions, one should also consider contextual factors that may influence seniors' engagement with society. Presently, the region with the highest AAI scores in Romania is the one that have the highest poverty rate and the highest emigration rate. When comparing the EU member states AAI goes hand-in-hand with economic development; where income and employment are higher so is AAI, which also tends to be higher in cities than rural areas. However, when one breaks down the index and compares NUTS 2 regions in Romania, the relationship changes. As pointed out previously, there are important differences among regions with respect to demographic trends and level of poverty. In some Romanian regions higher levels of activity could be a case of need: as young people emigrate from poorer areas older people have to be more active because the community needs their support.

Figure 3. Change in overall AAI over time by region in Romania

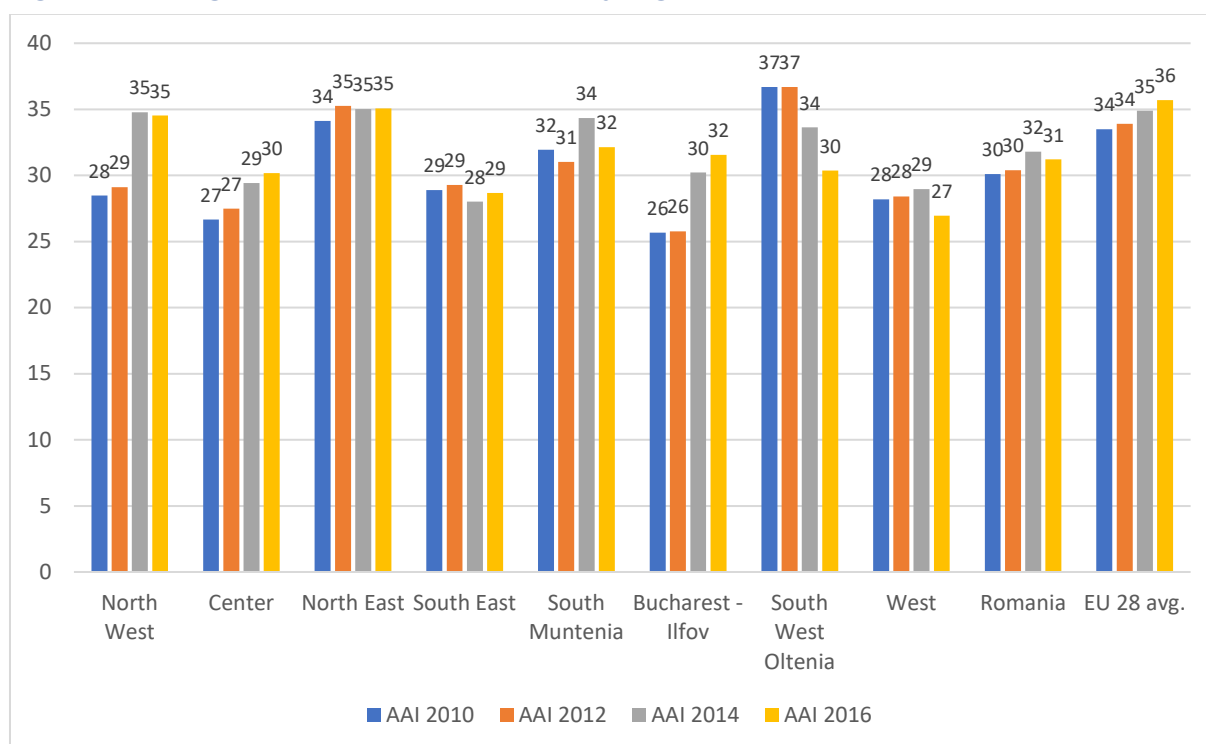


Table 7. AAI score by domain in Romania and EU 28 between 2010 and 2016

	2010	2012	2014	2016	Change 2010–2016
Romania					
Employment	31.2	31.2	31.4	28.9	-2.3
Social participation	12.7	12.7	13.6	13.6	0.9
Independent, healthy and secure living	61.1	62.3	65.1	63.7	2.7
Capacity for active ageing	40.6	41.3	43.2	44.6	4.0
Overall	29.6	29.9	30.9	30.2	0.6
EU 28 average					
Employment	27.0	27.9	29.1	31.1	4.1
Social participation	17.5	17.5	17.9	17.9	0.4
Independent, healthy and secure living	70.2	70.7	71.4	70.7	0.5
Capacity for active ageing	54.3	55.0	56.5	57.5	3.2
Overall	33.5	33.9	34.9	35.7	2.2

Note: Data in this table are retrieved from <https://statswiki.unece.org/display/AAI/Active+Ageing+Index+Home>. The AAI scores computed by UNECE are based on data collected two years before publication. For instance, 2018 AAI is computed with data collected mainly in 2016. The table heading here reflects the year of data collection instead of the year of launch. This is done to increase comparability with the scores computed at subnational level used in this report.

This finding is supported by a closer look at the AAI domains. As shown in Table 7, Romania scored higher than the EU average in the Employment domain (before 2016) and lower — in the other three. However, in 2016, the Employment domain score decreased slightly. Opposite to the trend of increasing employment among the population 55+ in EU, as the outcome of policies meant to support employment in later life, in Romania employment among older population groups went down in 2016. The most important drop was reported for South West Oltenia and West, the magnitude of change being high enough to pull down the country average. The other three domains of AAI, social participation, independent living and capacity for active ageing followed the EU trend, with higher scores recorded in 2016 than in 2010 (see Table 7). However, Romania is still lagging behind the EU average, but the pace of change is higher in some respects (social participation, independent, healthy and secure living, and capacity for active ageing).

EMPLOYMENT

Employment rates vary notably across age groups and regions in Romania. In general, the employment rate is high among the age group 55 to 59, though it varies a lot from one region to another. In 2016, the highest employment rates for this age group were observed in North East and North West regions (66.1 and 59.1 per cent, respectively). According to data in Table 8, the average employment rate among 55–59 years old was growing continually between 2010 and 2016 gaining 6.2 percentage points.

Active engagement with labour market is decreasing with age, the employment rate being generally lower for the age groups 60–64 and 65–69, which covers the retirement age for women and men in Romania (see Table 8). Until 2000, the statutory retirement age was 57 for women and 63 for men and it grew gradually since then. Currently the statutory retirement age is 60 years and nine months for women and 65 for men. As expected, employment rate is the lowest after the age of 70, even though it remains high in Romania as compared to other EU countries.

As mentioned above the cross-regional differences in the labour force participation are high in the country. This distinction became even more pronounced by 2016 as employment among those aged 55–64 increased noticeably in comparison to 2010 in West, South East and South Muntenia, while already low engagement in the labour market after the age of 65 dropped even further (Table 8). The rest of the country is characterised by relatively high employment rates at ages 55–64 and high rates among the age groups of 65 years and older. In North East and South West Oltenia employment rate of 70–74 years olds is just about 10 percentage points lower than that of pre-retirement age (60–64), reaching 36.7 per cent and 22.6 per cent respectively in 2016. South Muntenia and South East also record double digit employment rates in this age group. Thus, the engagement of older population in the labour market after reaching retirement age is rather high in some regions in Romania. Although the capacities for active ageing, in terms of health and life expectancy are lower than in the rest of EU (see the section on Capacities), Romania's seniors remain active in the labour market to a higher extent.

The trend over time is not uniform, employment rates changing in opposite directions depending on the age group. Employment grows among in the age group 55–64, except for South Muntenia and South West Oltenia, and declines among those aged 65 and above over the reference period. The most significant change is reported in South West Oltenia and South Muntenia, where employment rate in 2016 almost halved compared to the previous years for the age groups 65–69 and 70–74. This drop in employment rate can be associated with an increase of all pensions after 2007, which reduced the poverty among older people in Romania (MMJS, 2018). One should mention that this trend is different from the one reported for the rest of EU, where engagement with labour market is virtually unchanged for the age group 70–74. However, the range of variation is different in North East Romania, which has the highest employment rate in 2016 in the age group 70–74, as compared to the one of the EU28 average. In the first case, employment rate of the age group 70 to 74 varies between 41.5 per cent in 2012 to 36.7 per cent in 2016, while the EU28 average is of 6.4 in 2016 (UENCE / European Commission, 2019, p. 71).

Two things should be considered when analysing these results: poverty and shortage of labour force. The three regions, North East, South West Oltenia and South Muntenia are the poorest regions in Romania and according to Perucchini and Ito (2017), North East is the poorest region in the EU if one considers the GDP per capita. The lack of income pushes senior population to the labour market long after the retirement age. In that case, engagement with work is the outcome of unmet needs which make people to work even if they do not always have the capacities to do so. On the other hand, official statistic reports high level of emigration among the active population living in these three regions, poverty pushing people to look for employment outside the Romanian borders. The outcome is a shortage of labour force in the home regions, shortage that should be covered somehow and old population can step in and take over the jobs available on the labour market.

Table 8. Employment rate by age group, region and year

	1.1 Employment rate 55–59	1.2 Employment rate 60–64	1.3 Employment rate 65–69	1.4 Employment rate 70–74
2010				
North West	46.3	24.1	22.0	18.2
Centre	43.2	16.0	8.3	5.5
North East	61.1	44.2	41.9	37.9
South East	47.8	26.2	20.7	16.2
South Muntenia	51.6	35.9	29.8	24.1
Bucharest - Ilfov	48.3	13.4	2.0	1.0
South West Oltenia	55.4	44.2	44.5	40.9
West	46.3	21.0	11.7	6.1
<i>Mean</i>	<i>50.0</i>	<i>28.1</i>	<i>22.6</i>	<i>18.7</i>

	1.1 Employment rate 55–59	1.2 Employment rate 60–64	1.3 Employment rate 65–69	1.4 Employment rate 70–74
2012				
North West	52.8	26.0	21.7	14.2
Centre	49.7	18.3	7.5	3.7
North East	63.9	47.0	42.3	41.5
South East	48.0	24.9	21.3	17.0
South Muntenia	48.5	31.3	24.9	23.0
Bucharest - Ilfov	46.0	15.3	3.2	1.5
South West Oltenia	58.0	44.9	38.0	41.4
West	47.3	22.6	10.2	4.9
<i>Mean</i>	51.8	28.8	21.1	18.4
2014				
North West	57.4	28.5	18.4	11.5
Centre	50.8	18.5	5.1	3.2
North East	64.0	47.6	41.3	41.4
South East	48.3	24.6	14.3	11.0
South Muntenia	55.8	32.6	29.3	25.4
Bucharest - Ilfov	47.7	17.3	2.6	0.7
South West Oltenia	57.6	41.8	34.8	38.5
West	56.2	26.7	10.3	6.4
<i>Mean</i>	54.7	29.7	19.5	17.3
2016				
North West	59.1	29.1	13.2	9.8
Centre	56.8	21.5	3.3	1.7
North East	66.1	47.6	38.7	36.7
South East	52.8	25.5	14.2	10.0
South Muntenia	53.3	30.2	18.2	13.7
Bucharest - Ilfov	55.6	21.8	4.7	1.0
South West Oltenia	54.8	32.6	22.8	22.6
West	51.1	20.0	3.0	1.4
<i>Mean</i>	56.2	28.5	14.8	12.1

PARTICIPATION IN SOCIETY

Although the national average score of participation in society among those aged 55+ went up in the past years in Romania at a rate similar to the EU average (0.9 for Romania and 0.4 for EU 28 — Table 7), there is a lot of variability among underlying indicators and regions. The score of overall social participation is pulled up in Romania by two indicators, i.e. *Care to children and grandchildren*, and *Care to infirm and disabled*. According to the data (Table 9) from 2010 to 2016, the national average grew for these two indicators, but went down for *Voluntary activities* and *Political participation*. The rising trend is the outcome of a higher engagement in informal care among the seniors rather than the rise in involvement in civic and political life.

Table 9. Participation in society by indicator, region and year

	2.1 Voluntary activities	2.2 Care to children, grandchildren	2.3 Care to infirm and disabled	2.4 Political participation
2011				
North West	2.9	23.3	7.8	5.9
Centre	6.3	25.8	7.1	16.7
North East	1.7	22.8	7.1	5.5
South East	0.0	32.0	13.9	7.7
South Muntenia	1.0	35.4	13.9	2.0
Bucharest - Ilfov	6.5	33.1	10.6	3.4
South West Oltenia	3.7	31.6	17.2	11.5
West	3.0	32.0	16.1	7.8
<i>Romania average</i>	3.1	29.5	11.7	7.5
2016				
North West	10.0	57.4	26.3	1.4
Centre	4.0	35.8	22.9	1.0
North East	0.5	20.0	12.5	2.7
South East	0.0	38.3	6.8	3.3
South Muntenia	0.0	52.0	14.4	9.3
Bucharest - Ilfov	1.5	48.8	25.2	15.6
South West Oltenia	6.7	13.5	14.1	6.7
West	0.0	25.8	18.6	1.5
<i>Romania average</i>	2.8	36.4	17.6	5.2

Note: Participation in society in Romania is available for 2011 and 2016, the calculation of AAI 2010 and AAI 2012 being based on EQLS 2011 data and of 2014 and 2016 on EQLS 2016 data.

The growth of unpaid care work among population aged 55 and above stands at the intersection of demographic trends and family policies in Romania. The number of those postponing the birth of their first child, which increased in Romania over the past three decades (Gheţău, 2018c), and outmigration, that left behind many children to be looked after (Romanian Presidential Administration 2018), required additional effort from the senior population. On the one hand, mothers continue to care for their children after the age of 55 more often than before, because they become mothers later in their life. On the other hand, part of the emigrants left their children home under the grandparents' supervision. The size of population in need of care grew also as an outcome of demographic ageing: as older people live longer, often without the accompanying increase in healthy life years, they tend to need care provision for longer time in their lives. In addition, the family model in Romania, which goes hand in hand with the design of social policies, assigns to the family the main role of care provider to children and older persons (Preda, 2002). Thus, the growth of population in need of care and supervision puts more pressure on family members, especially on those who are out of the labour market, like the retired ones, and pushes them to get involved in provision of informal care.

As the demand of care provision grew fast over the last decades but rather unevenly across regions and domains, so did the in-kind contribution (i.e. looking after family members in need of care) of people aged 55 and above.⁶ The speed of change was higher in caring for adults. In some regions the percentage of those looking after infirm or disabled in their family or neighbourhood was three times higher in 2016 as compared to 2011 (see Table 9). This is the case of North West and Centre region. In Bucharest - Ilfov the percentage of seniors providing care to adults increased by 2.5 times in 2016. While there is a number of public services for older people, they are insufficient compared with the size of the older population. For instance, considering a population of 75+ of approximately 1.6 million people (in 2018, according to Eurostat 2019b), there are 358 homes for the elderly, 220 home care units, 119 day care centres, 100 community assistance services, 53 medical and social residential centres, 21 protected housing services, 4 respite care centres and 4 residential centres for palliative care (MMJS 2019).

The change was not as high in the share of seniors looking after children and grandchildren. The highest increase in this indicator was in North West, South Muntenia and Bucharest - Ilfov, the percentage of those aged 55 and above providing care to children and grandchildren doubled (or almost doubled in case of Bucharest - Ilfov) here over the reference period. The availability of public childcare is important for unpaid care carried out by older persons within their family and community. After 1989 children participation to pre-school education / public childcare services dropped especially among those between 0 and 2 years, the rate of attendance being of 6.7 in

⁶ The methodology for calculating indicator 2.2 care for children and grandchildren and 2.3 caring for infirmed and disabled, based on EQLS, changed between the last two waves of the survey (2011 and 2016). The original questions were modified in 2016, which affected the comparability across time. Although the indicators computed in 2011 and 2016 tap the same dimensions, the comparison should be considered with caution. The scope of indicators changed, e.g. it widened for the indicator 2.3 in 2016 and the increase reported is caused partially by this change in methodology.

2016 (Rădoi et al., 2016). The coverage is much broader for the age group 3–5 years, the national rate being of 84.1 (Rădoi et al., 2016). Thus, family supplies childcare services especially for babies and toddlers, older people being more involved in this provision.

Although caring for younger and older is widespread among seniors, data on civic and political engagement tell a different story about the life of older people in Romania. Involvement in voluntary activities, which was already low in 2011, went down in most regions, except North West and South West Oltenia. In 2016, in North East, South East and South Muntenia and West the share of those aged 55+ doing voluntary work was negligible indicating that civic engagement among seniors is almost absent there. According to the data (Table 9) political participation dropped between 2011 and 2016, too, in most of the regions. Bucharest - Ilfov and South Muntenia are the only exceptions, with the share of politically active seniors going up. The decreasing trend is reflected at national level, the national average having decreased by the end of the time period.

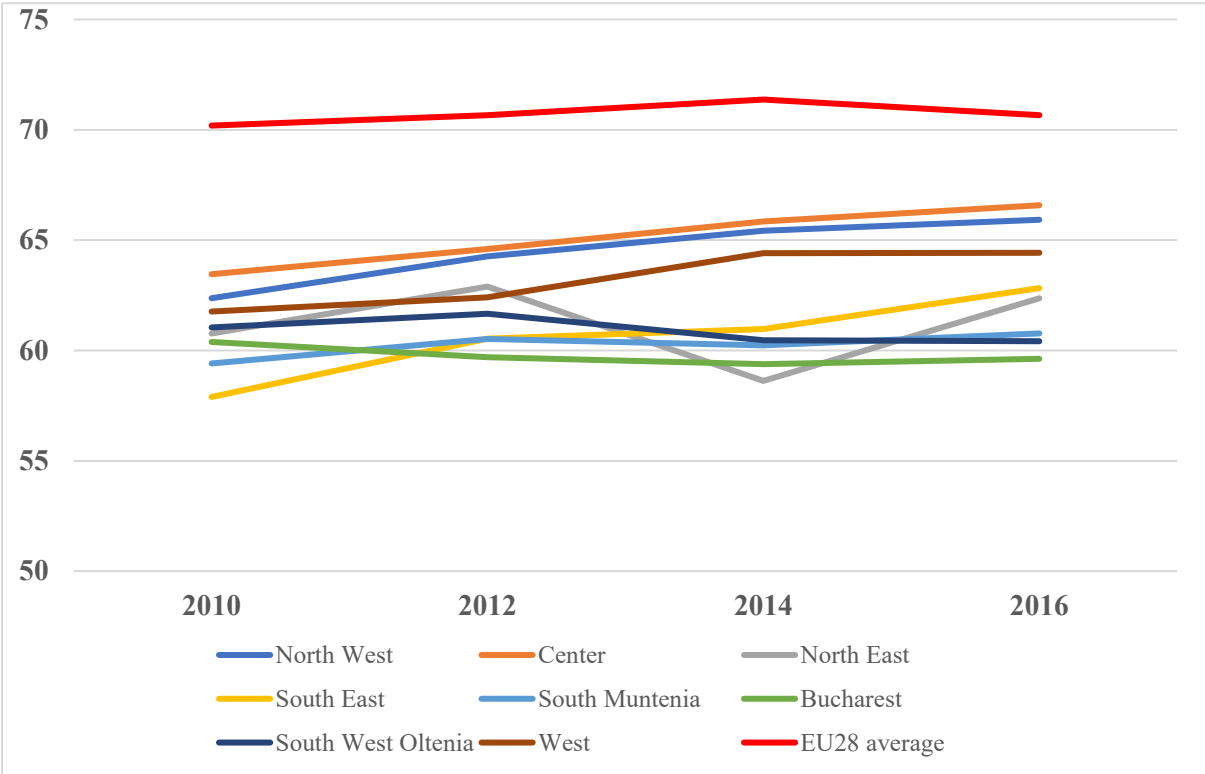
Civic and political passivity among older population in Romania was previously reported in the literature (Cutler, 2015), various factors being employed to explain the lower incidence of engagement of those aged 55+. A World Bank report from 2014 speaks of political, cultural and socio-demographic obstacles which preclude the development of civic involvement in Romania (World Bank, 2014). Due to its communist legacy, Romania lacks the culture of public engagement (Voicu, Voicu, 2003). Moreover, the lack of resources in terms of money and health among seniors impedes participation in volunteering and politics, while competing obligations of unpaid care provision pull down the propensity of older people for being active in politics (Cutler, 2015). Thus, one can say that seniors in Romania spend their time and invest their resources in supporting their families and supplying for the unmet demand for labour force. At the same time, they are not so much involved or interested in politics and the life of their local communities (Cutler, 2015).

INDEPENDENT, HEALTHY AND SECURE LIVING

Independent, healthy and secure living domain covers a wide range of activities and experiences of active ageing referring to physical exercise, unmet needs of health and dental care, independent living arrangements, relative median income, poverty risk, severe material deprivation, physical safety, and lifelong learning. The overall score of this domain points to a big gap between Romania and most of the EU member states. Romania scores the second lowest in EU in this domain (see UNECE / EC 2015 for countries ranking). These indicators are directly related to economic development and poverty, which provide a good ground for understanding cross-national and cross-regional differences. The data in Table 10 Table 7 show that, between 2010 and 2016, the score of independent, healthy and secure living domain grew to some extent in Romania, but the country did not catch up with the other EU member states.

Although the trend is positive, the range of variation was rather modest, the score of independent, healthy and secure living of seniors in Romania growing from 61 in 2010 to 64 in 2016. However, there are important differences across regions and indicators. As data in the Figure 4 indicates, Romanian regions can be divided into different groups depending on the change over time. While for Centre, West, North West and South East a positive trend can be observed, in Bucharest - Ilfov and South West Oltenia the score is going down though by less than one point. In North East and South Muntenia the values fluctuate around the mean with an about 1.5-point growth from 2010 to 2016. Centre, North West and West regions cluster together, the scores continuously going up and getting closer to the EU 28 average.

Figure 4. Independent, healthy, and secure living by region and year



However, comparisons of values and variation across indicators shed light on the propensity of Romanian seniors to lead an active life. According to Table 10, there is substantial homogeneity in size and variation of two indicators across the regions. First, all regions score the same on lifelong learning, with regional values below 1 across all years considered. Second, an important homogeneity can be observed in the indicator of physical exercise, with less than 2 per cent of Romanian seniors doing sports and exercising (except for those living in Bucharest - Ilfov and in South East). Basically, the data show that after the age of 55, Romanian population stops attending any type of formal education and rarely practice any type of physical activity. According to the EQLS 2016 data there is a significant association between age and participating in sports and physical activities, young generations having a higher score. However, in case of lifelong learning, the very low participation of old population reflects the national context, Romania having one of the lowest rates of participation in EU (Popescu, 2012).

Both, lifelong learning and physical exercises requires special services targeting older population, as well as the existence of a dedicated infrastructure. Most of the Romanian institutions of formal education target working age population, the offer being tailored for the younger groups. At the same time, the infrastructure required for physical exercise is very scarce in Romania, physical activities being rather part of the modern life style adopted by a smaller share of young population (Comşa, 2006). Therefore, the values of these two indicators could be changed by reshaping public policies and awareness raising campaigns, but significant investment in infrastructure is also needed.

The objective indicators of poverty, relative media income and risk of poverty, point out that the share of the 55+ exposed to risk of poverty is the highest in the poorest regions. One should mention that the risk of poverty is much higher among Romanian seniors as compared to the EU average (MMJS, 2018). More than 13 per cent of senior population living in North East, South West Oltenia and South East is exposed to the risk of poverty, according to the data in Table 10. Moreover, the share of those in no risk of poverty went down by 3 percentage points between 2010 and 2016 for those residing in South West Oltenia and South East and, the over-time change is rather limited in the rest of the regions.

However, the material deprivation component tells a different story about the resources available to the seniors living in Romania. The share of households reporting severe material deprivation is higher than of those at risk of poverty, but there are significant differences across the regions. The highest severe material deprivation in 2010 is reported for South East, where only 55 per cent of population over 55 years old report no severe deprivation, followed by South East and Bucharest - Ilfov. In Centre, West, and North West the share of those reporting no deprivation varied from 78 per cent to 81 per cent in 2010. The share of those reporting no material deprivation went down by 2016 in all regions, but the speed of change was different. The highest change is noticed in North East where the percentage of seniors who are not in the situation of severe material deprivation increased to 79.5 percentage points in 2016. The pace of change was slower in the better-off regions, where the increase over the period of interest was of 3 percentage points in West and of 8 percentage points in Centre.

Bucharest - Ilfov is a special case in what concerns the level of poverty and material deprivation. Although the risk of poverty among older people was here the lowest in Romania, less than 1 per cent of the seniors being at risk of poverty in 2010 and 4 per cent in 2016, the reported material deprivation was among the highest, while the relative median income is the lowest. Bucharest - Ilfov was right after the poorest regions in the country, North East and South East in 2010, while in 2016 the level of material deprivation was the highest in Romania (see Table 10).

The national average share of those reporting no unmet needs of medical and dental care in 2016 was of 80.4 per cent increasing significantly from 69.1 in 2010. The rise is quite homogenous across regions, the highest increased observed in South East, North East and Bucharest - Ilfov where the share of those reporting no unmet needs grew by 15.4, 13.2 and 13 percentage points respectively. Although the gap across regions diminished, four regions

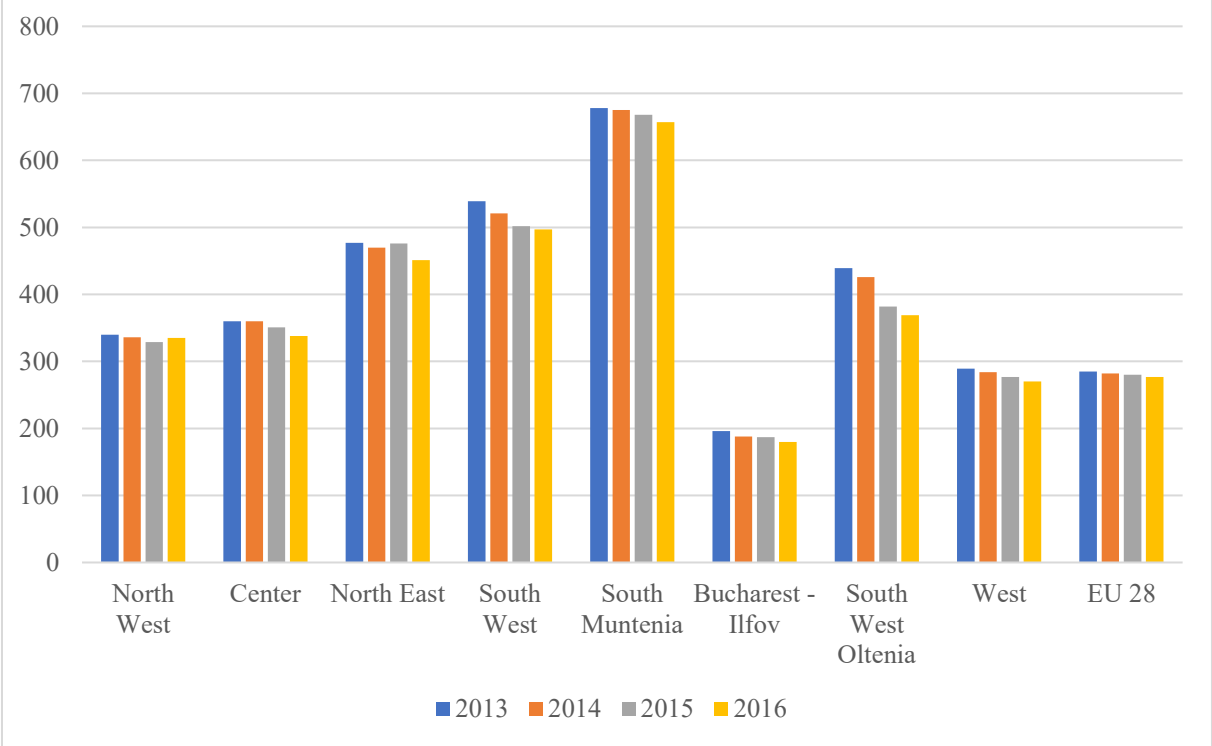
Table 10. Indicators of independent, healthy, and secure living by region and year

	3.1 Physical exercise	3.2 No unmet needs of health and dental care	3.3 Independent living arrangements	3.4 Relative median income	3.5 No poverty risk	3.6 No severe material deprivation	3.7 Physical safety	3.8 Lifelong learning
2010								
North West	2.2	70.0	62.6	100	91.7	78.4	86.2	0.0
Centre	2.7	79.4	74.4	87	89.5	81.5	66.4	0.0
North East	0.9	60.9	83.3	93	87.9	55.7	81.8	0.0
South East	0.6	60.5	66.3	100	87.7	60.4	76.4	0.0
South Muntenia	0.0	66.5	61.2	97	91.4	67.2	83.0	0.1
Bucharest - Ilfov	5.9	63.3	71.7	97	99.6	62.0	69.5	0.0
South West Oltenia	0.0	75.0	63.5	100	85.9	64.6	83.0	0.0
West	1.2	77.4	61.8	100	89.8	79.6	68.6	0.0
<i>Romania</i>	<i>1.7</i>	<i>69.1</i>	<i>68.1</i>	<i>97</i>	<i>90.4</i>	<i>68.7</i>	<i>76.9</i>	<i>0.0</i>
2012								
North West	2.2	72.1	67.2	100	95.8	80.0	86.2	0.0
Centre	2.7	76.1	77.4	98	92.1	80.1	66.4	0.1
North East	0.9	63.8	81.0	100	90.5	65.9	81.8	0.4
South East	0.6	64.8	69.7	100	91.6	67.6	76.4	0.1
South Muntenia	0.0	69.6	61.9	100	91.3	68.0	83.0	0.1
Bucharest - Ilfov	5.9	63.4	66.7	94	98.8	68.6	69.5	0.1
South West Oltenia	0.0	73.7	66.0	100	86.8	67.4	83.0	0.0
West	1.2	81.9	58.6	100	92.0	81.2	68.6	0.0
<i>Romania</i>	<i>1.7</i>	<i>70.7</i>	<i>68.5</i>	<i>99</i>	<i>92.4</i>	<i>72.3</i>	<i>76.9</i>	<i>0.1</i>

	3.1 Physical exercise	3.2 No unmet needs of health and dental care	3.3 Independent living arrangements	3.4 Relative median income	3.5 No poverty risk	3.6 No severe material deprivation	3.7 Physical safety	3.8 Lifelong learning
2014								
North West	1.8	72.7	71.7	100	95.5	82.4	85.8	0.0
Centre	1.5	82.2	67.4	100	95.1	81.0	81.4	0.1
North East	0.0	62.6	81.0	100	82.7	72.7	43.2	0.5
South East	3.7	63.7	78.4	100	88.3	65.7	67.7	0.2
South Muntenia	0.5	66.7	64.4	100	90.2	66.5	82.5	0.6
Bucharest - Ilfov	6.1	65.7	73.5	83	96.3	66.8	63.3	0.0
South West Oltenia	0.0	76.3	66.6	97	87.5	73.7	60.6	0.0
West	0.0	84.7	67.3	100	96.3	85.1	58.5	0.1
<i>Romania</i>	<i>1.7</i>	<i>71.8</i>	<i>71.3</i>	<i>97.5</i>	<i>91.5</i>	<i>74.2</i>	<i>67.9</i>	<i>0.2</i>
2016								
North West	1.8	81.6	64.6	100	94.7	84.3	85.8	0.2
Centre	1.5	89.9	63.1	98	91.3	87.5	81.4	0.1
North East	0.0	74.1	82.9	100	87.0	79.3	43.2	0.1
South East	3.7	75.9	72.7	100	84.6	75.0	67.7	0.0
South Muntenia	0.5	71.2	60.4	100	89.6	71.8	82.5	0.2
Bucharest - Ilfov	6.1	76.3	61.5	86	95.9	69.5	63.3	0.1
South West Oltenia	0.0	84.5	63.9	93	83.0	70.9	60.6	0.0
West	0.0	89.5	67.8	100	87.1	83.9	58.5	0.1
<i>Romania</i>	<i>1.7</i>	<i>80.4</i>	<i>67.1</i>	<i>97</i>	<i>89.1</i>	<i>77.8</i>	<i>67.9</i>	<i>0.1</i>

still lag behind, South Muntenia, along with the three just mentioned regions with the highest increase over time, having up to 28 per cent of seniors with unmet health and dental care needs. The seniors residing in Bucharest - Ilfov are among the ones reporting the highest share of older population with unmet needs, although the number of patients per doctor is the lowest in the country (see Figure 5).

Figure 5. Inhabitants per medical doctor by regions in Romania and EU28 (2013 to 2016)



Source: Eurostat 2019k

Because subjective and objective indicators of poverty and access to healthcare services tell a different story regarding the quality of life of elderly living in Bucharest – Ilfov, further research is needed. Future studies should find out why elderly living in Bucharest report higher level of deprivation although objective indicators point out in a different direction.

Independent living arrangements are uneven across regions, too. The highest percentage of senior population living in single or couple households is reported for North East, where there are more than 80 per cent of such seniors. This share remains constant over the observed period. At the same time, the lowest proportion of older persons living independently in 2010 was in South Muntenia, North West and West (Table 10). Except for South Muntenia, where the percentage remains at around 60, independent living arrangements became more frequent among seniors living in South East and West. The trend reported for Bucharest - Ilfov and Centre goes in the opposite direction, with the indicator decreasing from 71.7 per cent in 2010 to 61.5 per cent in 2016 in the first case and from 74.4 in 2010 to 63.1 in 2016 in the second one.

The high variability in the size and trend across regions shows that even if there are centrally coordinated policies to shape the living arrangements of seniors (such as living in independent

households but receiving care services from social service, local community or healthcare staff), they are insufficient. These arrangements depend on factors such as proximity of family members, housing stock, technology and level of disability. One should mention that North East is the poorest region, having the highest emigration rate in the beginning of post-communist transition and the largest population of older persons living alone. This last fact is not the outcome of capabilities for living independently, but most likely relates to the migration abroad of the younger family members, who, according to the traditional family pattern, are normally the ones looking after the older relatives. Furthermore, Romania's system of social services is tailored to provide more income benefits than in-kind support, lacking especially care services for supporting independent living (Pop, L., 2018).

Physical safety dropped significantly between 2010 and 2016, the percentage of the seniors declaring feeling safe in their neighbourhood at night going down at national level from 76,9 to 67,9. However, the change was uneven and as it is the variation across regions. The highest level of physical safety is reported by seniors living in North West, South Muntenia and Centre. At the opposite end stand North East, West, and South West Oltenia, where the share of those feeling safe was in 2016 below 61 per cent. The most spectacular decrease of 35 percentage points can be observed in North East.

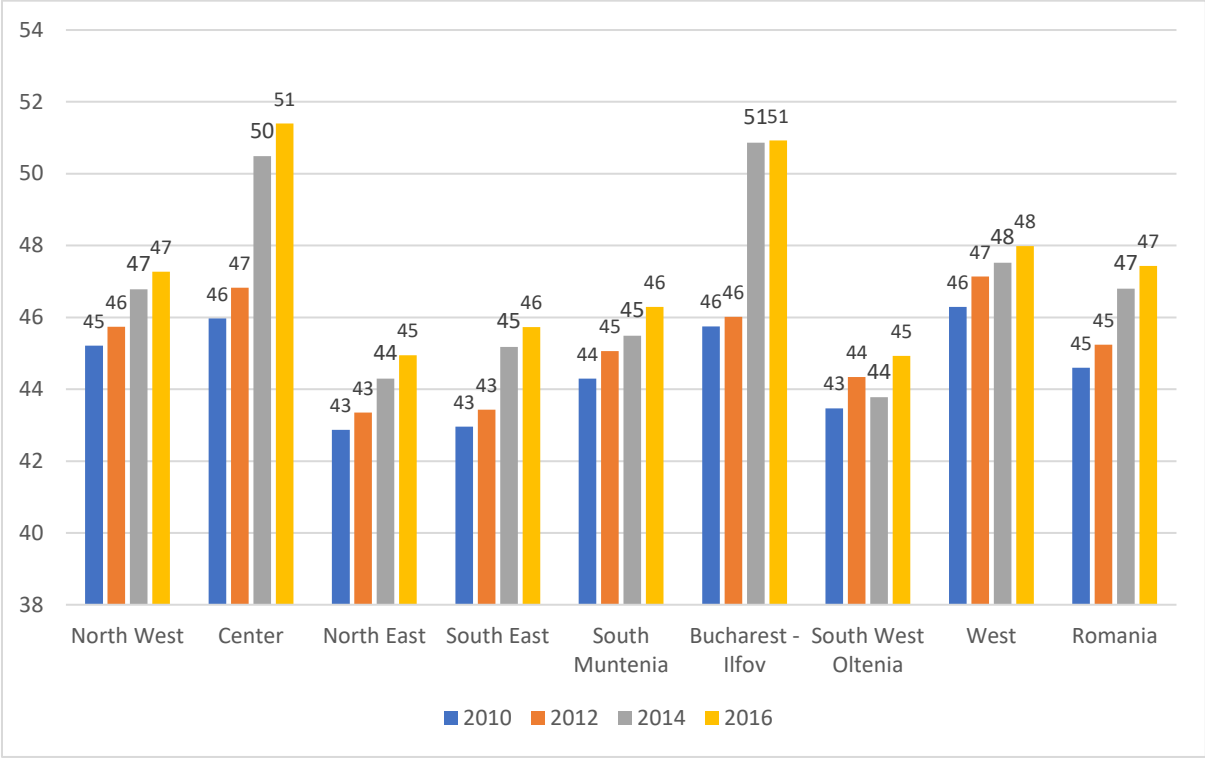
CAPACITY AND ENABLING ENVIRONMENT FOR ACTIVE AGEING

Like the previously described AAI domains, the capacity and enabling environment for active ageing score varies across regions and in time. At the national level, there has been only a small positive change since 2010, of almost 3 points (Figure 6). While positive changes with the same magnitude can be seen in most regions, two regions (Bucharest - Ilfov and Centre) saw an improvement of around 5 points from 2010 to 2016, reaching the highest value across regions — 51. At the same time, North East and South West Oltenia regions have lowest scores in this domain, followed by South East and South Muntenia. In 2016, these regions merely reached the level attained by the other regions in 2010 or earlier.

The increase of the capacity for active ageing at the national level is a reflection of the progress registered by most of the indicators of this domain. The speed of change, however, varies. The most rapid change happened in the case of educational attainment and mental well-being of seniors. The speed of change was also high in the case of the frequent use of ICT by people aged 55–74, but the value remains very low (about 10 points) compared with the EU average (54 points). In 2016, Romania had the lowest percentage of seniors who used ICT at least once a week among the EU countries. At the same time, the remaining life expectancy achievement of 50 years at the age of 55 increased, but the share of healthy life years in the remaining life expectancy at the age of 55 had a slight decrease in the analysed time span. Social networks are known for their potential to support active ageing (Annear et al., 2014), but the data available for Romania allowed only for the evaluation of social connectedness in one point in time (see Appendix 2), which makes it impossible to follow its evolution in the period of

reference. The value offered by EU-SILC 2015 points to a rather weak support network for older persons, similarly to situations in other Central and Eastern European countries. This has negative implications for feelings of loneliness and general mental well-being, as well as on opportunities for being active and participating in society.

Figure 6. Change in the capacity and enabling environment for active ageing over time by region



The positive trend that is identified at the national level in the evolution of most indicators of this domain is generally reflected at the NUTS 2 level (Table 11). Remaining life expectancy (RLE) achievement of 50 years at the age of 55 saw a small increase of around 2 percentage points at country level, with minor variations across regions. However, in some regions, like Bucharest - Ilfov, the small progress accompanies a relatively high achievement (the proportion of life expectancy achievement in the target of 105 years of life expectancy is 49 per cent in 2016). In other regions, however, the small increase led to a comparatively lower achievement. For instance, in Bucharest - Ilfov, this indicator was higher in 2010 (starting point) than the value reached in 2016 in North East (47.8) and South East (47.4) regions.

The most rapid pace of development at the national level was achieved in education, the educational attainment indicator increasing by around 10 percentage points in the six-year period covered. The highest increase can be seen in the South Muntenia region. However, even if in 2016 the reported value was more than 15 points higher than in 2010, the educational attainment remains low in this region, with 55.7 per cent of seniors aged 55–74 having upper secondary or tertiary education. Bucharest - Ilfov reports the highest share of older people with at least upper secondary education for all four points in time, but it registered the weakest

improvement over this period, of 4 points, from 71 per cent to 75 per cent. As expected, these values confirm that the region which includes the capital city Bucharest has long been a pole of attraction for highly-skilled people, often at the expense of surrounding regions. At the same time, it concentrates about a third of the universities⁷ and thus it also produces highly skilled people. The educational attainment among the older population is low and unchanging. As long as the propensity for lifelong learning in Romania is low, its variations over time reflects rather the growth in level of education among the generation born and educated after the World War II, when the level of education went up (Zamfir, 2018).

Despite the increase in life expectancy achievement, the healthy life expectancy generally did not follow the trend. The share of healthy years in the remaining life expectancy at 55 is the only exception to the general positive trend of the indicators of capacity for active ageing. At the national level, it registered a slight decrease of 0.6 points⁸ over the period 2010–2016. The highest decline was registered in the South West Oltenia, while the neighbouring West region is the only one where the healthy life expectancy saw a small increase (0.4 points). Against the expectation that more developed regions would benefit from a higher share of healthy life years in the remaining life expectancy, the findings are conflicting. In 2016, the indicator reached the highest and smallest values in top three most developed regions in terms of their GDP per capita. On the one hand, in the West, one of the most developed regions, it reached the highest value in the country, 54.4 per cent. On the other hand, in Bucharest - Ilfov and the Centre region, this share has the smallest values in the country. However, the indicator of relative median income (please see the section on Independent, healthy and secure living for more details) suggests that Bucharest - Ilfov has also a high inequality in the level of income between those aged 65 and more and those younger than 65 years old, in favour of the latter. Alongside development, inequality has also been found to influence subjective health (Pirani and Salvini, 2012).

Another matter to consider when interpreting this indicator is that the subjective evaluation of health is pivotal in its construction and thus it is dependent on factors which influence this type of self-assessment. Analysing in greater detail the results of EQLS 2016 in Romania, Pop (2018) shows that the evaluation of health condition depends of socio-demographic characteristics of the individual. Furthermore, regional discrepancies in health infrastructure lead to unequal access to health-care services across regions (ibid). Also, as discussed in the section on Independent, healthy and secure living, older persons in more developed regions report more often unmet medical needs and one reason might be their increased expectations regarding their state of health and interactions with the medical sector. Finally, methodological considerations related to the use of the EQLS data for NUTS 2 regions are applicable here and the results must be interpreted with care (see Appendix 2).

⁷ Own computation based on data from the National Ministry of Education on public and private accredited universities in 2018 (MEN 2018). The Universities with temporary accreditation were not considered.

⁸ Given the methodological limitations in the construction of the healthy life years indicator, the decrease is very likely not significant.

The West region is also the one in which social connectedness of those aged 55 and above is the highest, followed by North West and Centre. These are regions with high ethnic and religious diversity, which are known to foster social capital (Sandu, 2011). At the same time, older people living in Bucharest - Ilfov are the least socially connected, larger cities offering more opportunities for leisure activities and technology mediated interactions, and fewer opportunities for meeting with family compared to small cities and rural areas. Social connectedness, especially when measured by direct personal contact, is linked to the health state of the older people, and perceptions of poor health (which are higher in Bucharest - Ilfov region) could discourage people from being socially engaged.

The indicator which measures the subjective evaluation of mental well-being of seniors saw the most heterogeneous evolution across regions. While in Bucharest - Ilfov and the Centre region the indicator increased by respectively 24 and 23.1 points, in South West Oltenia it experienced a decrease of almost 5 points. Looking at the national level, the evaluation of mental well-being improved by 7.5 points, from 47.1 in 2010 to 54.6 in 2016. It is worth noting that the regions with the best self-assessment of mental well-being in 2016 were also the regions with the highest life expectancy achievement, Bucharest - Ilfov and Centre, and among the most developed regions when considering GDP per capita. As opposed, the regions where seniors evaluate their mental well-being as being weak are also the poorest regions, South West Oltenia and North East.

The value of the indicator measuring the proportion of people aged 55–74 using the Internet weekly varies from one region to another, but it does not exceed 15.5 per cent, the maximum value reported for Bucharest - Ilfov. The regions which fare lowest from this point of view are West (7.1 per cent) and South East (8.8 per cent). At the national level, the share of older people who use ICT increased from 4 per cent to around 10 per cent between 2010 and 2016. Five regions saw more modest improvements, with the weakest increase being observed in South East (3.7 points), but in the Centre, South West Oltenia and Bucharest - Ilfov regions, the positive change was above the national average, between 8.1 and 9.8 points.

The small interest shown by the population aged 55 to 74 in the use of the Internet is at once a problem and an opportunity. It is problematic on several accounts. Firstly, in many cases, older people do not have access to the Internet due to the lack of infrastructure or due to their low interest for the Internet. For example, in 2016, around 21 per cent of households where the head of household was 75 or more years old had access to the Internet at home (NIS, ICT Survey). Secondly, on the backdrop of the low involvement of older people in lifelong learning, many of them lack the skills to use ICT. In 2016, 62 per cent of individuals of the age 55–74 had never used the Internet (Eurostat 2019g). While this share is decreasing (it reached 46 per cent in 2018), more opportunities for older people to acquire such skills would accelerate the change. Moreover, while the use of the Internet goes generally in the opposite direction with age, the diversity of the senior population invites targeted interventions depending on other socio-demographics, household composition and motivations for not being online (Dascălu et al., 2018; van Deursen and Helsper, 2015).

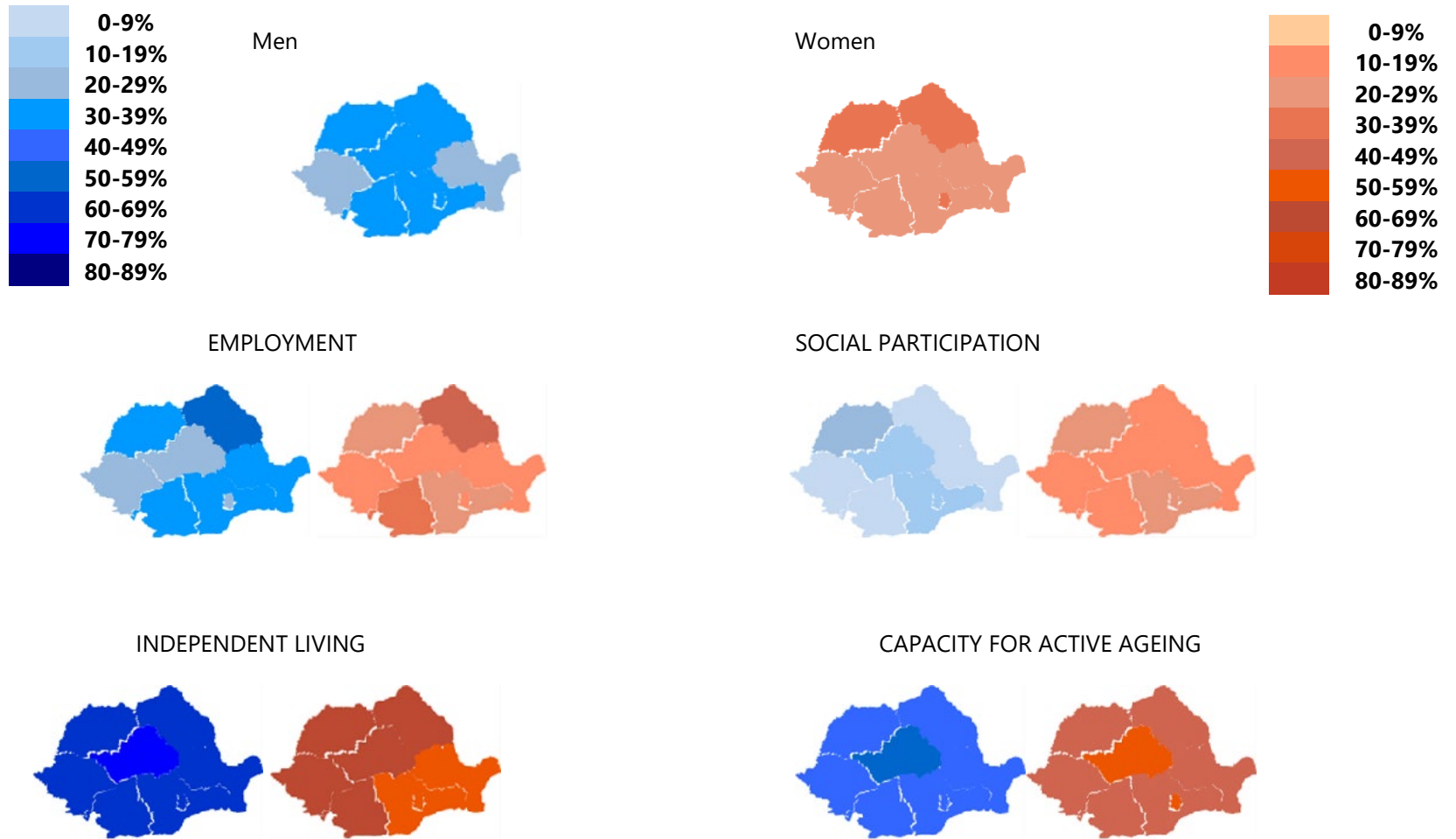
Table 11. Capacity and enabling environment for active ageing score by indicators in Romania and its NUTS 2 regions between 2010 and 2016

	4.1 RLE achievement of 50 years at age 55	4.2 Share of healthy life years in the RLE at age 55	4.3 Mental well-being	4.4 Use of ICT	4.5 Social connectedness	4.6 Educational attainment
2010						
Nord Vest	45.4	53.9	48.6	4.6	45.8	45.0
Centru	46.8	53.3	50.8	3.5	42.1	54.2
Nord Est	46.4	53.6	41.8	4.4	35.1	44.5
Sud_Est	46.0	53.7	44.3	5.1	33.9	42.7
Sud Muntenia	45.8	53.7	50.6	3.6	38.7	40.2
Bucuresti	48.0	53.2	50.1	5.7	29.1	71.1
Sud Vest Oltenia	45.6	54.3	42.1	2.1	41.1	44.5
Vest	44.8	54.0	48.6	2.9	53.4	50.4
<i>Romania</i>	46.1	53.7	47.1	4.0	39.9	49.1
2012						
Nord Vest	46.4	53.6	48.6	5.5	45.8	48.1
Centru	48.0	53.8	50.8	5.5	42.1	57.5
Nord Est	47.4	53.4	41.8	6.3	35.1	45.4
Sud_Est	46.8	53.4	44.3	6.5	33.9	45.4
Sud Muntenia	47.0	53.3	50.6	5.7	38.7	45.0
Bucuresti	48.0	53.1	50.1	7.1	29.1	74.0
Sud Vest Oltenia	47.0	54.0	42.1	5.4	41.1	48.5
Vest	46.2	53.6	48.6	6.1	53.4	54.1
<i>Romania</i>	47.1	53.5	47.1	6.0	39.9	52.2

	4.1 RLE achievement of 50 years at age 55	4.2 Share of healthy life years in the RLE at age 55	4.3 Mental well-being	4.4 Use of ICT	4.5 Social connectedness	4.6 Educational attainment
2014						
Nord Vest	47.2	53.2	51.3	8.2	45.8	51.5
Centru	48.6	52.6	73.9	6.2	42.1	55.2
Nord Est	47.8	52.9	46.6	6.6	35.1	47.0
Sud_Est	47.4	53.1	53.7	6.2	33.9	46.6
Sud Muntenia	47.8	53.0	51.3	5.6	38.7	46.6
Bucuresti	49.4	52.7	74.1	14.4	29.1	73.5
Sud Vest Oltenia	47.2	53.6	37.3	7.5	41.1	50.2
Vest	46.8	53.3	49.0	14.4	53.4	48.6
<i>Romania</i>	47.8	53.1	54.6	8.6	39.9	52.4
2016						
Nord Vest	47.6	53.1	51.3	9.0	45.8	56.7
Centru	48.8	52.8	73.9	11.5	42.1	61.7
Nord Est	47.8	52.8	46.6	10.4	35.1	53.2
Sud_Est	47.4	53.0	53.7	8.8	33.9	52.7
Sud Muntenia	47.8	52.9	51.3	9.0	38.7	55.7
Bucuresti	49.0	52.8	74.1	15.5	29.1	75.2
Sud Vest Oltenia	48.6	53.1	37.3	10.7	41.1	58.8
Vest	46.8	54.4	49.0	7.1	53.4	59.2
<i>Romania</i>	48.0	53.1	54.6	10.2	39.9	59.1

AAI and its components by gender in 2016

OVERALL AAI

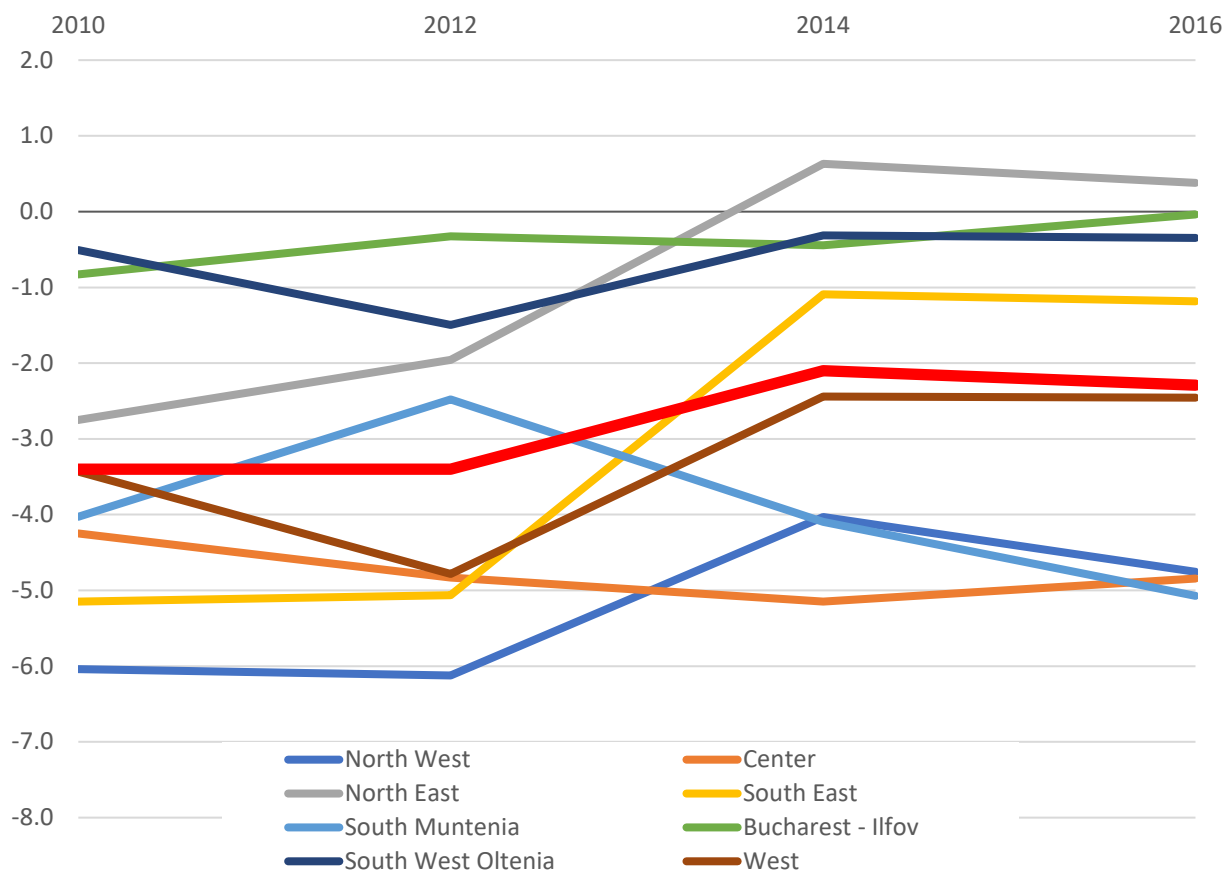


GENDER DISPARITIES

There are substantial differences in active engagement with society between men and women. The Active Ageing Index reflects seniors' engagement with society, inside and outside their own households. Part of the activities covered by AAI refers to engagement with public sphere which according to the traditional model "male bread winner — woman home maker" belongs to men (Pfau-Effinger, 2004). In Romania, as well as in the majority of EU countries, AAI has higher values among men, but the gender gap — which is the difference between the AAI value for women and that for men — is above the average of EU 28 in 2016 (3.1 for EU 28 and 3.5 for Romania). However, there are important differences among regions and AAI domains.

North West region had the highest gender gap in all the years, except for 2014 when the gap is the second highest, as Figure 7 points out. At the opposite end, the gender gap in Bucharest - Ilfov was closer to zero, meaning that women and men are equally engaged with society later in life. The national average narrowed over the observed period, but the pace of change was uneven across regions. The most spectacular trends are noticed in South East and North East, the variation being of more than 3 points in six years. In 2014 and 2016 the overall gender gap in AAI was slightly positive in North East. The gender gap grew higher by 1 point in South Muntenia.

Figure 7. Gender gap in AAI overall by regions and year



When we break down AAI into its domains and indicators, the picture is quite diverse. Gender gap was higher than 9 points (in favour of men) in case of employment in 2010 and 2016, across all regions excepting South West Oltenia, where it varies from -4 to -6. The national average was -10 in 2010 and -11 in 2016. In West, South East and North West, gender gap in employment widened, increasing it also for the country overall, pointing to a higher engagement of men in the labour market. The gap in employment is the highest among the age group 55–59, reflecting the gender gap among people of working age (see Table A7 in Appendix) and it goes down with age, employment rate being almost equal among women and men from 70 to 74 years old. This is the outcome of disengagement with work life among men, after retirement, the exits from the labour market balancing the difference between the two genders. However, in North East, South East and South Muntenia the gender gaps are still above the national average for the age group 70–74. One should mention that employment rate is very high among older old in these regions which perpetuates the gap in employment.

The national average of gender gap in social participation is positive, pointing out a higher engagement with social life among women, who are more involved in social life than in labour market. Even so, one should consider that the level of social participation among population aged 55 and above in Romania is far below the European average, as discussed previously and the relative advantage of women over men is not so big. The participation is uneven across regions and indicators, women being more engaged in caring for children, grandchildren and infirm or disabled adults than in political life (see Table A8 in Appendix). Although the gender gap in voluntary activities is positive at national level, as well as in most of the regions, civic engagement is rather low in Romania and the actual share of women who did voluntary work is rather low. Moreover, the gender gap in political participation is negative in 2011 and in 2016, but the regional disparities are very high. Thus, in 2016 the gap ranges from -19 in Bucharest - Ilfov to +15 in South Muntenia.

Gender gap in independent living shows that men conduct a more independent and active life after the age of 55. This is true across regions and for all years covered by this analysis. Although the differences between men and women are marginal with respect to physical exercise and lifelong learning, the data in Table A9 (see Appendix) show that older women in Romania are more affected by poverty and unable to conduct an independent life, most likely because of insufficient income. The three indicators connected to poverty and social exclusion — relative median income, no poverty risk and no severe material deprivation — point to a feminisation of poverty in later life. This reflects their employment history, women being less engaged in full-time employment during their working years, especially in rural areas. Moreover, in Centre and South East the gap in independent living grew bigger in 2016, as compared to 2010 (see Figure 9).

The average gender gap in capacity for active ageing is close to zero as shown in Figure 9. In several regions the gap was positive in 2016 (see Table 10 in the Appendix). This is the case of Bucharest - Ilfov, North East, Centre and North West. Women have a considerably longer

remaining life expectancy at the age of 55 but lower share of the healthy life years as compared to men. Women score better on social connectedness, however, they score substantially lower than men in mental well-being and educational attainment, which point out the gender gap in education decades ago.

Figure 8. Gender gap in employment and social participation by region in 2010 and 2016

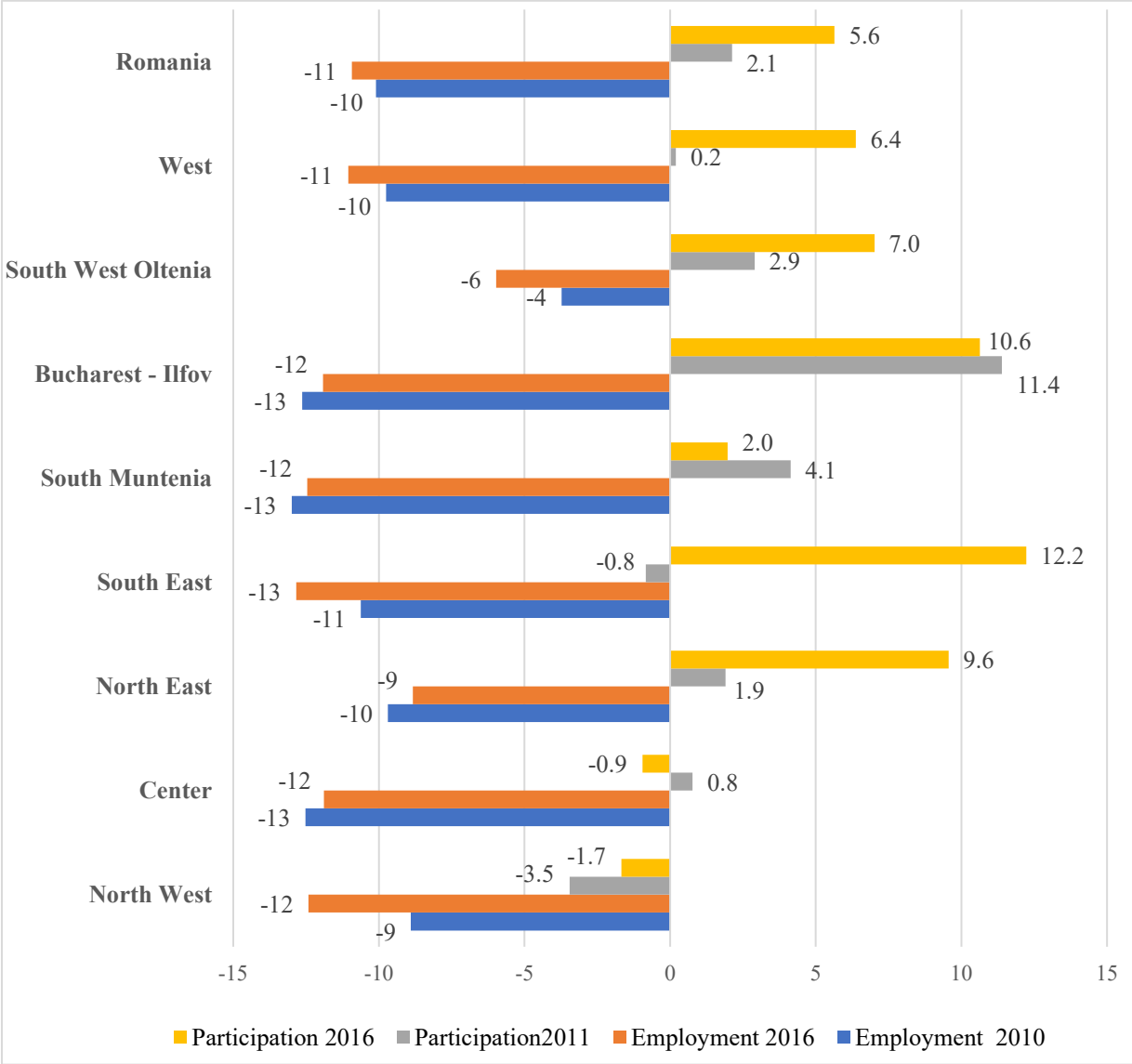
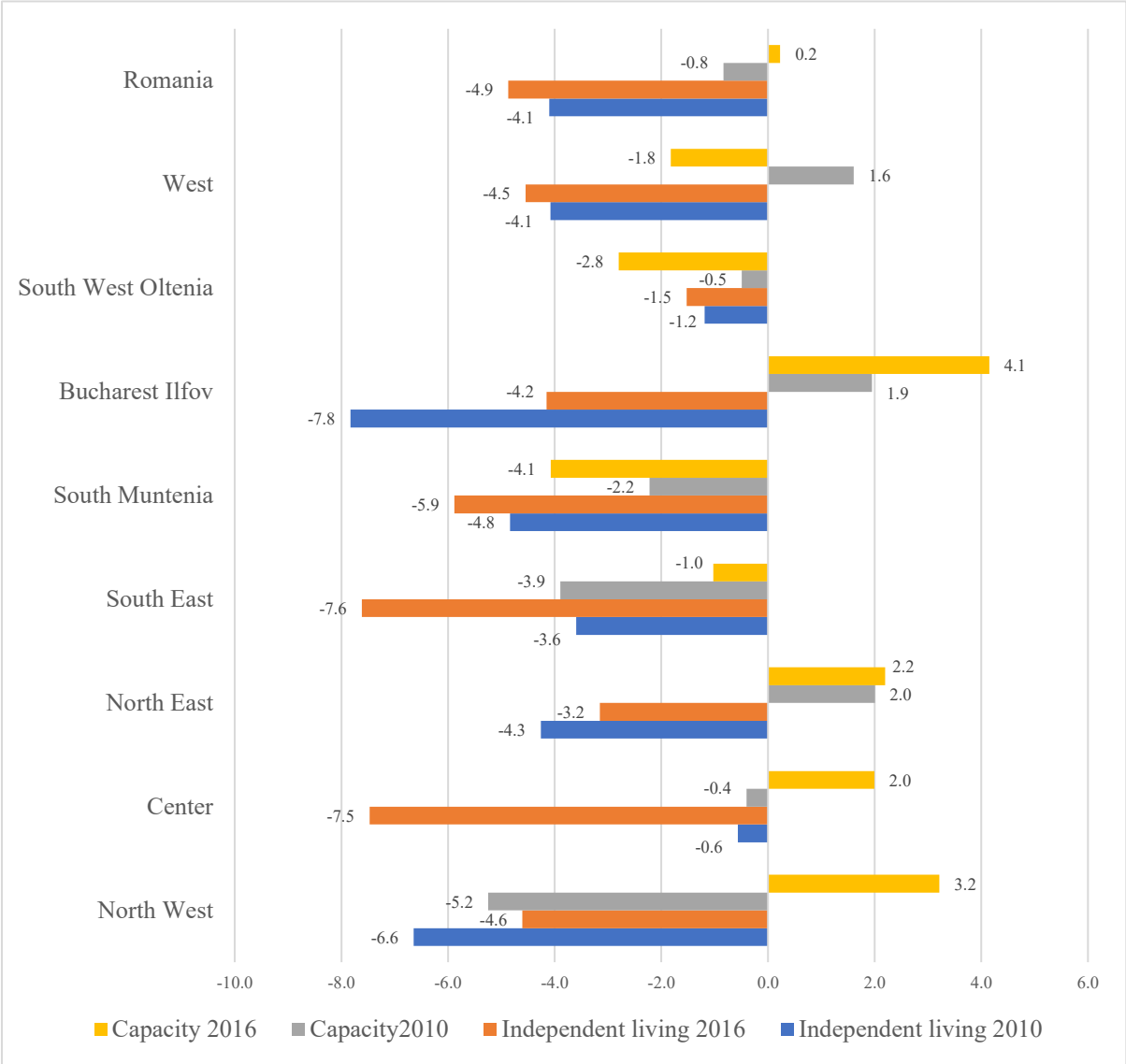


Figure 9. Gender gap in Independent living and Capacity for active ageing by region in 2010 and 2016



CONCLUDING REMARKS

Several policy recommendations can be developed based on the results of this report. Economic growth has an important impact on several dimensions of active ageing. It helps increase the standard of living, reduce the poverty and material deprivation and push up the general capabilities for active ageing. However, the relationship between economic growth and active ageing is not a linear one. An increase of income from various sources seems to lead in first instance to a disengagement with labour market in what are historically and economically considered/proved to be poorer regions. Further studies are needed to determine the turning point where additional income may lead to a higher participation in the labour market, increased social participation and independent living in dignity and good conditions.

However, several country-specific factors should be considered in order to develop and use the capacities of senior population in Romania. Emigration is one of the core components influencing population structure and its impact is different across regions. Although emigration brought remittances which led to economic growth of the poorest regions, reducing the poverty among seniors, it led also to a shortage of working age labour force, putting additional pressure on older population to get involved in paid employment. Moreover, emigration leads to an increased need for care for children left behind, which should be addressed by policies tailored to address the effect of emigration on older people and on their active engagement with life. The relationship between emigration, local labour market and active ageing should be further investigated to build policies which consider the connection among the three factors.

In Romania, the family is considered to be main provider of care for children, grandchildren and older persons. After 1990 the system of public childcare was restructured (Zamfir, 1997), the number of public childcare facilities went down by 59 per cent from 1992 to 2010 (MDRAP, 2013, p. 74). Moreover, the public care provision for older population and people with disabilities does not cover all needs of care (Pop, L., 2018). In this context, family is in charge of providing care services, which competes with the engagement of the family members in activities outside their own households. This may lead to a reduced propensity for being involved in political life, voluntary work, physical exercise, or lifelong learning. Moreover, one should also consider the feminisation of care work, women being more involved in providing care for family members. Therefore, policy measures aimed at raising the level of participation in society among seniors in Romania should consider increasing the provision of public and private care services and further support for families having members in need of care. Particular attention and resources should be directed to the share of the population of 85 years or more who are more likely to be in need of dedicated medical and/or social care (MMSJ, 2018).

Regional differences should be considered when designing social policies for active engagement of seniors with society. NUTS 2 regions in Romania score below the EU28 average in most of AAI dimensions but this can be changed with adequate policies. The variation across

regions is uneven, reflecting local particularities. This report provides an overview of the differences across regions in Romania in terms of active engagement with life among seniors and the capacities needed for it. Regional programmes should address local factors that impede active ageing and should make use of local economic, human and social capital existing in different regions.

Starting from the existing legislation and the policy measures proposed by other reports targeting active ageing in Romania,⁹ several policy recommendations can be developed based on the outcomes of this report.

General recommendations

- a. Promoting positive public image of old age by public awareness campaigns.
- b. Public debate regarding active ageing involving various actors (MMJS, researchers, associations of pensioners, NGOs, local administration, practitioners working with older people, churches) to identify the needs of seniors, resources available, and to initiate common programmes.
- c. Regional workshops to inform about the regional disparities in AAI in Romania and to find solutions adapted to the needs of each region.
- d. Further investigation of rural/urban disparities in AAI and its domains and finding patterns of variation that can be used to build sustainable public policies.

Domain-specific recommendations

1. Employment

- **Objective:** *To increase the potential for employment of the 55+ population in jobs which are suitable for older adults, depending on their qualifications and physical condition.*
- **Policy proposals:**
 - Motivate employers to invest more in a healthy work environment and to maintain the health state of employees for longer;
 - Encourage employers to keep older employees longer in employment by offering fiscal advantages — e.g., eliminating certain payroll-related taxes such as those for unemployment and maternity;
 - Encourage employers to create age-friendly working spaces and to promote flexible work schedule for senior employees, to help them to combine formal employment with other activities, e.g. learning new skills or provision of care or to adjust to their health needs;
 - Elaborate policies targeted at specific groups of older people, which consider employment history, age, gender, disability and residence, and provide specific counselling and access to services shaped to fit the needs and resources of each group.

⁹ See World Bank (2014)

2. Social participation

- **Objective:** *To increase civic and political participation among the 55+ population; to foster intergenerational collaboration through volunteering.*

- **Policy proposals:**
 - Establishing Integrated Community Centres, as joint initiative of public authorities, local authorities, NGOs and local communities aiming to provide services to older people, to support them in living an independent life and using their capabilities to the benefit of the local community. The Integrated Community Centres should provide counselling, disseminate relevant information for older people and support the establishment of long-term care services
 - Use the aforementioned Integrated Community Centres to promote volunteering in general and for older people in particular;
 - Involve older people in the decision-making process regarding their living conditions by frequent consultation between the Ministry of Work and Social Justice and the NGOs representing older people;
 - Tackle the different obstacles which prevent older persons from volunteering (economic situation, infrastructure etc.);
 - Stimulate volunteering by offering grants / other facilities for NGOs who organise volunteering opportunities for population aged 65+ and joint volunteering opportunities for youth and older people;
 - Involve "younger old" in care activities for the "older old".

3. Independent, healthy and secure living

Objective: *To assist older people with information, opportunities and practical support to be independent for longer.*

- **Policy proposals:**
 - Provide lifelong learning opportunities for adults over the age of 55 within the Integrated Community Services, based on the assessment of the centres already existing in some areas;
 - Offer financial incentives and counselling on suitable opportunities for older people to get new qualifications;
 - Combine care services at the hospital with those within the community, at home and self-care;
 - Encourage tighter collaboration between family doctors and local social work departments to support older people to lead healthy and independent lives;
 - Encourage physical activity among the older people and set up appropriate facilities across regions;
 - Invest in raising awareness campaigns regarding the role of lifelong learning and physical activity in active ageing;

- Invest in raising awareness campaigns regarding the risks of abuse of older persons in general (physical, psychological, financial etc.) and how to protect oneself in such cases;
- Initiating community initiative similar to neighbourhood watch to prevent assaults against senior population and to protect them in case they are the target of such behaviours;
- Initiating emergency hotlines providing support to older people who have become targets of physical assault, or any type of abuse (psychological, economical etc.);
- Provide allowances to older persons who look after their family members, as alternative to using public care facilities;
- Investing into reconciliation of care provision and work life, by combining various measures aiming to promote equal share of care work between women and men, to provide access to flexible working arrangements for those looking after family members in need of long-term care, to provide them with financial incentive and to consider time spent on care provision into the calculation of pension benefits.

4. Capacity and Enabling Environment for Active Ageing

Objective: *To improve the (healthy) life expectancy, so that the older population is in a good health state for longer.*

- **Policy proposals:**

- Set up programmes for prevention and early detection of diseases, discourage consumption of alcohol and tobacco, promote healthy eating and physical exercise;
- Establish telecentres, especially in the remote areas, to help seniors to become familiar with ICT and to start using it in their daily life;
- Use the Integrated Community Centres mentioned in the previous sets of recommendations as unique access points for integrated services at local level for the older people. They can be used for dissemination of information, medical and juridical assistance etc. and make at least part of the services available by phone;
- Initiate telemedicine programmes in remote villages without full time access to health care services;
- Set up teams of community integrated care as part of the Integrated Community Centres.

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APPENDIX 1 — SOURCES OF DATA

1. EU-LSF European Union Labour Force Survey

Abstract	The European Union Labour Force Survey (EU-LSF) is a rotating random sample survey, providing comparable information on employed, unemployed and inactive persons of working age (15 years and above) residing in European countries. Core topics covered by EU-LSF: demographic background; labour status; employment characteristics of the main job; hours worked; second job; previous work experience of person not in employment; search for employment; methods used during previous four weeks to find work; main labour status; education and training; situation one year before survey; income; atypical work.
Coverage	EU-SILC is conducted in 33 European countries, 28 EU member states, 4 candidate countries plus Iceland, Norway and Switzerland.
Corresponding National Study	European Union Labour Force Survey
Producer	National Institute of Statistics of Romania
Universe	Persons resident in Romania
Sampling Design	Probability random stratified multi-stage
Years used	2010, 2012, 2014, 2015, 2016
Interview Mode	100% PAPI
Timeframe of data collection	Continuous
Achieved Sample Size:	2010 2012 2014 2016 243 753 233 342 225 202 231 785
Cross-sectional Data	
Link	https://ec.europa.eu/eurostat/web/microdata/european-union-labour-force-survey

2. EU-SILC European Union Statistics on Income and Living Conditions

Abstract	The European Union Statistics on Income and Living Conditions (EU-SILC) is an annual survey collecting microdata on income, poverty, social exclusion and living conditions. EU-SILC provides data allowing cross-sectional and longitudinal comparisons between and within EU member and associated member states.
Coverage	EU-SILC has been conducted yearly since 2005 in the 25 EU member states. Romania has been included since 2007.
Corresponding National Study	Romanian Survey on Income and Living Conditions ("Quality of Life Survey")
Producer	National Institute of Statistics of Romania
Universe	All private households and their members residing in Romania at the time of data collection. Those living in collective households and institutions are not part of the target population.
Sampling Design	Probability random stratified multi-stage

Years used	2010, 2012, 2014, 2015, 2016										
Interview Mode	100% PAPI										
Timeframe of data collection	May 2010, 2012, 2014, 2015, 2016										
Achieved Sample Size: Cross-sectional Data	<table border="1"> <tr> <td>2010</td> <td>2012</td> <td>2014</td> <td>2015</td> <td>2016</td> </tr> <tr> <td>7781</td> <td>7598</td> <td>7508</td> <td>7415</td> <td>7406</td> </tr> </table>	2010	2012	2014	2015	2016	7781	7598	7508	7415	7406
2010	2012	2014	2015	2016							
7781	7598	7508	7415	7406							
Link	http://ec.europa.eu/eurostat/web/microdata/european-union-statistics-on-income-and-living-conditions										

3. EQLS - European Quality of Life Surveys

Abstract	The European Quality of Life Surveys is a survey repeated every four years, providing microdata about objective and subjective living conditions of the European public. The objective indicators deal with employment, income, education, housing, family, health and work-life balance, while the subjective topics covered relate to people's levels of happiness, how satisfied they are with their lives, and how they perceive the quality of their societies. EQLS provides data suitable for cross-sectional and over time comparisons among European countries.				
Coverage	EQLS is conducted since 2003 in 28 European societies, the EU member states and the candidate countries.				
Corresponding National Study	European Quality of Life Surveys				
Producer	Eurofound				
Universe	Romanian citizens over 18 years old residing in Romania				
Sampling Design	Probability random stratified multi-stage				
Years used	2007, 2011, 2016				
Interview Mode	100% PAPI				
Achieved Sample Size:	<table border="1"> <tr> <td>2011</td> <td>2016</td> </tr> <tr> <td>1548</td> <td>1004</td> </tr> </table>	2011	2016	1548	1004
2011	2016				
1548	1004				
Link	https://www.eurofound.europa.eu/surveys/european-quality-of-life-surveys				

4. ICT - Community survey on ICT usage in households and by individuals

Abstract	ICT is an annual survey, aiming at collecting information regarding the use of information and communication technologies (ICT), the internet, e-government and electronic skills in households and by individuals
Coverage	ICT has been conducted since 2002 in the EU member states. Romania is included since 2008.
Corresponding National Study	ICT usage in households and by Individuals
Producer	National Institute of Statistics of Romania
Universe	Individuals aged 16 to 74 years and households with at least one member in the age group 16 to 74 years old
Sampling Design	Probability random stratified multi-stage

Years used	2010, 2012, 2014, 2016			
Interview Mode	100% PAPI			
Timeframe of data collection	The first quarter of the reference year.			
Achieved Sample Size: Cross-sectional Data	2010 17461	2012 16200	2014 16484	2016 15561
Link	https://circabc.europa.eu/sd/a/6e78d901-0940-42a7-8c96-b7bf1aa3a605/isoc_sdds_hh_ro_2018.htm			

APPENDIX 2 - VARIABLES IN DATASET

1. LABOUR MARKET (CONTRIBUTION THROUGH PAID ACTIVITIES)

Employed person	aged 15 year and over during the reference week work for pay for at least one hour had a job or business but they were temporarily absent because of, e.g., illness, holidays, industrial dispute or education and training.
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1.1. Employment rate for the age group 55–59

Survey question	<p>Did you do any paid work in the 7 days ending Sunday the [<i>date</i>], either as an employee or as self-employed?</p> <p>1 Yes 2 No</p> <p>Even though you were not doing paid work, did you have a job or business that you were away from in the week ending Sunday the [<i>date</i>] (and that you expect to return to)?</p> <p>1 Yes 2 No 3 Waiting to take up a new job/business already obtained</p>
Source	EU-LFS/ National Statistical Institute of Romania
Year	2010, 2012, 2014, 2016

1.2. Employment rate for the age group 60–64

Survey question	Same as 1.1
Source	EU-LFS/ National Statistical Institute of Romania
Year	2010, 2012, 2014, 2016

1.3. Employment rate for the age group 65–69

Survey question	Same as 1.1
Source	EU-LFS/ National Statistical Institute of Romania
Year	2010, 2012, 2014, 2016

1.4. Employment rate for the age group 70–74

Survey question	Same as 1.1
Source	EU-LFS/ National Statistical Institute of Romania
Year	2010, 2012, 2014, 2016

2. PARTICIPATION IN SOCIETY

2.1. Voluntary activities

Definition	Percentage of older population aged 55+ providing unpaid voluntary work through the organisations at least once a week
Survey question	<p>Please look carefully at the list of organisations and tell us, how often did you do unpaid voluntary work through the following organisations in the last 12 months?</p> <p>Community and social services (e.g. organisations helping the elderly, young people, disabled or other people in need). Educational, cultural, sports or professional associations Social movements (for example environmental, human rights) or charities (for example fundraising, campaigning) Other voluntary organisations</p>
Source	EQLS
Year	2011, 2016
Notes	In Romania this measure may be biased because the level of involvement in formal volunteering is quite low among those over 55 years old.

2.2. Care to children, grandchildren

Definition	Percentage of older population aged 55+ providing care to their children, grandchildren at least once a week
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Survey question	In general, how often are you involved in any of the following activities outside of work? a. Caring for your children, grandchildren 1. Every day; 2. Several days a week 3. Once or twice a week 4. Less often 5. Never
Source	EQLS
Year	2011

Definition	Percentage of older population aged 55+ providing care to their children, grandchildren at least once a week
Survey question	In general, how often are you involved in any of the following activities outside of work? a. Caring for and/or educating your children b. Caring for and/or educating your grandchildren 1. Every day; 2. Several days a week 3. Once or twice a week 4. Less often 5. Never
Source	EQLS
Year	2016
Note	EQLS 2016 uses two items to tap this dimension. The index computed for AAI 2014 and 2016 combines the answers to the two items, counting the number of those who declared to caring for at least one of the two categories, children or grandchildren at last once a week. This can affect the overtime comparability of the aggregate measure. The wording of the two items used in EQLS 2016 (caring for or/and educating) is different of the one in EQLS 2011 (caring for). The overtime comparability may be affected.

2.3. Care to older adults

Definition	Percentage of older population aged 55+ providing care to elderly or disabled relatives at least once a week
Goal (rationale)	To capture valuable activities of older populations in the form of care provision to older adults.

Survey question	In general, how often are you involved in any of the following activities outside of work? c. Caring for elderly or disabled relatives 1. Every day; 2. Several days a week 3. Once or twice a week 4. Less often 5. Never
Source	EQLS
Year	2011

Definition	Percentage of older population aged 55+ providing care to elderly or disabled relatives (<u>at least once a week</u>)
Goal (rationale)	To capture valuable activities of older populations in the form of care provision to older adults.
Survey question	In general, how often are you involved in any of the following activities outside of work? c. Caring for disabled or infirm family members, neighbours or friends under 75 years old d. Caring for disabled or infirm family members, neighbours or friends aged 75 or over 1. Every day; 2. Several days a week 3. Once or twice a week 4. Less often 5. Never
Source	EQLS
Year	2016
Notes	EQLS 2016 uses two items to tap this dimension. The index computed for AAI 2014 and 2016 combines the answers to the two items, counting the number of those who declared to caring at last once a week for at least one of the two categories, disabled or infirm family members, neighbours or friends under 75 years old or over 75 years old. This can affect the overtime comparability of the aggregate measure. The wording is different of the one used in EQLS 2011, including neighbours or friends besides the family members, which affects the overtime comparability.

2.4. Political participation

Definition	Percentage of older population aged 55+ taking part in the activities of meeting of a trade union, a political party or political action group
Survey question	Over the last 12 months, have you ...? Attended a meeting of a trade union, a political party or political action group; Attended a protest or demonstration; Signed a petition, including an e-mail or on-line petition Contacted a politician or public official (other than routine contact arising from use of public services) 1 Yes 2 No
Source	EQLS
Year	2011, 2016

3. INDEPENDENT, HEALTHY AND SECURE LIVING

3.1 Physical exercise

Definition	Percentage of people aged 55 years and older undertaking physical exercise almost everyday
Survey question	How frequently do you do each of the following? Take part in sports or physical exercise 1. Every day or almost every day 2. At least once a week 3. One to three times a month 4. Less often 5. Never
Source	EQLS
Year	2011, 2016

3.2 Access to health and dental care

Definition	Percentage of people aged 55 years and older who report no unmet need for medical and dental examination or treatment during the last 12 months preceding the survey.
Survey question	The indicator refers to respondents who say there was no occasion when the person really needed medical or dental examination or treatment but was not able to receive it.
Source	EU-SILC/ National Institute of Statistics of Romania
Year	2010, 2012, 2014, 2016
Notes	The calculation is based on the self-assessment of needs of medical and dental assistance and can be influenced by the cultural context

3.3 Independent living arrangements

Definition	Percentage of people aged 75 years and older who live in a single household alone or in a couple household.
Survey question	
Source	EU-SILC/ National Institute of Statistics of Romania
Year	2010, 2012, 2014, 2016

3.4 Relative median income

Definition	The relative median income ratio is defined as the ratio of the median equivalised disposable income of people aged above 65 to the median equivalised disposable income of those aged below 65.
Survey question	Household disposable income is calculated as the sum of all monetary incomes of the household members plus the income received by the household. The sum is divided by the number of 'equivalent adults' living in the household. The calculation employs the modified OECD scale of equivalence which assigns the value of 1 to the first household member and 0.5 to all members above the age of 14 and 0.3 to those below.
Source	EU-SILC/ National Institute of Statistics of Romania
Year	2010 (income for 2009), 2012 (income for 2011), 2014 (income for 2013), 2016 (income for 2015)

3.5 No poverty risk

Definition	Percentage of people aged 65 years and older who are not at risk of poverty (people at risk of poverty are defined as those with an equivalised disposable income after social transfers below the at-risk-of-poverty threshold, which is set at 50% of the national median equivalised disposable income after social transfers). The equivalised disposable income is calculated from the total disposable income of each household divided by the equivalised household size
Survey question	See notes for indicator 3.4
Source	EU-SILC/ National Institute of Statistics of Romania
Year	2010 (income for 2009), 2012 (income for 2011), 2014 (income for 2013), 2016 (income for 2015)

3.6 No severe material deprivation

Definition	Percentage of people aged 65 years and older who can afford at least six items on the deprivation list (see survey question)
Survey question	Household access to: to pay their rent, mortgage or utility bills; to keep their home adequately warm; to face unexpected expenses; to eat meat or proteins regularly; to go on holiday; a television set; a washing machine; a car; a telephone.
Source	EU-SILC/ National Institute of Statistics of Romania
Year	2010, 2012, 2014, 2016

3.7 Physical safety

Definition	Share of people aged 55 years and older who report no problems with crime, violence and vandalism in their neighbourhood
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Survey question	<p>Please think about the area where you live now — I mean the immediate neighbourhood of your home. Do you have major, moderate or no problems with</p> <p>Crime, violence and vandalism</p> <ol style="list-style-type: none"> 1. Major problems 2. Moderate problems 3. No problems
Source	EQLS
Year	2011
Notes	<p>The original AAI is based on ESS data and computed as the percentage of respondents over 55 years old who declare to feel very safe and safe when walking alone after dark in their area. EQLS question slightly differs from the one in ESS and the items used in 2011 and 2016 is different. However, the index based on EQLS data provide a reliable measure which allow overtime and cross-sectional comparison (see the section about proxy variables)</p>

Definition	Percentage of people aged 55 years and older who feel very safe and safe when walking alone after dark (strongly agree and agree)
Survey question	<p>To what extent do you agree or disagree with the following statements?</p> <p>I feel safe when I walk alone in this area after dark</p> <ol style="list-style-type: none"> 1. Strongly agree 2. Agree 3. Neither agree nor disagree 4. Disagree 5. Strongly disagree
Source	EQLS
Year	2016
Notes	<p>The original AAI is based on ESS data and computed as the percentage of respondents over 55 years old who declare to feel very safe and safe when walking alone after dark in their area. EQLS question slightly differs of the one in ESS and the items used in 2011 and 2016 is different. However, the index based on EQLS data provide a reliable measure which allow overtime and cross-sectional comparison (see the section about proxy variables)</p>

3.8 Lifelong learning

Definition	Percentage of people aged 55 to 74 who stated that they received education or training in the four weeks preceding the survey.
Survey question	Did you attend any courses, seminars, conferences or received private lessons or instructions within or outside the regular education system within the last 4 weeks 1 Yes 2 No
Source	EU-LFS/ National Institute of Statistics of Romania
Year	2010, 2012, 2014, 2016

4. CAPACITY AND ENABLING ENVIRONMENT FOR ACTIVE AGEING

4.1 Remaining life expectancy achievement of 50 years at age 55

Definition	RLE at 55 divided by 50 to calculate the proportion of life expectancy achievement in the target of 105 years of life expectancy
Source	National Institute of Statistics of Romania (Life tables)
Year	2010, 2012, 2014, 2016

4.2 Share of healthy life years in the remaining life expectancy at age 55

Definition	Healthy Life Years measures the remaining number of years spent free of activity limitation in the remaining life expectancy at 55
Source	EUROSTAT (Mortality)/ National Institute of Statistics of Romania (Life tables) and EQLS (Self-perceived long-standing limitation in usual activities due to health problems)
Year	2010, 2012, 2014, 2016
Notes	EU-SILC data on self-perceived long-standing limitation in usual activities due to health problems are used for computing AAI standard versions. This index is employs data provided by three different variables. The current data set makes use of EQLS and is based on the answers to one variable. The cross-national comparability may be affected.

4.3 Mental well-being

Definition	Mental well-being of older population aged 55+
Survey question	<p>Q45a: I have felt cheerful and in good spirits Q45b: I have felt calm and relaxed Q45c: I have felt active and vigorous Q45d: I woke up feeling fresh and rested Q45e: My daily life has been filled with things that interest me</p> <p>Response categories are: All of the time Most of the time More than half of the time Less than half of the time Some of the time At no time</p> <p>The raw score is calculated using Major Depression (ICD-10) Inventory recommended by WHO (http://www.who-5.org/), by reversing the value order of the variable, and then totalling the figures of the five answers. The raw score converted so as to range from 0 to 25 (the answer categories were reversed), 0 representing worst possible and 25 representing best possible quality of life, 13 being the lower threshold.</p>
Source	EQLS
Year	2011, 2016

4.4 Use of ICT

Definition	Share of people aged 55–74 using the internet at least once a week.
Survey question	<p>'How often on average have you used a computer in the last 3 months?' (tick one)</p> <p>Every day or almost every day At least once a week (but not every day) At least once a month (but not every week) Less than once a month</p>
Source	ICT Survey/ National Institute of Statistics of Romania
Year	2010, 2012, 2014, 2016

4.5 Social connectedness

Definition	Share of people aged 55 or more that meet socially with friends, relatives or colleagues living outside their household several times a week or every day.
Survey question	How often do you get together with your family and relatives? 1 Daily 2 Every week (not every day) 3 Several times a month (not every week) 4 Once a month 5 At least once a year (less than once a month) 6 Never
Source	EU-SILC/ National Institute of Statistics of Romania
Year	2015
Notes	Standard AAI score is based on ESS data, however the last data collection of ESS in Romania was conducted in 2008. The country's scores based on ESS and EU_SILC are highly correlated (see the section about proxy variables).

4.6 Educational attainment of older persons

Definition	Percentage of older persons aged 55–74 with upper secondary or tertiary educational attainment.
Survey question	Highest ISCED level attained? 0 pre-primary 1 primary 2 lower secondary 3 (upper) secondary 4 post-secondary non tertiary 5 tertiary
Source	EU-LFS/ National Institute of Statistics of Romania
Year	2010, 2012, 2014, 2016

Proxy variables

According to the UNECE Guidelines for computing AAI at subnational level, several criteria should be employed when selecting proxy variables: external validation of the proxy with the values of AAI of the respective dimension, the survey's reliability, the sample size (bigger is better) and the availability for many years (p.41). Moreover, the report should employ subnational comparisons, across NUTS 2 regions in Romania, cross-national comparisons, Romania versus EU countries and to assess over time changes in Romania as compared to EU countries. Therefore, the proxies used should provide solid background for cross-national and over-time comparisons. On the other hand, a valid proxy variable should be measurement equivalent with the original index.

Starting from the theoretical assumption that the same latent variable explains the variation of the scores by countries, years of data collection and survey, we checked the validity of repeated measures by correlations between the aggregate measures of the same dimension used by different surveys. If the correlation failed to produce satisfying results, factor analysis was employed to further check the equivalence of the scales used in different data collections. If the factor analysis produces only one latent dimension on which all measures of the same dimension (irrespective of year of data collection and survey) load high, then the proxy taps the same dimension as the original variable, and we can use it for running cross-sectional and over-time comparisons.

Thus, in selecting the proxies we employed the following steps:

1. Computing the aggregate values of variables for the countries and years covered by different surveys.
2. Running bivariate correlations between indexed based on different surveys.
3. If needed, running factor analyses to check to what extent the values of the indicators aggregated by country, year of data collection and survey load on the same latent variable.

Proxy variables were considered for two variables for which the national AAI uses the ESS:

- 3.7 Physical Safety
- 4.5 Social Connectedness

3.7 Physical Safety

AAI standard calculation of physical safety are based on European Social Survey data. However, the last EES data collection available for Romania was in 2008, the data being quite dated. Thus, a proxy variable from EQLS (2011 and 2016) was used for computing AAI in Romania. The wording of ESS and EQLS is different and the question asked in EQLS 2011 is different than the one asked in 2016 (ESS 2012/ 2016: How safe do you — or would you — feel walking alone in

this area after dark? Do — or would — you feel very safe/ Safe/ Unsafe/ Very unsafe; EQLS 2011: Do you have major, moderate or no problems with crime, violence and vandalism in your neighbourhood; EQLS 2016: To what extent do you agree or disagree with the following statements? I feel safe when I walk alone in this area after dark: Strongly agree/ Agree/ Neither agree nor disagree/ Disagree/ Strongly disagree). The list of countries by wave employed in the assessment of the measurement equivalence is provided in Table A1. Listwise deletion of missing data was used when running bivariate correlations.

Table A1: Countries in ESS 2012, 2016 and EQLS 2011, 2016

	ESS 2012	ESS 2016	EQLS 2011	EQLS 2016
Austria		X	X	X
Belgium	X	X	X	X
Bulgaria	X		X	X
Cyprus	X		X	X
Czech Republic	X	X	X	X
Germany	X	X	X	X
Denmark	X		X	X
Estonia	X	X	X	X
Greece			X	X
Spain	X	X	X	X
Finland	X	X	X	X
France	X	X	X	X
Croatia			X	X
Hungary	X	X	X	X
Ireland	X	X	X	X
Italy	X	X	X	X
Lithuania	X	X	X	X
Luxembourg			X	X
Latvia			X	X
Malta			X	X
Netherlands	X	X	X	X
Poland	X	X	X	X
Portugal	X	X	X	X
Romania			X	X
Sweden	X	X	X	X
Slovenia	X	X	X	X
Slovakia	X		X	X
United Kingdom	X	X	X	X

Descriptive statistics of the variables measuring physical safety in ESS and EQLS displayed in table 3 show that the ranges of variation of mean and standard deviation is similar across surveys and waves, which makes the index based on EQLS data a good proxy for tapping physical safety. In addition, measurement equivalence was checked by running bivariate

correlations between the original indexes and the proxy variables across different survey waves. The results, shown in Table A2 indicate a strong correlation among the three measures of physical safety, the correlation coefficient varying from 0.643 to 0.816. Thus, one can assume that the questions asked in EQLS can be used as proxy for measuring physical safety and for running overtime comparisons.

Table A2: Descriptive statistic for variables measuring physical safety in ESS 2012, ESS 2016, EQLS 2011 and 2016

Variable	Mean	Std. Dev.	Min	Max
phsafEQLS 2011	69	9	52	86
phsafEQLS 2016	72	10	53	90
phsafESS 2012	77	10	56	95
phsafESS 2016	80	8	62	93

Table A3: Bivariate correlations between physical safety in ESS 2012, ESS 2016, EQLS 2011 and 2016

	phsafEQLS2011	phsafEQLS2016	phsafEES2012	phsafEES2016
phsafEQLS2011	1	0,751**	0,683**	0,643**
phsafEQLS2016	0,751**	1	0,760**	0,794**
phsafEES2012	0,683**	0,760**	1	0,816**
phsafEES2016	0,643**	0,794**	0,816**	1

*. Correlation is significant at the 0.05 level (2-tailed).

** . Correlation is significant at the 0.01 level (2-tailed).

4.5 Social Connectedness

AAI standard calculations of social connectedness are based on European Social Survey data. However, the last EES data collection available for Romania was in 2008, the data being quite dated. EQLS and EU-SILC provide proxy variables suited to replace the ESS data. However, the wording of the scales employed in the respective surveys is different and a check of measurement equivalence was required.

The answers to the questions regarding Social Connectedness were aggregated by country, the output variables being labelled as follows:

- **fam_frd07, fam_frd11**, (EQLS 2007, EQLS 2011) for the countries available in each wave. Aggregation based on the percentage of those who declared having weekly contacts with at least one of the following groups: their children, parents, siblings, friends and neighbours living outside their household. The index is computed based on the answers to four different questions
- **fam_frd16** — social connectedness computed based on EQLS 2016 data. Aggregation based on the percentage of those who declared spending time weekly with at least one of the following groups: their family members living outside their household, friends and neighbours

living outside their household. The index is computed based on the answers to two different questions

- **scess08**, scess12, scess16 — social connectedness computed based on ESS data for the countries available in each wave. Aggregation based on the percentage of those who declared meeting socially at least once a week with friends, relatives or colleagues. The index is computed based on the answers to one question.

- **sc_silc15** — social connectedness based on SILC 2015. Aggregation based on the percentage of those who declared getting together weekly family/ relatives and friends.

The results in Table A4 shows a very different range of variation of the indexes taping social connectedness in EQLS as compared to the ones in ESS and EU-SILC. The minimum value in case of EQLS ranges from 82 in 2016 to 89 in 2011, while in case of ESS the minimum value varies from 23 to 36. Mean and standard deviation of social connectedness are also very different in ESS and EQLS data, the first one ranging from 58 to 61, while the second varies from 91 to 93. The distribution of the index based on EU-SILC data is much closer to the one of the scale used in ESS which makes is a more suitable proxy variable.

Table A4: Descriptive statistic for variables measuring physical safety in ESS 2012, ESS 2016, EQLS 2011 and 2016

	Mean	Std. Dev.	Minimum	Maximum
fam_frd07	93,68	3,151	86	99
fam_frd11	95,71	2,141	89	99
fam_frd16	91,18	4,497	82	97
scess08	61,16	12,797	36	77
scess12	58,32	13,360	26	78
scess16	59,05	15,374	23	79
sc_silc15	55,95	13,573	25	80

Table A5: Correlations between Social Connectedness in EQLS (2007, 2011, 2016), ESS (2008, 2012, 2016) and SILC 2015 (aggregated by country)

	fam_frd07	fam_frd11	fam_frd16	scess08	scess12	scess16	sc_silc15
fam_frd07	1	0,475*	0,728**	-0,195	-,0171	-0,189	0,440*
fam_frd11	0,475*	1	0,409*	-0,273	-0,098	-0,010	0,555**
fam_frd16	0,728**	0,409*	1	0,081	0,183	0,198	0,365
scess08	-0,195	-0,273	0,081	1	0,907**	0,941**	0,131
scess12	-0,171	-0,098	0,183	0,907**	1	0,982**	0,498*
scess16	-0,189	-0,010	0,198	-0,941**	0,982**	1	0,681**
sc_silc15	0,440*	0,555**	0,365	0,131	0,498*	0,681**	1

*. Correlation is significant at the 0.05 level (2-tailed).

** . Correlation is significant at the 0.01 level (2-tailed).

The correlation coefficients in Table A5 indicate weak and even negative correlations between the data on social connectedness based on the scale used by ESS and EQLS. On the other hand, EU-SILC data are positively correlated to both ESS and EQLS data. A factor analysis was run to test the dimensionality of the measures used in the three surveys. According to the results shown in Table A6, the questions used in ESS and EQLS load on different factors, while the EU-SILC load on both factors. The same find is supported by the loading plot in Figure A1. Based on these results the data from EU-SILC 2015 were imputed as measure of Social Connectedness for the four points in time.

Table A6: Factor analysis: Social Connectedness Eigenvalues, Factor Loadings and Uniqueness

```
. factor fam_frd07 fam_frd11 fam_frd16 scess08 scess12 scess16 sc_silc15, ipf factor (2)
(obs=15)
```

```
Factor analysis/correlation          Number of obs   =          15
Method: iterated principal factors   Retained factors =           2
Rotation: (unrotated)                Number of params =          13
```

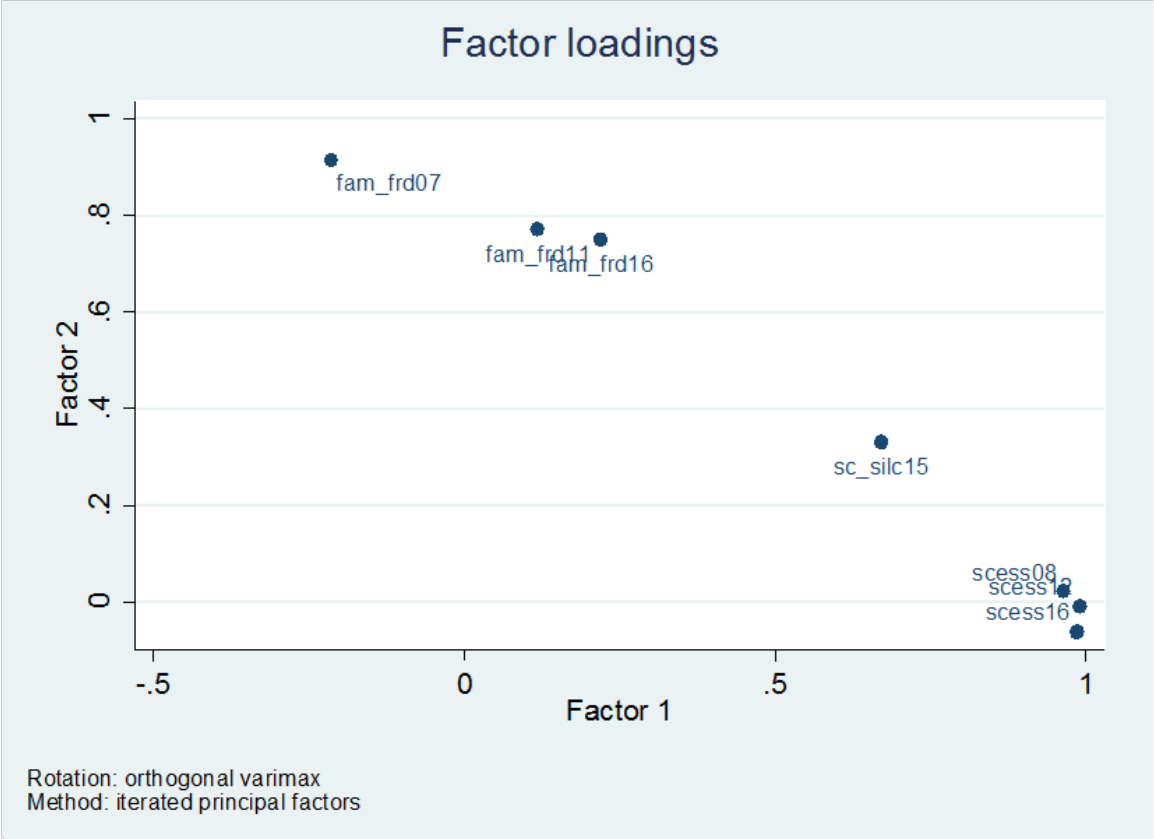
Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	3.47535	1.41022	0.6273	0.6273
Factor2	2.06513	1.80201	0.3727	1.0000
Factor3	0.26312	0.23454	0.0475	1.0475
Factor4	0.02858	0.03818	0.0052	1.0527
Factor5	-0.00960	0.02101	-0.0017	1.0509
Factor6	-0.03061	0.22091	-0.0055	1.0454
Factor7	-0.25152	.	-0.0454	1.0000

```
LR test: independent vs. saturated:  chi2(21) = 112.43 Prob>chi2 = 0.0000
```

```
Factor loadings (pattern matrix) and unique variances
```

Variable	Factor1	Factor2	Uniqueness
fam_frd07	-0.0580	0.9366	0.1194
fam_frd11	0.2456	0.7399	0.3922
fam_frd16	0.3418	0.7024	0.3898
scess08	0.9539	-0.1404	0.0704
scess12	0.9739	-0.1749	0.0208
scess16	0.9611	-0.2254	0.0255
sc_silc15	0.7160	0.2143	0.4414

Figure A1: Loading plot social connectedness



APPENDIX 3 — TABLES AND MAPS

Table A7. Employment: Gender gap by region and year

	1.1 Employment rate 55–59	1.2 Employment rate 60–64	1.3 Employment rate 65–69	1.4 Employment rate 70–74
2010				
North West	-18.6	-12.3	-3.4	-1.2
Centre	-24.8	-18.7	-4.4	-2.1
North East	-14.2	-11.3	-6.9	-6.3
South East	-22.7	-13.3	-5.0	-1.6
South Muntenia	-23.3	-13.3	-10.0	-5.3
Bucharest - Ilfov	-27.6	-21.2	-0.6	-1.1
South West Oltenia	-7.4	-4.6	-1.1	-1.8
West	-23.1	-11.4	-5.5	1.0
Romania	-20.2	-13.3	-4.6	-2.3
2012				
North West	-15.8	-13.3	-6.7	-1.2
Centre	-30.7	-19.9	-4.7	-0.7
North East	-11.8	-8.5	-7.9	-3.6
South East	-21.8	-16.2	-3.8	-1.7
South Muntenia	-20.4	-11.0	-2.9	-1.9
Bucharest - Ilfov	-24.0	-22.2	-2.2	-1.0
South West Oltenia	-14.8	-5.0	-2.6	-1.8
West	-30.6	-18.3	-4.7	0.4
Romania	-21.2	-14.3	-4.4	-1.4
2014				
North West	-20.8	-17.1	-2.7	-2.4
Centre	-25.9	-23.2	-0.8	-0.8
North East	-12.6	-10.0	-5.2	-5.7
South East	-24.6	-15.0	-5.8	-5.6
South Muntenia	-19.4	-11.7	-3.2	-3.9
Bucharest - Ilfov	-25.5	-23.6	-0.9	0.4
South West Oltenia	-13.3	-9.3	1.5	-1.2
West	-24.5	-22.8	1.4	-2.1
Romania	-20.8	-16.6	-2.0	-2.7
2016				
North West	-19.8	-23.5	-5.6	-0.8
Centre	-22.7	-20.4	-2.8	-1.7
North East	-15.4	-13.4	-2.6	-3.8
South East	-21.1	-19.7	-5.7	-4.8
South Muntenia	-24.0	-12.3	-4.5	-9.0

	1.1 Employment rate 55–59	1.2 Employment rate 60–64	1.3 Employment rate 65–69	1.4 Employment rate 70–74
Bucharest - Ilfov	-23.7	-20.1	-4.0	0.1
South West Oltenia	-12.7	-10.6	-1.4	0.8
West	-21.3	-20.5	-2.7	0.3
Romania	-20.1	-17.6	-3.7	-2.4

Table A8. Social participation: Gender gap by region and year

	2.1 Voluntary activities		2.2 Care to children, grandchildren		2.3 Care to older adults		2.4 Political participation	
	2011	2016	2011	2016	2011	2016	2011	2016
North West	1	-11	-16	16	7	-9	-9	-1
Centre	-5	6	-2	1	8	-11	2	3
North East	-1	-1	5	24	7	16	-7	-5
South East	0	0	2	39	1	10	-9	-2
South Muntenia	2	0	7	-7	9	2	-4	15
Bucharest - Ilfov	12	3	26	-2	11	48	-8	-19
South West Oltenia	-1	9	0	19	6	-6	7	9
West	5	0	-10	28	6	-4	-2	3
Romania	1	1	2	15	7	6	-4	0

Table A9. Independent, healthy, and secure living: Gender gap by region and year

	3.1 Physical exercise	3.2 No unmet needs of health and dental care	3.3 Independent living arrangements	3.4 Relative median income	3.5 No poverty risk	3.6 No severe material deprivation	3.7 Physical safety	3.8 Lifelong learning
2010								
North West	-1	-3	-24	-4	-4	-8	5	0
Centre	-1	-3	-2	-4	-6	-7	22	0
North East	2	-9	2	-17	-10	-5	1	0
South East	1	-8	-10	-4	-7	-4	15	0
South Muntenia	0	-1	-12	-6	-10	-8	1	0
Bucharest - Ilfov	-3	-8	-21	-8	-1	-4	-4	0
South West Oltenia	0	1	-2	0	-8	0	-2	0
West	-3	2	-8	-8	-12	-2	-4	0
Romania	-1	-4	-10	-6	-7	-5	4	0
2012								
North West	-1	-13	-12	0	-4	-11	5	0
Centre	-1	-6	-1	-5	-3	-6	22	0
North East	2	-2	-1	-11	-4	-6	1	0
South East	1	-8	-10	0	-2	-2	15	0
South Muntenia	0	-6	2	-4	-8	-11	1	0
Bucharest - Ilfov	-3	-3	-14	5	-1	-6	-4	0
South West Oltenia	0	2	-9	0	-9	-1	-2	0
West	-3	0	-12	0	-5	-3	-4	0
Romania	-1	-4	-7	-2	-5	-6	4	0

	3.1 Physical exercise	3.2 No unmet needs of health and dental care	3.3 Independent living arrangements	3.4 Relative median income	3.5 No poverty risk	3.6 No severe material deprivation	3.7 Physical safety	3.8 Lifelong learning
2014								
North West	3	-5	-6	0	-3	-8	-3	0
Centre	5	-7	-8	-2	0	-10	-34	0
North East	0	-6	1	-4	-12	-4	7	0
South East	-4	-7	-10	0	-5	-11	-16	0
South Muntenia	1	-11	0	-2	-10	-4	-12	0
Bucharest - Ilfov	-7	-8	-8	-18	-2	-2	-14	0
South West Oltenia	0	-1	2	-10	-10	-3	2	0
West	0	-7	5	0	-3	-8	2	0
Romania	0	-6	-3	-5	-6	-6	-8	0
2016								
North West	3	-6	-10	-6	-5	-7	-3	0
Centre	5	-3	-14	-6	-2	-8	-34	0
North East	0	-3	-5	-7	-14	-9	7	0
South East	-4	-6	-14	-12	-11	-6	-16	0
South Muntenia	1	-9	-6	0	-8	-8	-12	0
Bucharest - Ilfov	-7	-8	-4	-25	1	1	-14	0
South West Oltenia	0	-2	2	-14	-9	-7	2	0
West	0	-1	-22	-1	0	0	2	0
Romania	0	-5	-9	-9	-6	-5	-8	0

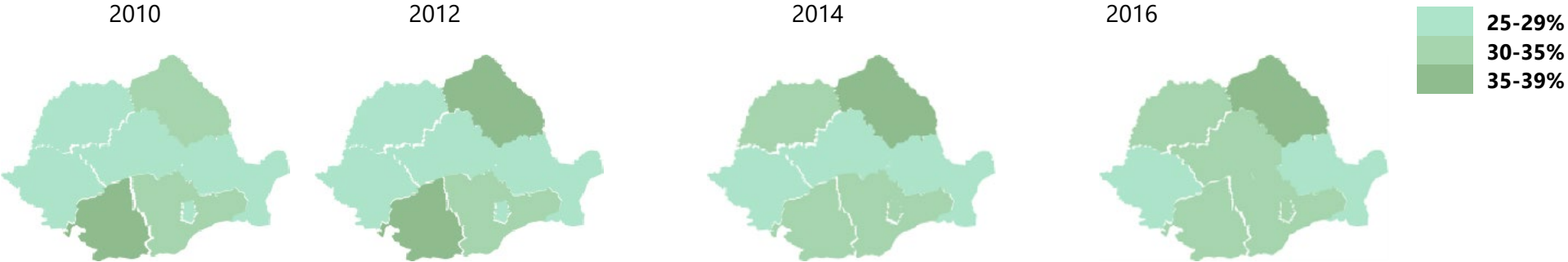
Table A10. Capacities for active aging: Gender gap by region and year

	4.1 RLE achievement of 50 years at age 55	4.2 Share of healthy life years in the RLE at age 55	4.3 Mental well-being	4.4 Use of ICT	4.5 Social connectedness	4.6 Educational attainment
2010						
North West	10	-2	-42	-1	3	-21
Centre	10	-2	-8	-3	-3	-19
North East	10	-1	3	0	0	-20
South East	11	-2	-32	-4	1	-23
South Muntenia	11	-2	-18	-1	-3	-26
Bucharest - Ilfov	10	-2	-3	1	4	-13
South West Oltenia	9	-3	-12	0	5	-22
West	9	-2	1	0	4	-23
Romania	10	-2	-14	-1	1	-21
2012						
North West	9	-2	-42	-1	3	-21
Centre	10	-4	-8	-1	-3	-18
North East	10	-2	3	0	0	-19
South East	10	-2	-32	1	1	-23
South Muntenia	10	-2	-18	2	-3	-27
Bucharest - Ilfov	9	-1	-3	2	4	-10
South West Oltenia	9	-3	-12	0	5	-23
West	9	-2	1	-8	4	-25
Romania	10	-2	-14	-1	1	-21

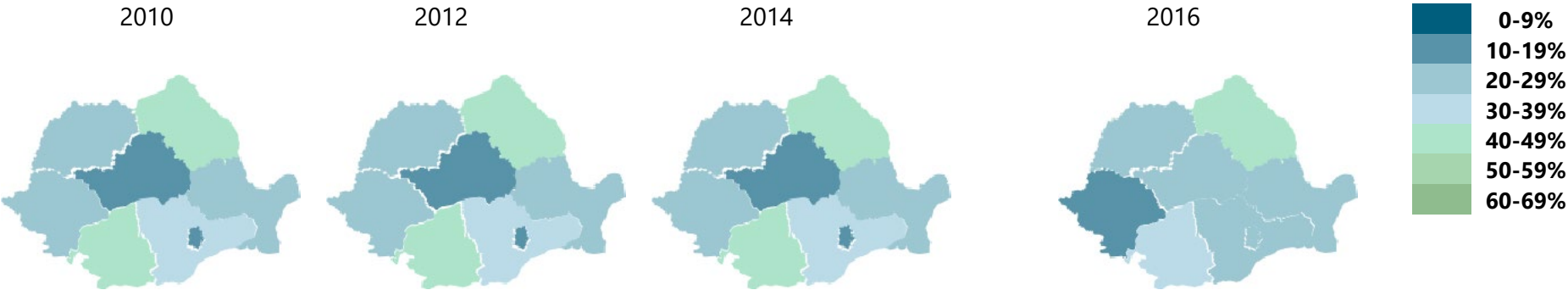
	4.1 RLE achievement of 50 years at age 55	4.2 Share of healthy life years in the RLE at age 55	4.3 Mental well-being	4.4 Use of ICT	4.5 Social connectedness	4.6 Educational attainment
2014						
North West	10	-2	8	-1	3	-16
Centre	9	-3	4	0	-3	-15
North East	11	-2	2	0	0	-17
South East	11	-3	-17	-1	1	-20
South Muntenia	11	-2	-33	-4	-3	-24
Bucharest - Ilfov	10	-3	13	-1	4	-8
South West Oltenia	9	-3	-28	-4	5	-21
West	9	-2	-22	1	4	-18
Romania	10	-2	-9	-1	1	-17
2016						
North West	10	-2	8	-4	3	-17
Centre	10	-2	4	1	-3	-16
North East	11	-2	2	-1	0	-18
South East	11	-3	-17	-2	1	-21
South Muntenia	11	-2	-33	4	-3	-21
Bucharest - Ilfov	9	-3	13	-2	4	-12
South West Oltenia	10	-3	-28	-4	5	-19
West	9	0	-22	-1	4	-23
Romania	10	-2	-9	-1	1	-19

MAPS of AAI in Romania

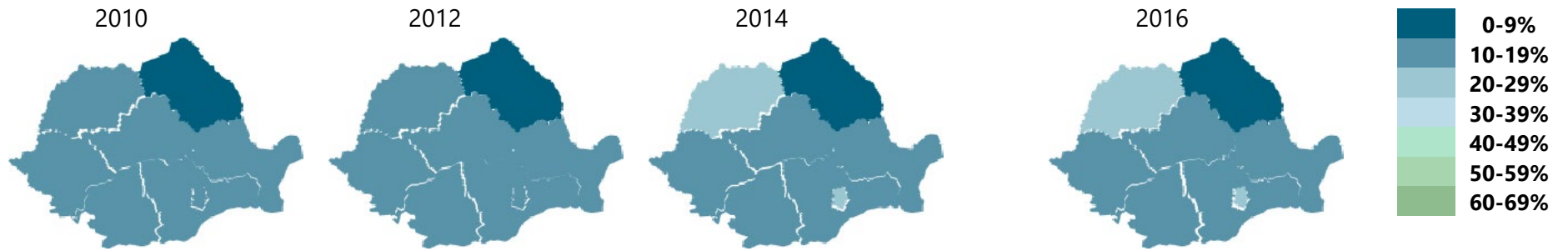
Overall AAI 2010-2016



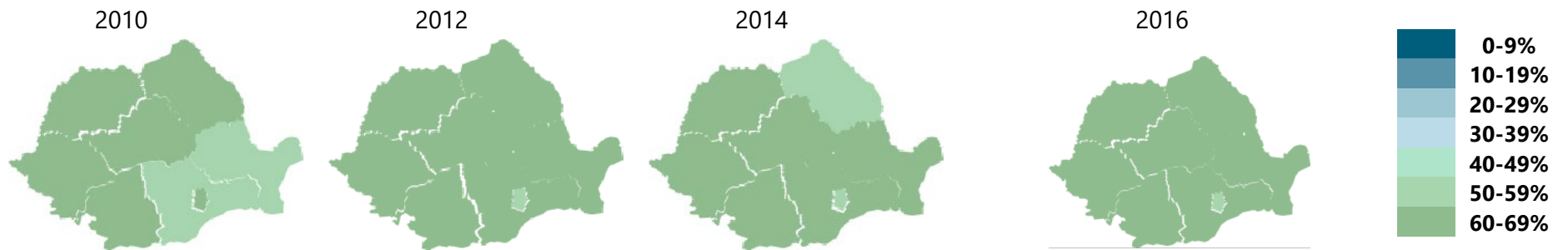
1. Employment 2010-2016



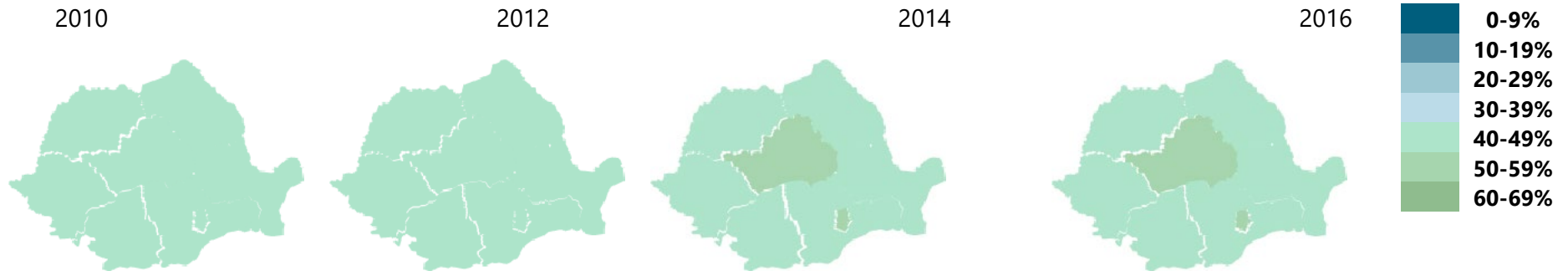
2. Social participation 2010-2016



3. Independent, healthy, secure living 2010-2016

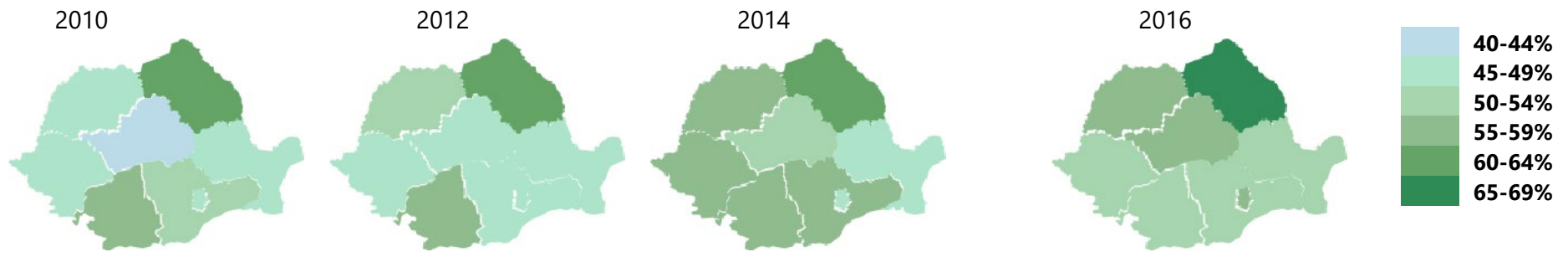


4. Capacity and enabling environment for active ageing 2010-2016

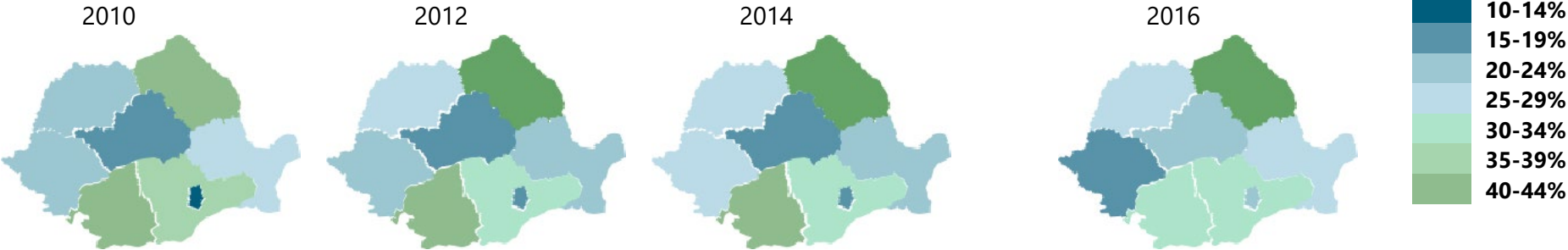


Employment indicators

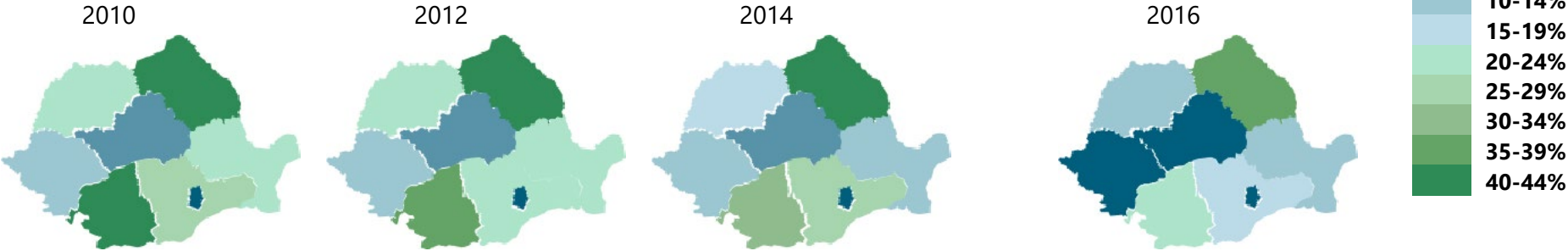
1.1. Employment rate 55-59



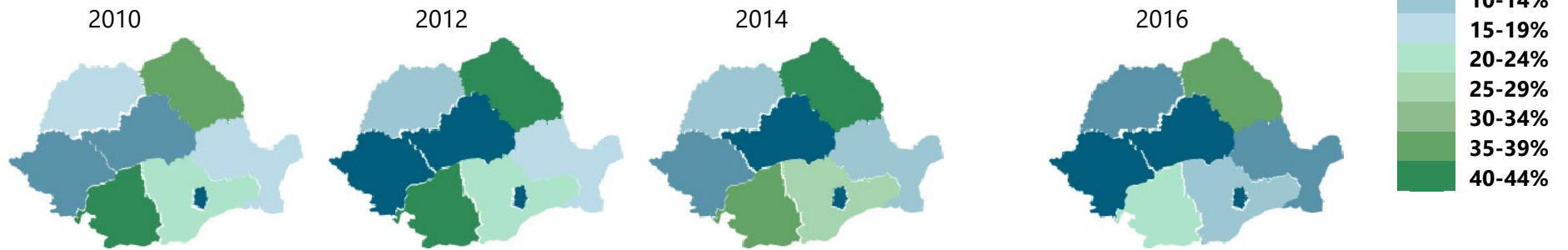
1.2. Employment rate 60-64



1.3. Employment rate 65-69

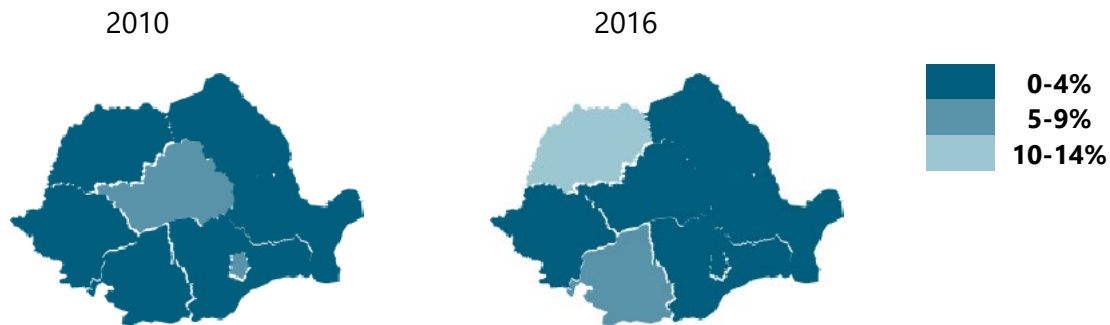


1.4. Employment rate 70-74

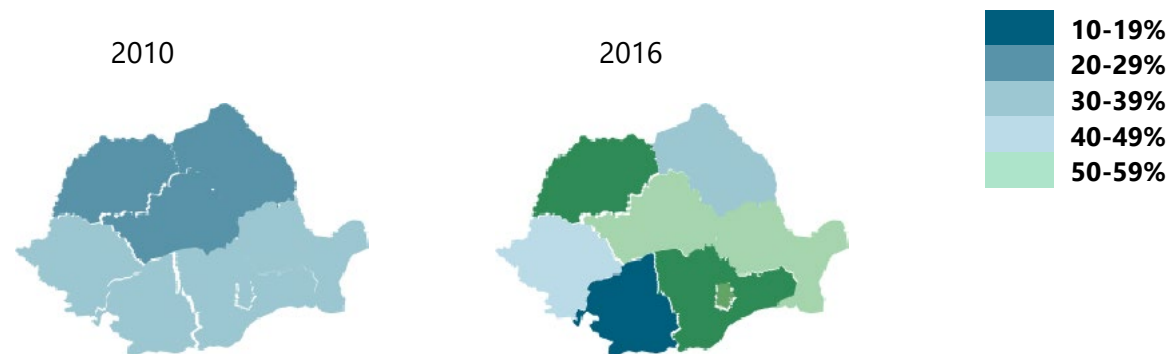


Social participation indicators

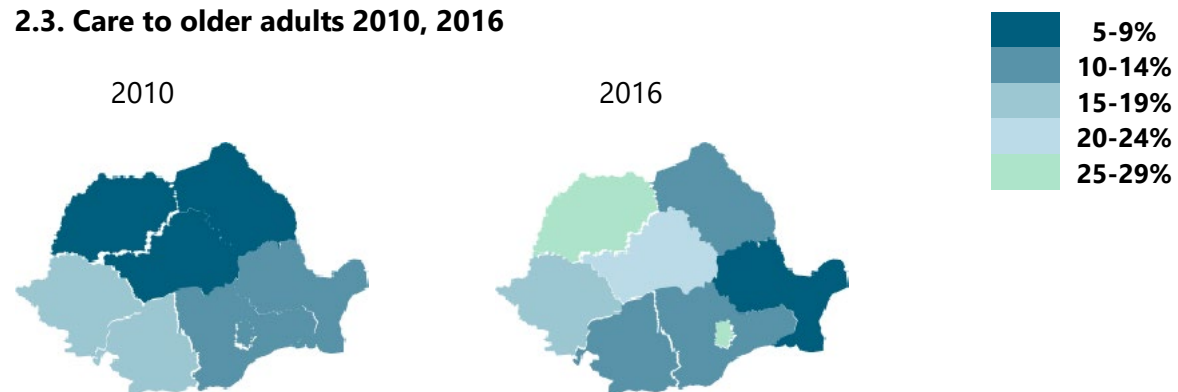
2.1. Voluntary activities 2010, 2016



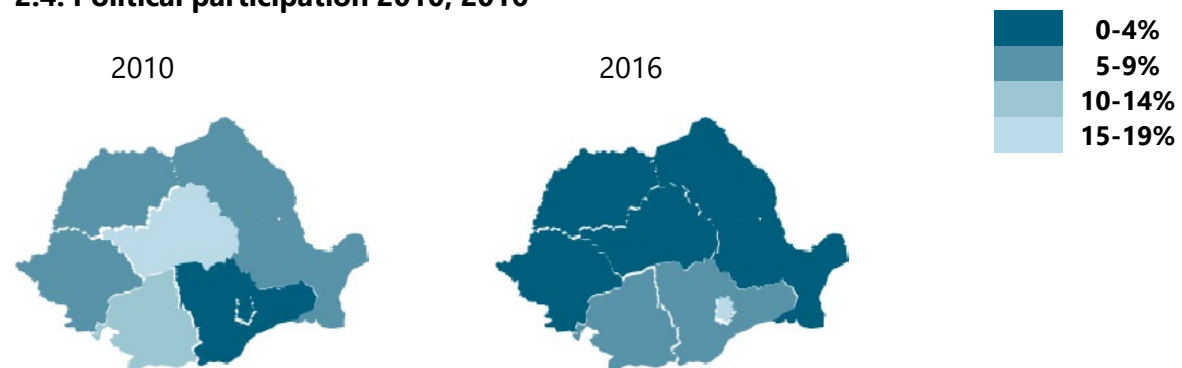
2.2. Care to children, grandchildren 2010, 2016



2.3. Care to older adults 2010, 2016

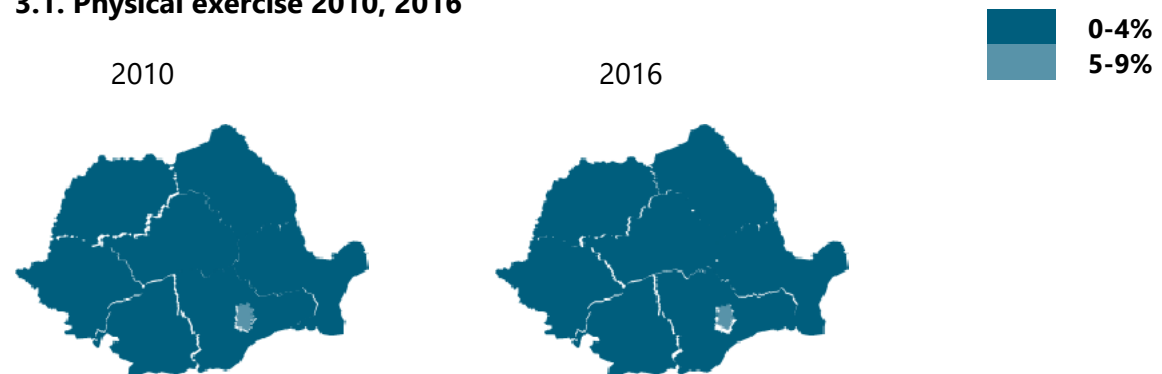


2.4. Political participation 2010, 2016

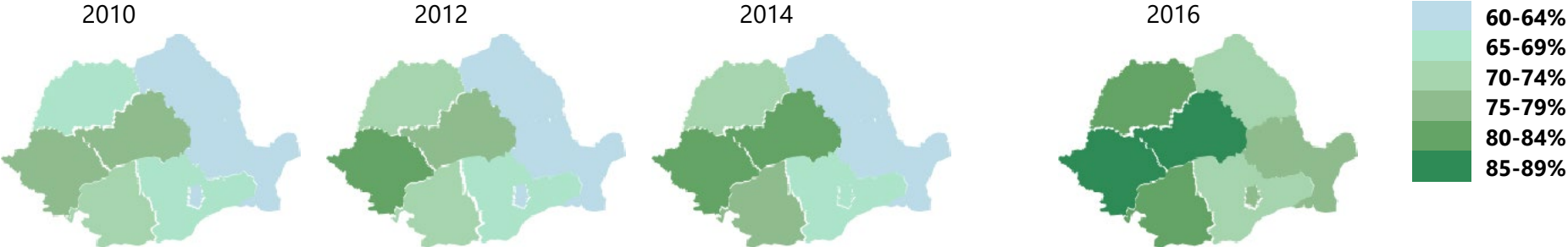


Independent, healthy and secure living

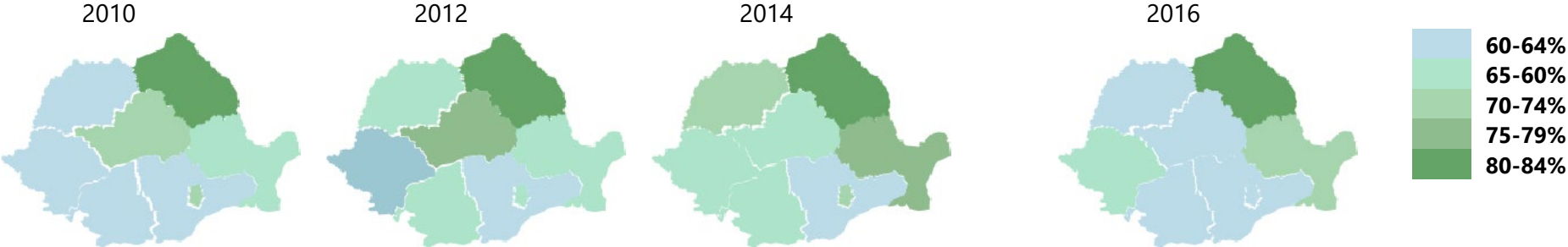
3.1. Physical exercise 2010, 2016



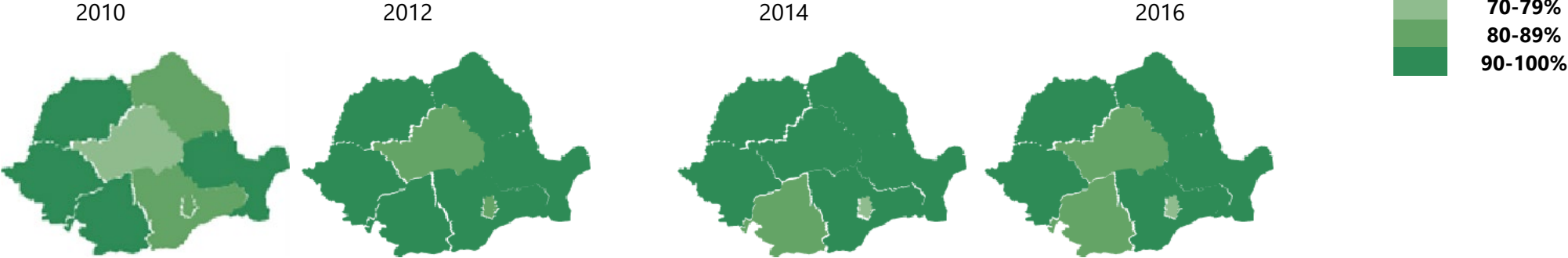
3.2. No unmet needs of health and dental care



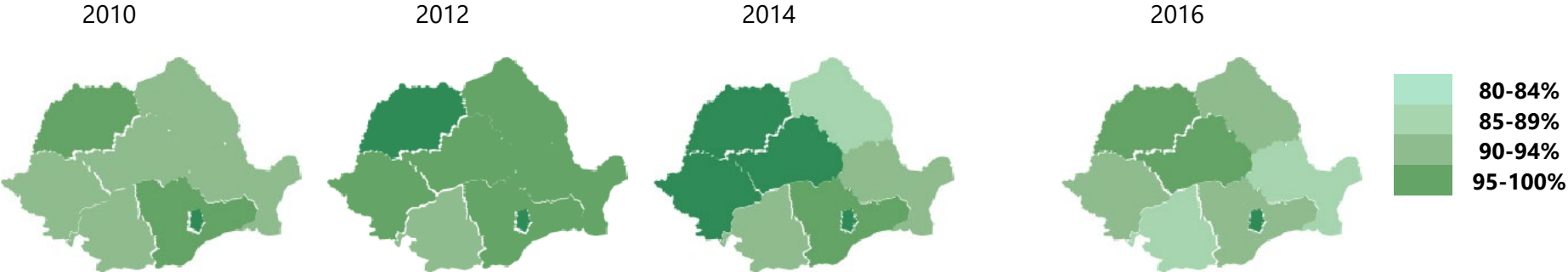
3.3. Independent living arrangements



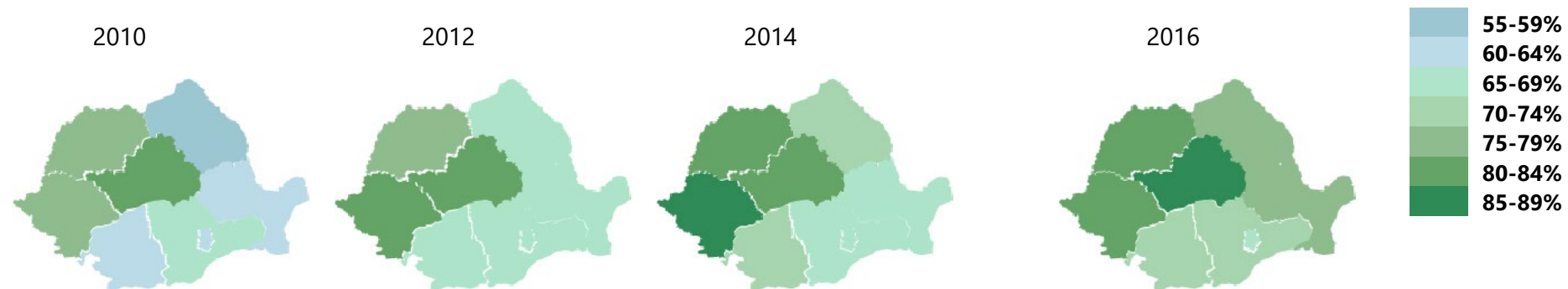
3.4. Relative median income



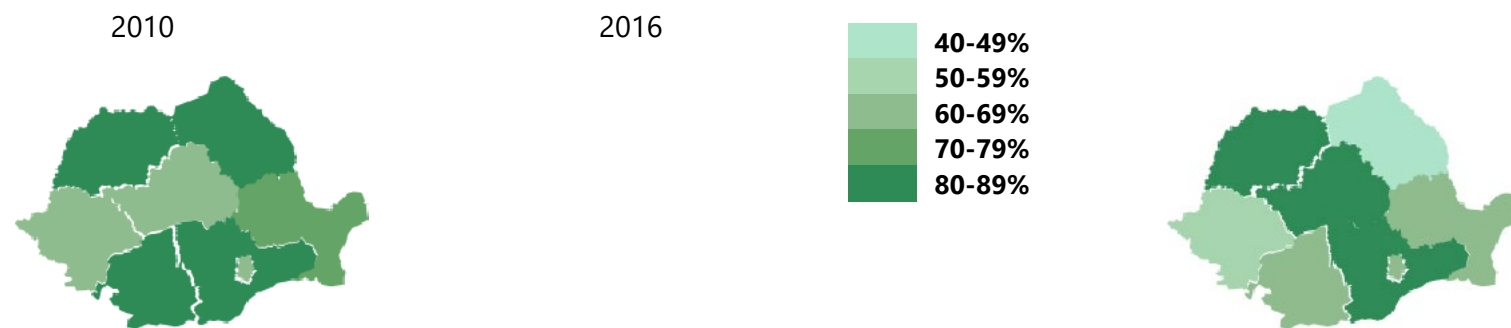
3.5. No poverty risk



3.6. No severe material deprivation

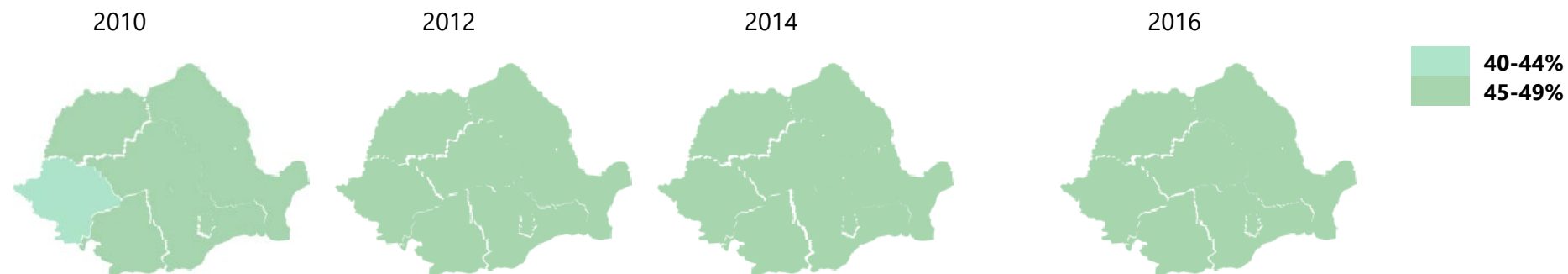


3.7. Physical safety 2010, 2016

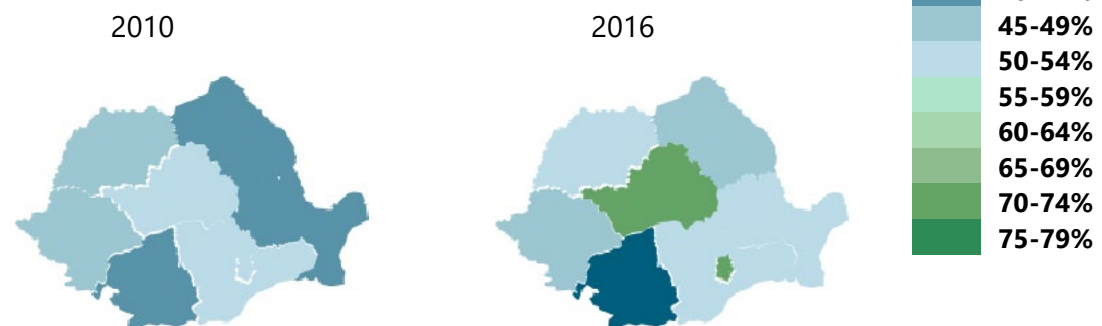


Capacity and enabling environment for active ageing

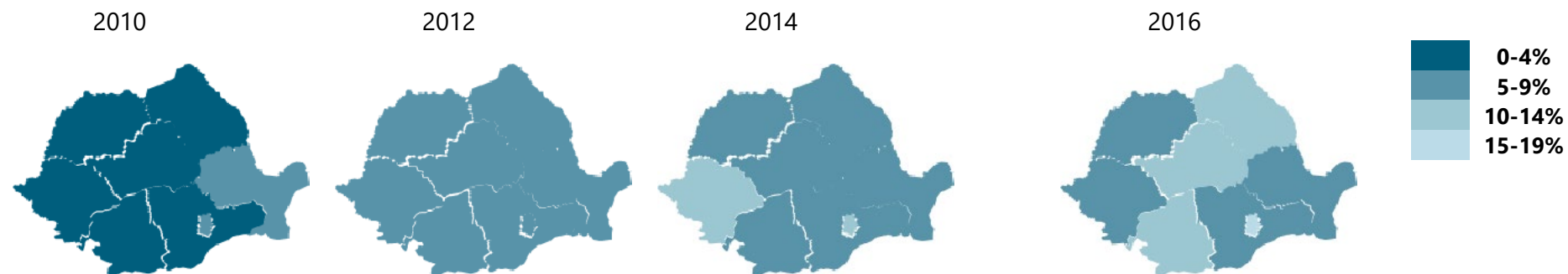
4.1. Remaining life expectancy achievement of 50 years at age 55



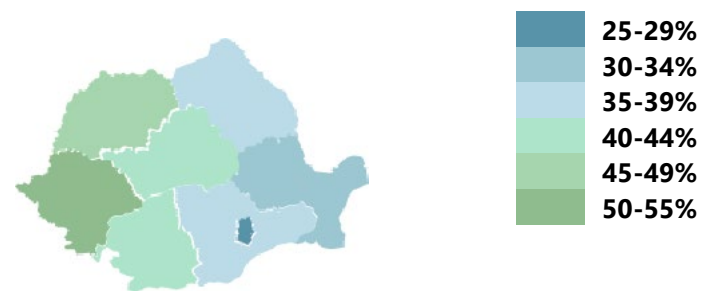
4.3. Mental well-being 2010, 2016



4.4. Use of ICT



4.5. Social connectedness 2016



4.6. Educational attainment

