

PRESSURE OF AGEING ON REGIONAL DEVELOPMENT. CHALLENGES AND LIMITS FOR THE LABOUR MARKET

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Abstract:

Using official statistics, the paper aims to contribute to regional development studies in Romania from perspective of labour market challenges and limits and the increasing number of elderly people participating in economic activity.

Regional level is considered for analysing the social productivity of labour in terms of GDP and employment. The employment is analysed from the perspective of share and structure of elderly people on the labour market. In this respect, activity rates, ageing index and economic dependency ratio are reviewed. In order to shape the determinants of employment of elderly people, poverty measures at NUTS 2 level are figured out.

Key words: Employment, Labour Force, Social productivity of labour, Regional Development, Ageing

JEL classification: J40, R10

1. INTRODUCTION

Romania's usual resident population aged 65 and older is projected to increase from 3.3 million persons representing 16.6% of the population in 2014 to 3.9 million persons in 2030 with a share of 21.4% of the projected population and to 4.0 million persons (31.0%) in 2060 (National Institute of Statistics).

Table 1. Usual resident population of Romania – projection for horizon 2030 and 2060

	2014	2030	2060
Usual resident population, thousands persons	19942.6	18107.1	13031.8
of which, by age groups, in %:			
0-14 years	15.5	12.1	9.9
15-24 years	11.4	10.7	8.5
25-34 years	13.9	11.6	10.1
35-64 years	42.6	44.2	40.5
65 years +	16.6	21.4	31.0
Ageing Index, number of persons 65 years+ per hundred persons 0-14 years	106.7	177.2	311.5

Source: National Institute of Statistics and own calculations

The ageing of the population is driven by declines in fertility and increased longevity. The working-age population (15-64 years) that will provide most of the income to support these people will decrease from 67.9% in 2014 to 66.5% in 2030 and to 59.1% in 2060, while proportion of youth population (0-14 years) is expected to decrease also from 15.5% in 2014 to only 9.9% in

2060. The direct and obvious consequence will be a significant increase of the pressure on central and local governmental budgets for insuring social protection and health services for the elderly. Moreover the population ageing will probably lead to a sharp change in the structure of the local governmental budgets with too lower available funds for other services than the ones dedicated to the support of elderly.

The analysis conducted in this study relies on demographic and employment statistics, as well as on poverty measures at regional level for the period 2008-2013. As the poverty statistics at NUTS 3 level are not available, the study will outline a regional analysis at NUTS 2 level (regions).

2. DATA ANALYSIS ON POPULATION AGEING IN ROMANIA

Romania's usual resident population is rapidly ageing, like most EU Member States. The consequences of this process are in sight of economic and social processes, such as employment, education, health, mobility.

The accelerated phenomenon of population ageing owes to negative natural increase rate – in the last twenty years the number of deaths exceeding increasingly the number of live births - and, in parallel, due to the increase of life expectancy. Birth rate declining has reduced the young population (0-14 years). Also, the extension of life expectancy has resulted in increasing the number and proportion of elderly population (65 years and over).

Table 2. Share of elderly people in total population, NUTS 2 level

- % -

	2008	2009	2010	2011	2012	2013
North-West	13.9	13.9	14.0	14.1	14.8	15.3
Center	14.0	14.0	14.1	14.1	15.2	15.6
North-East	14.5	14.5	14.5	14.3	16.1	16.3
South-East	14.8	14.8	14.9	14.8	16.4	16.7
South - Muntenia	16.7	16.7	16.7	16.7	17.4	18.1
Bucharest - Ilfov	14.3	14.1	14.1	14.0	14.0	14.1
South - West Oltenia	16.3	16.3	16.5	16.4	17.7	18.0
West	14.4	14.4	14.4	14.4	15.1	15.7

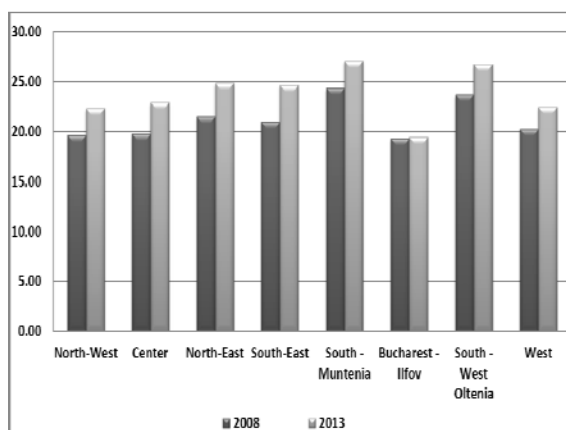
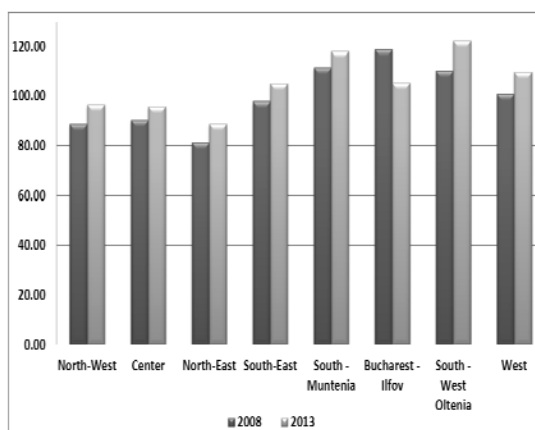
Source: Eurostat, online data code demo_r_pjangroup

The most "ageing" regions in the period under review are South - Muntenia and South - West Oltenia, with the share of the elderly population between 16.7% and 18.1%. Declining birth rates and mortality comedown, supported by a negative external migration marked the share of the elderly in the total population. At the opposite pole are situated the following regions: North-West, Center and Bucharest-Ilfov, with a share of elderly people in total population ranked between 13.9% and 15.6%.

Ageing index (ratio between elderly and youth expressed as percentage) and old-age dependency ratio (ratio between elderly and working-age population expressed as percentage) are two indicators showing the dynamics of population ageing.

Figure 1. Old-age dependency ratio in

Figure 2. Ageing index in Romania,

Romania, NUTS 2 level (%)**NUTS 2 level (%)**

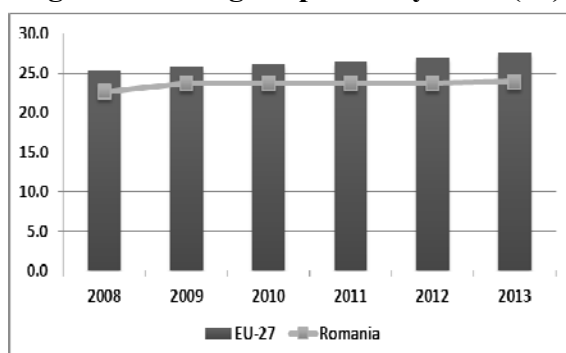
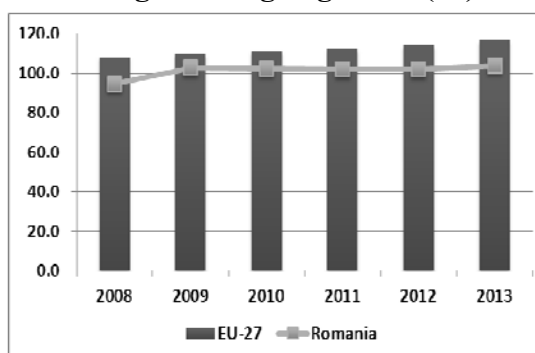
Source: Eurostat, online data code demo_r_pjangroup

The highest old age dependency ratios in 2008 were 19.3 in Bucharest-Ilfov and 23.7 in South - West Oltenia. In 2013, in South - Muntenia were 27.1 persons 65 years and over per one hundred persons aged 15-64 years and in Bucharest-Ilfov the burden was the lowest in Romania, i.e. 19.4 elderly persons per one hundred working-age persons.

Ageing index ranges between 81.2% (North-East) and 118.9% (Bucharest Ilfov) in 2008. In 2013, the ranking suffered few insignificant changes. The extreme values registered were 88.7% (North-East) and 122.1% (South-West), while in Bucharest-Ilfov the index show 105.2 persons 65 years old or over per hundred persons under age 15.

In the following we will refer to the evolution of these indicators not only for Romania but also in comparison with the average of European Union. In the period 2008-2013, the average in EU-27 of old-age dependency ratio constantly increased from 25.45 to 27.51 elderly persons per one hundred working-age persons. In Romania, less elderly people to one hundred working-age persons were found as compared to the European Union, and the growth was less accelerated, i.e. from 22.6% to 23.9%.

The ageing index has lower values for Romania than for the average EU-27, highlighting that in Romania are lower elderly persons per hundred young persons than in EU-27, although the rhythm is more rapid in Romania. The EU-27 average ageing index grew from 108.3% in 2008 to 116.5% in 2013 while in Romania, from 94.5% to 103.8% during same period of time.

Figure 3. Old-age dependency ratio (%)**Figure 4. Ageing index (%)**

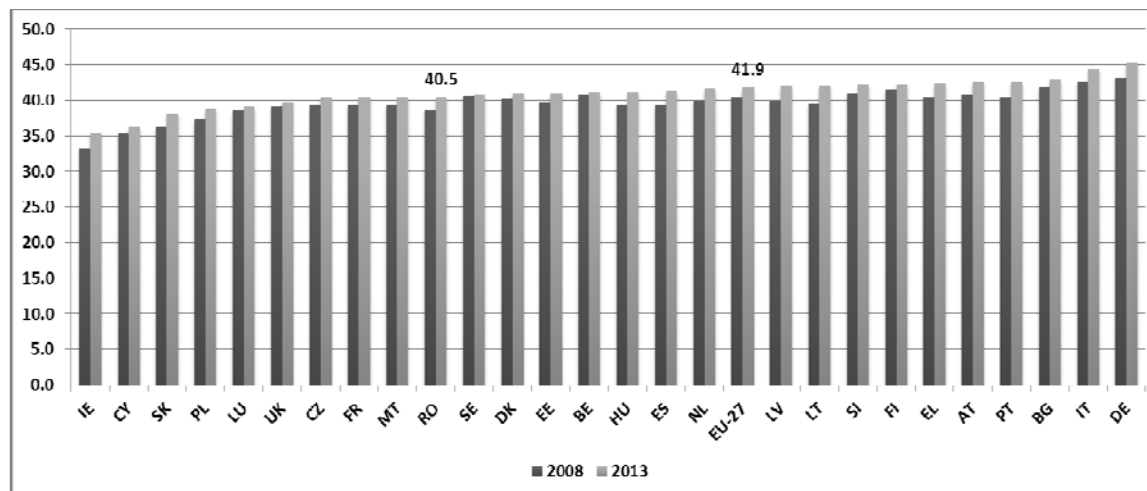
Source: Own calculations, based on Eurostat, online data code demo_r_pjangroup

In Romania, the retirement age is linked to life expectancy. Other characteristic in Romania's public schemes for retirement is the non-penalized early retirement. Up to 5 years before the statutory retirement age of the person can be granted. Partial early retirement is permitted for persons who exceeded the statutory full period of social contribution with less than 8 years and is penalized by diminishing the benefits calculated for the old age pension, by 0.75% for each month

of early retirement, before complying with the old-age pension criteria. (Aging report EU 2015, p. 307)

Figure 5. Median-age population, EU-27

- years -



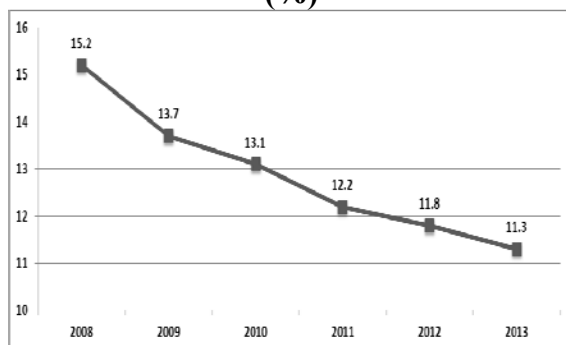
Source: Eurostat, online data code demo_pjanind

The phenomenon of population ageing may be also illustrated through the values of median-age. The median-age in Romania in 2013 was 40.5 years, comparing with 41.9 years, which is the median-age for EU-27. Countries like Ireland, Cyprus and Slovakia have the lowest median-ages in Europe in 2008, as well as in 2013, i.e. between 33 and 38 years. Meanwhile, Germany, Italy, Bulgaria and Portugal have the highest median-age, of about 43-45 years.

3. PARTICIPATION OF THE ELDERLY PEOPLE IN ECONOMIC ACTIVITY IN ROMANIA

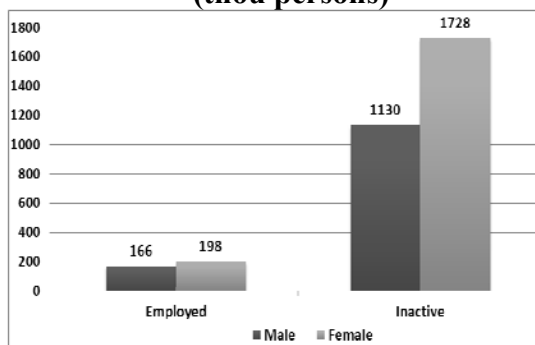
In Romania, the participation in the economic activity of the elderly people was higher (15.2%) during the financial crisis in 2008, but afterwards it declined to 11.3% in 2013.

Figure 6. Economic activity rate of elderly people in Romania, 2008-2013 (%)



Source: National institute of Statistics, Labour Force Survey

Figure 7. Elderly persons participation in economic activity, by gender, in 2013 (thou persons)



As the Figure 7 shows, elderly women were more frequent as compared to men among both employment and economically inactive population.

The labour force participation rate for persons aged 15 years and over in Romania has a quasi-constant value during 2008-2013. The regions with the highest activity rates are North-East and Bucharest-Ilfov while the ones with the lowest levels are Centre and South-East. In three out of

eight regions, the activity rate increased in 2013 as against 2008: North-West (by 4.6 percentage points), North-East (by 3.9 percentage points) and Bucharest-Ilfov (by 2.3 percentage points). The highest decrease may be observed for region Centre (by -2.9 percentage points).

Gender disparities are higher in regions South-East where activity rate for men exceeds the one for women by 22.3 percentage points (in 2013) and West (with a gap of 20.6 percentage points). The smallest gap between men and women in terms of activity rate are met in region North-East (11.4 percentage points) and North-West (13.9 percentage points).

Figure 8. Labour force participation for persons aged 15 years and over in Romania, NUTS 2 level (%)

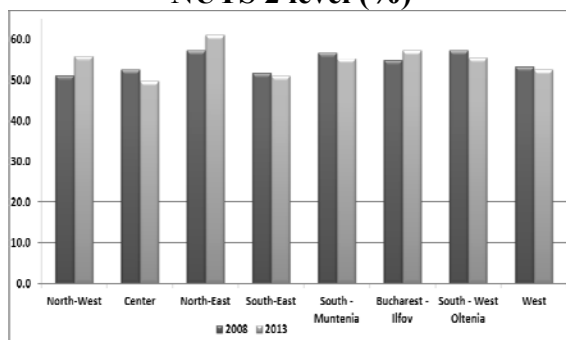
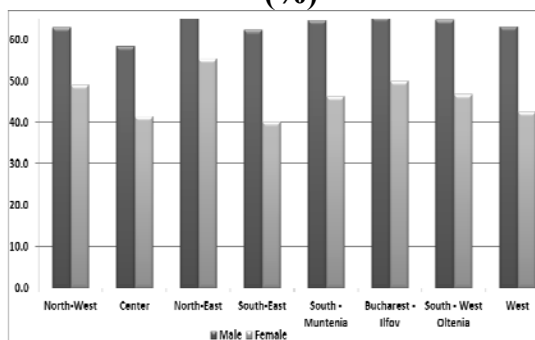


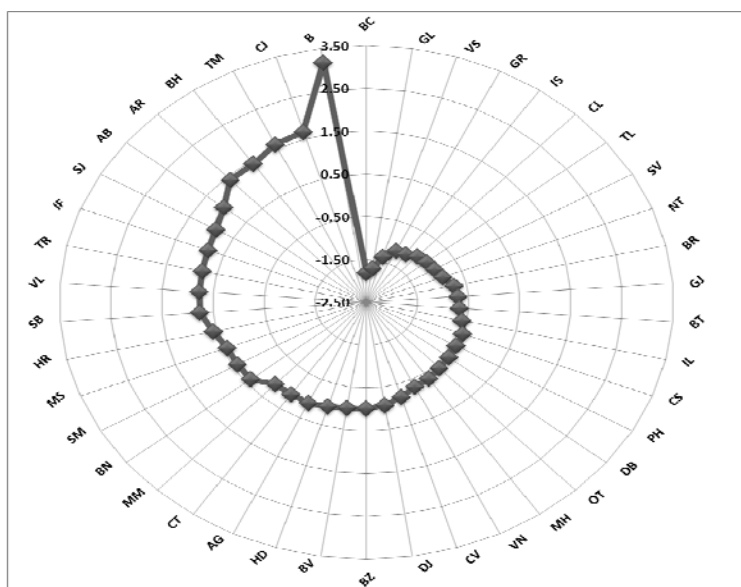
Figure 9. Labour force participation by gender for persons aged 15 years and over in Romania, in 2013, NUTS 2 level (%)



Source: National Institute of Statistics, Tempo online code AMG155F

In the following statement an analysis based on Z-score method was conducted, on NUTS 3 level (counties), for the year 2013. The employment rates of labour resources were grouped by Z-score method. The analysis reveals that counties from North - East, South - East and South - Muntenia have the lowest employment rate of labour resources. In North - West, West and Bucharest - Ilfov is the highest rate of employment among labour resources.

Figure 10. Employment rate of labour resources in Romania, in 2013 (z-score method)



Source: National Institute of Statistics, Tempo online code FOM116A, own calculations

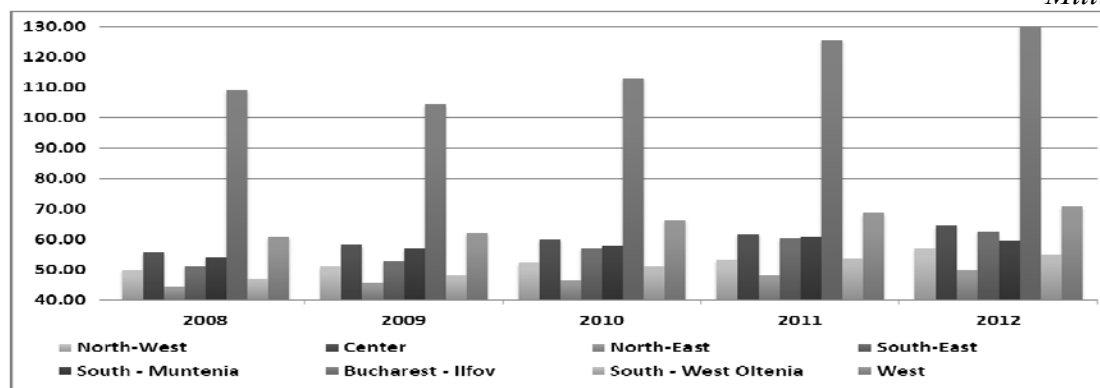
4. SOCIAL PRODUCTIVITY OF LABOUR AND POVERTY

Social productivity of labour and poverty may highlight the discrepancies between different geographical areas with respect to economic and social development.

The social productivity of labour was computed as the ratio between GDP (million RON) and civil employed population (persons).

Figure 11. Social productivity of labour in Romania, 2008-2012, at NUTS 2 level

- Million RON/pers -



Source: authors' calculations, based on National Institute of Statistics data, Tempo online codes CON103I and FOM103D

Given relatively modest performance of the agricultural sector in Romania, performed mainly in the traditional way, the regions with wide agricultural sector are facing low economic efficiency, i.e. low social productivity of labor. These regions are North-East and South-West Oltenia.

At the opposite pole are situated the regions in which the tertiary sector (services) has a large share in the economy. These regions (Bucharest-Ilfov and West) have a healthy economic growth, therefore a high social productivity of labour. This is especially the case of two of the counties (NUTS 3 level) which are composing these regions that have the largest GDP in Romania: Bucharest and Timis.

The impact of agriculture on employment and the situation of elderly may be also emphasized through the regional poverty indicators.

The poverty measures at NUTS 2 level could be determinants of employment. At-risk-of-poverty rate is an indicator measuring the share of people with an equivalised disposable income (after social transfer) below the threshold set at 60 % of the national median equivalised disposable income. Over 2008-2013, the poorest regions in Romania are North-East (with a share between 29.5% in 2010 and 33.7% in 2012) and South-West Oltenia (with a share between 28.9% in 2011 and 37.4% in 2009). The regions with the lowest share of people at-risk-of-poverty-rate are Bucharest-Ilfov, North-West and Center. The gap between the regions is high. Bucharest-Ilfov is about 10 times less poor than North-East.

Table 3. At-risk-of-poverty rate in Romania, 2008-2013, at NUTS 2 level

- % -

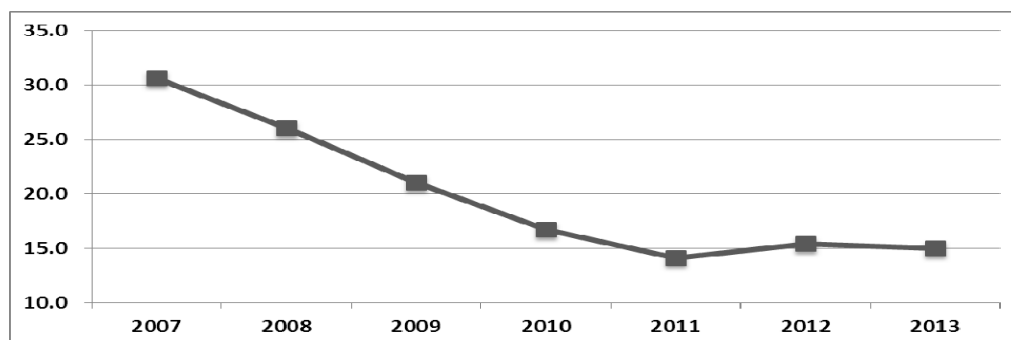
	2008	2009	2010	2011	2012	2013
Romania	23.4	22.4	21.1	22.2	22.6	22.4
North-West	18.9	18.7	14.6	20.0	15.9	15.9
Center	19.9	19.4	19.4	18.0	18.6	15.9
North-East	32.4	31.5	29.5	32.4	33.7	33.5
South-East	28.2	22.5	26.3	28.0	29.7	32.0
South - Muntenia	22.3	23.0	22.2	21.6	22.1	22.4
Bucharest - Ilfov	6.5	6.4	3.1	3.4	2.7	3.9

South - West Oltenia	36.9	37.4	30.7	28.9	29.9	30.1
West	15.9	15.4	17.6	18.8	20.5	22.9

Source: National Institute of Statistics, Tempo online code SAR102D

At-risk-of-poverty rate for elderly people is higher than the average, i.e. irrespective the age group, with a gap of about 7.2 – 7.4 percentage points (more). During the crisis the at-risk-of-poverty rate for elderly people was double (30.6% in 2008) as against 2013 (15.0 %).

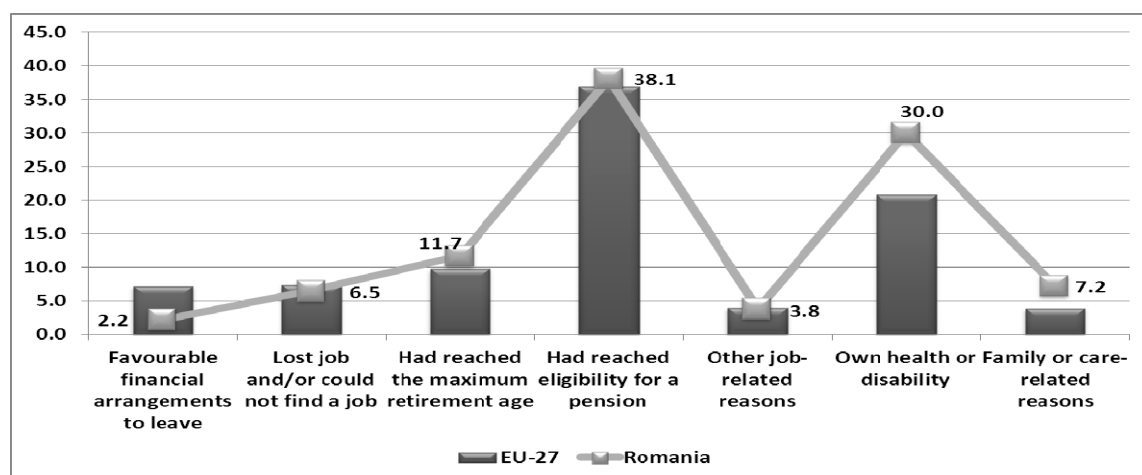
Figure 12. At-risk-of-poverty-rate of elderly people in Romania, 2007-2013



Source: Eurostat, online data code ilc_li02

According to the 2012 Labour Force Survey ad-hoc module “Transition from work to retirement”, the main reason for economically inactive persons who receive a pension to quit working (50-69 years) is the reaching of eligibility for a pension (38.1% in Romania). Also, in Romania, three out of ten people admit that they quit working because of own health or disability. In EU-27 as well as in Romania, a small percentage of 50-69 years old persons quit working because of favorable financial arrangements to leave, lost job or other job-related reasons.

Figure 13. Main reason for economically inactive persons who receive a pension to quit working (50-69 years), 2012



Source: Eurostat, online data code lfso_12reasnot

The same ad-hoc module of Labour Force Survey reveals that for the persons receiving a pension but continuing working the reasons consist mainly in financial reasons. Therefore, one out of three persons in the EU-27 continues the work in order to provide sufficient personal/household income. Meanwhile, in Romania, nine out of ten persons that receive a pension continue working for the same financial motivation. For EU-27, another important reason is the establishing/increasing future retirement pension entitlements and to provide sufficient

personal/household income. But, for Romania, the second most important reason is just to establish or increase future retirement pension entitlements.

These differences in motivation among EU-27 and Romania appear due to the level of economic development and mentality. In Romania, the elderly persons who are beneficiary of pension system are continuing working because the pensions are not enough to support their financial needs. Therefore, they are just aiming to attract new incomes and to increase their future retirement pension entitlements.

Table 4. Main reason for persons who receive a pension to continue working, 2012

- % -

Main reason	EU-27	Romania
To establish or increase future retirement pension entitlements	6.8	5.7
To provide sufficient personal/household income	37.2	90.5
To establish/increase future retirement pension entitlements and to provide sufficient personal/household income	14.6	1.6
Non-financial reasons, e.g. work satisfaction	29.2	2.2

Source: Eurostat, online data code lfso_12staywork

CONCLUSIONS

The labour market challenges and limits in terms of elderly people participating in economic activity have a direct impact on the regional development. The direct consequence of the trend in the population structure of Romania will be a significant increase of the pressure on central and local governmental budgets for insuring social protection and health services for the elderly. The population ageing will probably lead to a sharp change in the structure of the local governmental budgets with too lower available funds for other services than the ones dedicated to the support of elderly.

The study concludes that regions with the highest at-risk-of-poverty rates have the lowest social productivity of labour, hence they signal the need for economic development policies. A special case is the one on North-East region, because it is one of poorest region, but it has the highest labour force participation for persons aged 15 years and over and one of the lowest employment rates of labour resources (civil employed population). In terms of economic activity, another important remark is that the regions with wide agricultural sector are facing low economic efficiency, i.e. low social productivity of labor. These regions are North-East and South-West Oltenia. The regions from south (South-Muntenia and South-West Oltenia) are the most affected by the ageing process.

REFERENCES

1. European Commission (2014), The 2015 Ageing Report, in the European Economy Series, 8/2014, ISBN 978-92-79-35351-2 (online)
2. Eurostat Database, <http://ec.europa.eu/eurostat/data/database>
3. Eurostat, Labour Force Survey, Ad-hoc module "Transition from work to retirement", http://ec.europa.eu/eurostat/statistics-explained/index.php/Labour_force_survey_statistics_-_transition_from_work_to_retirement
4. Gavrilov L.A., Heuveline P. "Aging of Population." In: Paul Demeny and Geoffrey McNicoll (Eds.) The Encyclopedia of Population. New York, Macmillan Reference USA, 2003, Available at: <http://www.galegroup.com/servlet/ItemDetailServlet?region=9&imprint=000&titleCode=M333&type=4&id=174029>

5. National Institute of Statistics, Labour Force Survey, annual database, Tempo on-line, <http://statistici.insse.ro/shop/>
6. Pisićă S., Vasile V., Voineagu V., (2012), Piața muncii între formal și informal, Bucharest: Editura Expert, ISBN 978-973-619-296-9.
7. Pisićă S. (coord.), Moldoveanu R., "Forța de muncă în România: Ocupare și șomaj în anul..." (annual publication), National Institute of Statistics, 2005 – 2013, ISSN 1223-6446
8. Pisićă S. (coord.), Postelnicu, M., Apostol, M., et al., (2012), "Îmbătrânirea populației României", Institutul Național de Statistică, ISSN 2285-8237

Annex

Z-Score analysis for employment rate of labour resources

NUTS 2 (region)	NUTS 3 (county)	Z-Score	NUTS 2 (region)	NUTS 3 (county)	Z-Score
North - East	Bacau	-1.81	South - East	Buzau	-0.01
South - East	Galati	-1.70	Centru	Brasov	0.00
North - East	Vaslui	-1.39	West	Hunedoara	0.05
South - Muntenia	Giurgiu	-1.17	South - Muntenia	Arges	0.11
North - East	Iasi	-1.13	South - East	Constanta	0.11
South - Muntenia	Calarasi	-1.03	North-West	Maramures	0.11
South - East	Tulcea	-1.00	North-West	Bistrita-Nasaud	0.39
North - East	Suceava	-0.96	North-West	Satu Mare	0.40
North - East	Neamt	-0.89	Centru	Mures	0.42
South - East	Braila	-0.74	Centru	Harghita	0.57
South - West Oltenia	Gorj	-0.71	Centru	Sibiu	0.76
North - East	Botosani	-0.68	South - West Oltenia	Valcea	0.77
South - Muntenia	Ialomita	-0.58	South - Muntenia	Teleorman	0.79
West	Caras-Severin	-0.48	Bucharest - Ilfov	Ilfov	0.82
South - Muntenia	Prahova	-0.48	North-West	Salaj	0.89
South - Muntenia	Dambovita	-0.44	Centru	Alba	1.06
South - West Oltenia	Olt	-0.40	West	Arad	1.40
South - West Oltenia	Mehedinti	-0.34	North-West	Bihor	1.42
South - East	Vrancea	-0.31	West	Timis	1.60
Centru	Covasna	-0.18	North-West	Cluj	1.67
South - West Oltenia	Dolj	-0.06	Bucharest - Ilfov	Municipiul Bucuresti	3.16

Source: authors' calculations, based on National Institute of Statistics data, Tempo online code FOM116A