

ECONOMIC EFFECTS OF DEMOGRAPHIC AGEING

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Abstract: Romania goes through profound changes due to unprecedented demographic developments. As a result of declining birth rates and emigration after 1990, by the year 2060 is looming a possible doubling of the percentage of the population 65 years and over, from 15 to 30%, and the working age population to fall by about 30 percent. Deterioration of the relationship between labour force and inactive population leads to pressure on the public budget and tax system, strains on pension and social security systems, redefining consumer preferences, type and size of the saved or spent amounts, higher demand for healthcare services, increasing poverty risk for elderly households.

Key words: demographic ageing, age dependency ratio, median age, population projections.

1. Introduction

Romania's population structure is in a continuous change and ageing. Evolution of demographic phenomena of the last two decades, characterized by maintaining low fertility, slight increase in life expectancy at birth, and a negative balance of out-migration decreased the country's population. Demographic decline is accompanied by deterioration of the population's age structure compared with a young population, therefore having different proportions of the population in the school, employed in work or the retired, generating different medical needs, different consumer preferences, and different patterns of leisure. The age structure of a population is closely related to the way in which that population lives.

In addition, reducing the population segment that contributes to overall

economic output growth outlook worsens and brings challenges in terms of number of people involved in providing health services and care for the elderly.

2. Demographic developments and current situation

A picture of the ageing degree of the Romania population at the moment, but also of its evolution (from 1990 onwards) can be achieved by following several aspects:

- *Romanian population age structure by major age groups* (under 15, 15-64 and 65 and over) (table 1)

Young population (under 15 years) decreased steadily during 1990 to 2014, from 5,508.5 thousands to 3,159.7 thousands, while reducing their share in the total population (from 23.73% to 14.86% in 1990 at January 1, 2014).

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The population of working age 15-64 declined slightly during 1990-2014, from 15,319.5 thousands to 14,849.3 thousands, concomitant with an increase in the share of this age group in the total population from 66% in 1990 to 69.9 % at January 1, 2014.

Elderly population (65 and over) increased both in absolute size (from 2,383,400 persons to 3,251,000 persons in the period January 1, 1990 January - 1 2014) and the share of this age group in the total population (from 10.3% to 15.3%).

Table 1
Romanian population age structure by major age groups, 1990 – 2014*
(% of the total population)

	1990	1995	2000	2005	2010	2014
0-14 years old	23.73 %	20.83 %	18.52 %	15.87 %	15.15%	14.86 %
15-64 years old	66.00 %	66.63 %	68.29 %	69.47 %	69.91 %	69.85 %
65 years old or over	10.27 %	12.54 %	13.19 %	14.66 %	14.94 %	15.29 %

Source: own calculations using National Institute for Statistics data

* - usual resident population at January 1.

- *Median age*: divides the age distribution of the whole population into two equal parts, with 50% of persons below the median age and the other 50% above. The median age increased from 32.5 years in 1992 census, 34.1 years in the 2002, to 36.9 years in 2005 and to 39.1 years in 2011, demonstrating the extra emphasis of ageing. However, in 2010 the median age recorded in Romania was lower than the European one, 40.9 years (EU-27).

- *Age dependency ratio*: measure the potential level of support received by

young (aged 0 to 14 years) and old people (aged 65 years and over) from the population of working age (conventionally considered as those aged from 15 to 64), expressed per 100 people.

Where detailed data are lacking for calculating the economic dependency ratio, age-dependency ratio is often used as an indicator of the economic burden the productive population wears even though some persons defined as "dependent" are active and others productive age (work) are maintained (dependent economically).

Young, old and total age dependency ratio, 1990 - 2014

Table 2

	1990	1995	2000	2005	2010	2014
Young-age dependency ratio	36.0 %	31.3 %	27.1 %	22.8 %	21.7 %	21.3 %
Old-age dependency ratio	15.5 %	18.8 %	19.3 %	21.1 %	21.4 %	21.9 %
Total age dependency ratio	51.5 %	50.1	46.4 %	43.9 %	43.1 %	43.2 %

Source: own calculations using Table 1 data.

Increasing the elderly dependency ratio burden the economic and financial situation of the country (will be affected the economic growth, the function of the health and pension systems, investments, savings, consumption, etc.), and is felt in

lower real incomes of Romanian households (individuals adapt their behavior taking account of developments in the economic environment and the fact that they live longer).

3. Demographic trends (forecast) 2010-2060

Starting 2006, reduced generations born after 1989 began to be included in the fertile segment of the population. In these conditions, due to maintaining low both the fertile segment of the population and the fertility below replacement level of generations, the young population is expected to experience a significant decrease in the period 2010-2060.

The phenomenon of the population demographic ageing, characterized by

reducing the number and proportion of young people in the total population, accompanied by increased number and proportion of elderly people, will increase in the next period. Median age of the population will increase to 38, 3 years in 2010 to 52.4 years in 2060.

The share of elderly population in total population will increase from 14.9% during 2010-2060 to 34.8% and the old age dependency ratio will increase from 21.4 to 64.8 in the period 2010-2060.

Table 3

Estimated and projected values for median age, percentage of population aged 65 years and over, and old age dependency ratio, on 1 January selected years

Years	Median age on 1 January	Percentage of population aged 65 years and over on 1 January	Old age dependency ratio on 1 January
1970	30.9	8.5	13.0
1980	30.5	10.3	16.3
1990	32.6	10.3	15.6
2000	34.4	13.2	19.3
2010	38.3	14.9	21.4
2020	41.8	17.4	25.7
2030	45.7	20.2	30.2
2040	49.8	25.4	40.7
2050	51.4	30.8	53.8
2060	52.4	34.8	64.8

Notes: 1970-2010: estimated values; 2020-2060: projected values.

Source : EUROSTAT

http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Population_projections

Eurostat's population projections suggest that there will be less than two people of working age (15 to 64 years) for every older person aged 65 or more in Romania by 2050, and even three people of working age will be for two older person, by 2060, compared with a ratio of almost four to one, today; more, that demographic dependency ratios may be further influenced by unemployment or underemployment (which have the potential to reduce further the number of persons actually in work and supporting

the remainder of the society). Most consistent transfer between the working age population category and the elderly category is expected to occur during 2025-2035, when much of the baby-boom cohorts will reach retirement age.

If the years 1960-1970 are called baby boom years, it seems that grandparent boom is approaching. Whereas in 1970 there were on average about 4 youngsters (aged 0-14 years) for every elderly person (aged 65 or over), in 2014 (by January 1st) proportion was 1 to 1, by 2060 there may

be more than 3 elderly people for each youngster: in other words, more grandparents for fewer grandchildren than in the past. The presence of great-grandparents may also become more common, and the family more "vertical" (more generations) than "horizontal" (more siblings) so maybe we are in for a "grandparent boom". Could it become commonplace for people to move into retirement while still having one or both of their parents alive. Throughout history, populations may have boomed or shrunk, but is the first time in the history when the age distribution is shaped almost like reversed pyramids, with the oldest age classes bigger than the younger ones.

– Demographic picture of the next period is emerging as a result of the previous evolution of several demographic phenomena:

– Natality: recorded values steadily falling since 1989, although its reduction in recent years has been more moderate;

– A high level of abortions, although decreased in intensity after 1998;

– Female fertility in the 20-24 years group (which represented the most fertile age group until 1996) has been declining, and the 25-29 years and 30-34 years age groups fertility increased slightly.

– Total fertility rate decreased continuously, tendency is for 1 to 2 children per family (average 1.3 children / woman in the last 20 years). Although maternal age increased during the past 20 years, the conclusion is that couples practice demographic reduction behaviour and not a delay in time of the children number.

– Life expectancy has been increasing moderately in Romania since 1970. During 1990-2010, life expectancy at birth has increased significantly, especially for women (women: from 72.65 years to 77.3 years; men: from 66.56 years to 69.76 years, 1990-2010).

– Mortality reaches much higher values in old age, so that the higher generations are more numerous, the mortality is bigger in the period in which these generations reach age 65 and over. For example, due to coming into age groups 60 years and over of a large generations born during 1945-1955, the number of deaths will increase until around 2020. Then will be decreasing deaths due to coming into these age groups the generations from 1956 to 1966. Decreases generation born after 1966 will increase mortality by 2030.

– International migration, strongly felt by Romania by emigration form, has contributed to the country's population change in number and structure, with a significant proportion of young skilled labour force migration. If you consider the fact that most of the Romanian emigration (over 63% in 2010) was female and 64% are aged between 18-40 years, the exact period of fertility, we obtain the image of a births losses recorded by our country.

– Long-term consequences of demographic developments registered in the past are:

– By 2050 trends in population structure are negative, demonstrating rapid population aging, low birth rates and increased elderly dependency ratio;

– Beginning with 2000, young people under 20 years category was outnumbered by the category of population aged 20-40 years;

– From 2030-2035, on the labour market will enter the transition born children generation, much reduced as number. Only a recovery in fertility rate from 1.3 to at least 1.5, as is the EU average, on medium term, and long term 1.7-1.8, helped by a slowdown in migration flows would reduce this process;

– In the years 2060, following increased rate of ageing of the population, support base of the pyramid population

- consisting of children and young people will be exceeded in volume by category elderly over 60 years;
- We expect an increase of the difference between the number of women and men, given the projected life expectancy of Romania's population grows, being favorable to women;
 - Additional pressure is exerted by the exclusion of the Roma in the labor market, one of the largest minority groups, youngest and with the most dynamic growth; if it will continue this exclusion, further decrease of the population with a job will be even more emphasized than the one suggested by demographic estimates;
 - The problem of elderly without pension and health insurance will be visible especially after 2025, when the people illegally working or not present at all at work will reach old age without the benefit of pension or health insurance, and minimal service costs for them will be supported by the social care system.

4. Medium and long term effects of demographic ageing

The ageing of the population brings significant challenges for families and individuals, implications for labour and product markets, constraints for public policies and budgets.

Many of the challenges that arise from population ageing include:

- pressure on public budgets and fiscal systems;
- strains on pension and social security systems;
- possible labour market shortages as the number of working age persons decreases;
- adjusting the economy and in particular workplaces to an ageing labour force;
- the need for increased numbers of trained healthcare professionals;

- higher demand for healthcare services and long-term (institutionalised) care;
- potential conflict between generations over the distribution of resources.

Population growing ageing in the context of financial crisis, unemployment and job insecurity emphasizes the vulnerability of some households. The risk of poverty is higher in young and elderly households, in particular for the case of elderly people living alone.

Financial behavior (spending / saving) is different from youth, maturity and old age, in Romania the elderly prefer to save in bank deposits, while young and adults mostly choose the private pension funds, deposits and life and health insurances. Consequently, a variable such as the saving rate can be significantly influenced by a structural demographic variable, independent of economic activity. All households can be considered in the position of debtor or creditor of the economy, depending on the age structure of the population. The predicted demographic of the population is expected to change the volume and the type of the amounts saved.

While for many more developed countries in Europe there is a chance to improve the process of ageing, due to the phenomenon of immigration which by much lower average age of new entrants, contributes to the reduction of the average age of the population, in the case of Romania this does not help. On the contrary, Romania is exporting young population, aggravating by the emigration phenomenon the process of ageing, and emphasizing the dependency of the elderly population.

The pension system is a strongly affected component by changes occurring in the economic and demographic level. The financial crisis has caused difficulties in the pension systems in all countries due to increasing unemployment, reducing

economic growth, the increase in public debt and financial market volatility. In addition, the pension system in Romania is also burdened by the effects of specific actions, as were massive early retirements in 1990, which reduced the number of taxpayers by about 5% and the number of pensioners increased by 16%, massive increase in the number of pensioners due to work group allocation (retirement 5-10 years earlier than the normal retirement age) or the ease with which disability benefits were obtained without legal basis.

During 1990-2010, the average number of employees decreased from 8,156 million to 4.376 million people, while the average number of the public retirees (excepting the pensioners that worked in army, police, secret services, religious cults and justice, for whom the pensions are not paid by National House of Public Pensions) increased from 2.380 million to 4.768 million people. In other words, if a retiree in 1990 was supported by 3.43 employees, in 2010 the ratio was less than 1 to 1 (0.92 employee for one retired). From the perspective of economic dependency ratio of the elderly, Romania was in 2010 ranked 7 among the 28 European countries analyzed, being a relatively young country; according to forecasts, Romania will occupy the last place in 2060.

In the future it is anticipated progressive increase of total expenditure on pensions. Problems not only make absolute increase in the number of pensioners in the context of population ageing, but also that the workforce will narrow emphasizing dependency ratio, the increase of the amount of pensions, the extent of the average duration of payment of a pension as a result of increasing life expectancy, reduced contribution of the private pension system to reducing pension expenditure.

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