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PRESENT STATE AND THE PERSPECTIVES OF THE AGEING OF EUROPEAN POPULATION

ABSTRACT. This paper aims at presenting the process of population ageing in the countries of Europe during the decade 1996–2005, as well as in the perspective till the year 2015, considered against the backdrop of the main factors shaping this process, i.e. the life span, level of fecundity and the percentage of population in the 0–14-year age class, as well as the migration seen in the balance of this process. In further parts of the paper an attempt was made, on the one hand, to point out, the areas of high levels of demographic senility and, on the other hand to underscore the dynamics of the process and thence to indicate the countries most threaten by this phenomenon.

KEY WORDS: population, demographic structures, ageing of societies, Europe.

As never before, the ageing of population has become a multi-aspect and universal issue. On the global scale, this process is in progress from the 1970s while in individual continents its beginnings of it dates back to different points in time (Table 1).

Table 1. The level and projections of demographic ageing (by I_{SD})

YEAR	WORLD	EUROPE	ASIA	AFRICA	NORTH AMERICA	LATIN AMERICA	AUSTRALIA AND OCEANIA
1955	14.6	33.6	10.8	7.5	29.3	8.5	23.1
1965	14.0	35.5	9.6	7.2	30.4	9.0	21.6
1975	15.2	48.5	10.3	7.1	40.7	10.2	23.3
1985	17.2	55.9	12.8	6.9	53.7	12.1	30.0
1995	20.5	72.0	16.0	7.3	56.2	15.2	36.1
2005	26.1	101.3	23.1	8.0	61.6	20.8	42.8
2015	32.4	116.6	30.7	9.0	74.6	30.2	55.9

Source: author's own study based on World Population Prospects (The 2006 Revision Population Database).

The earlier the civilisation changes have began started stamping its mark on demographic transformations, the more visible is this phenomenon a given area. This also holds for Poland where the issue has been ignored till as late as in the 1960s by almost all, with few exceptions, given the political and demographic realities of the period. All relished the phenomenon of the baby boom, and only now the process of ageing has been noted and people have began to sound alarming, supported by catchy press headlines, such as: „The whole Europe combats the issue of ageing societies" of „Will the demographic bomb be dropped here (read 'in Poland') striking pensioners (the titles from *Gazeta Wyborcza* daily, May 2007). The statements of the European Commission, and forecasts till the year 2030, resulting from assumptions and findings of the experts from the Central Statistical Office, the Government Population Council, and from the Polish Academy of Sciences, Committee for Demographic Sciences are not optimistic. The latest Report of the World Bank for Europe and Central Asia (June 2007) also implies that by the year 2025 the societies in many European on former Soviet countries will be among the oldest societies in the world which will bring about the risk of serious and broadly defined consequences in social and economic spheres.

Irrespective of the biological and medical interpretation of a young or old human, his/her general psycho-physical state, professional activity or even in terms the self- assessment in this regard, the problem outlined above should be elucidated in its demographic and statistical aspects. It is very difficult when considered in its global dimension, or almost impossible if the average age or life-span in various regions of the world are to be taken into account (Długosz, 1996, 2003). Applying a statistical generalisation, one should say that an old man is the one who 'nears the end of his life' with respect of the boundary determined for him by the average theoretical length of life. And a question springs up immediately where this boundary is to be set as it would be different for particular continents, or even countries.

It is also known, that this boundary varies with time too, and the speed of its movements seems to depend on two essential factors. Firstly, it is affected by the average age level of a given society, and also by the level of social and economic development of a given area (country, region). As stated by some, the human life has been 'programmed' for 120 years. On the one hand, some highly developed countries have already negotiated the barrier of 80 years of average life-span while other countries more backward, had problems with exceeding the threshold of 50 years. On the other hand, when the dynamics of extending the average life-span is analysed (the years 1950–2000–2050) certain slowing down of the process can be seen in the developed countries (the extension by 9.5 years was achieved in the years 1950–2000, while in 2000–2050 the forecast is 6.8

years), whereas the extension will be achieved in Africa (respectively by: 13.1 and 14.5 years). These trends are by no means surprising, as the process may not go indefinitely and the development of civilisation will strive to reach unified parameters of 'longevity' (Table 2).

Table 2. The changes and projections of average life expectancy in the world

Year	World	Europe	Asia	Africa	Latin America	North America	Australia and Oceania
1950–55	46.4	65.6	41.0	38.5	51.4	68.8	60.4
1975–80	60.2	71.3	59.1	48.7	58.6	73.4	67.9
2000–05	66.0	73.8	67.5	51.6	68.8	77.6	74.4
2025–30	71.9	78.2	74.1	59.8	74.0	80.9	78.4
2045–50	75.4	81.0	77.4	66.1	79.6	83.3	81.0

Source: World Population Prospects (The 2006 Revision Population Database).

The life-span is an important but not the sole factor shaping the relations between particular age groups in societies. There is another known factor, i.e. the lowering fecundity rate and rapidly decreasing proportion of children. This phenomenon has became universal and concerns all continents, although leaving out the situation prevailing in individual countries, the falling number of births was first recorded in Latin America (since 1961) and Europe (since 1968), and more recently in Asia (since 1981) and in Oceania, including Australia (since 1990). Even in Africa, the continent considered to have the greatest delay in terms of demographic and social processes, the overall decrease in the number of births has been noted since 1984 (Table 3), resulting in continual shrinking of numbers in the youngest population group (Table 4).

Table 3. Average birth rates (‰) – the level and projections

Year	World	Europe	Asia	Africa	Latin America	North America	Australia and Oceania
1950–55	37.4	21.5	42.6	48.9	42.6	24.6	27.7
1975–80	28.3	14.8	29.5	45.9	33.0	15.1	21.0
2000–05	21.1	10.2	20.1	37.7	21.5	13.8	17.8
2025–30	16.1	9.1	14.4	27.2	14.8	11.9	14.4
2045–50	13.6	9.5	12.1	20.4	11.9	11.4	12.4

Source: World Population Prospects (The 2006 Revision Population Database).

Table 4. The level and projections of the percentage population aged under 15

Year	World	Europe	Asia	Africa	Latin America	North America	Ausralia and Oceania
1950	34.2	26.2	36.2	41.8	40.2	27.2	29.9
1975	36.8	23.7	39.7	44.9	41.3	25.3	31.3
2000	30.2	17.5	30.5	42.5	31.8	21.3	25.8
2025	24.1	14.7	22.6	36.3	23.1	18.5	21.3
2050	19.8	14.6	18.0	28.0	18.0	17.1	18.4

Source: World Population Prospects (The 2006 Revision Population Database).

The third essential factor, directly affecting the demographic structure, is population movements with migrations across borders that determine the demographic situation at the level of specific countries. These trends are difficult to balance out today conclusively on the global scale, but given certain constant trends in fecundity and life-span they will remain the main stimulating factors in terms of either the rejuvenation or ageing of societies. It results from the fact that it is principally young members of the population who migrate and secondly, this group is more likely to procreate and so decide the numbers and structure of a young society. The UN forecasts imply that apart from Europe, North America and Australia, all other regions, today and in future up to the 2020s. will be characterised by a migration related population decline (Table 5).

Table 5. Population migration balance by continents (in thousands)

Year	Europe	Asia	Africa	Latin America	North America	Australia and Oceania
1995–2000	910	-1,322	-283	-773	1,386	82
2000–2005	1,590	-1,413	-442	-1,366	1,507	125
2005–2010	951	-1,209	-389	-849	1,399	98
2010–2015	806	-1,189	-379	-646	1,310	98
2015–2020	792	-1,231	-374	-586	1,300	99

Source: World Population Prospects (The 2006 Revision Population Database).

In the coincidence of these modalities, it should also be remembered that the changes in age structure and relations between particular age groups are and will be significantly affected by the shifts of the boomer generations their ‘echoes’, as well as of years with low birth rates. It will be particularly remarkable in several

(up to ten or so) years in Europe, in all countries of the continent, irrespective of their contribution to WW II warfare, because the post-war demographic explosion (compensation by the birth rates) affected all regions of Europe.

Thus, where should the start point of the beginning of the demographic (statistical) senility be set? For Europe, in relation to other continents, the age of 65 is applied most often. This is applied by the majority of demographers, and therefore this boundary is set at the average level of the third subsequent generation. In the current circumstances, this threshold may be or even should be lowered in other continents (except for North America and Australia) because of their different demographic specificity.

The objective of this paper was to synthesize the presentation of the process, the current state and forecasts concerning the ageing of the population up till the year 2015, in Europe which is called the 'Old Continent', for a variety of reasons. The range of the analysis spans to the year 2015, because it seems that this is the limit within which we reasonable accurately forecast. The basis for the analysis was the material published in *World Population Prospects*, updated in 2006. The homogeneity of a single source of data, although possibly containing some errors, allows multi-aspect comparisons with respect to all the issues discussed below, and permitted a certain minimisation of errors stemming from forecast estimates. The considerations of the basic issues covered all countries including the mini-states (Andorra, Monaco, San Marino and Liechtenstein), except for the Vatican and the autonomous or overseas territories (the Farroe Islands, Jersey, Guernsey, Isle of Man and Gibraltar), geographically considered part of Europe. The measure used to illustrate the progress of demographic senility, was the level of senility (I_{SD}), whereas the changes in this aspect were illustrated by the coefficients of demographic ageing (W_{SD}) (Długosz, 1996, 1998).

In 2005, the average life-span (average for both sexes combined) in Europe ranged from 65.8 years in Russia to 83.5 years in Andorra, with other countries in the group which has not exceeded the threshold of 70 years including also: the Ukraine (67.5), Belarus (69.5) and Moldova (69.6). The societies where people live the longest (above 80 years) include the residents of: Iceland (80.2), Guernsey (80.3), Switzerland and Sweden (80.4 each), and San Marino (81.5) (Fig. 1a). As it has been mentioned, the rate of extending the average life-span in Europe will slow down (Figs 2a and 2b). Nevertheless, all the countries of Western Europe (together with Gibraltar, Liechtenstein, Luxembourg, Malta, Monaco, the Farroe Islands, and Jersey) will exceed the threshold of 80 years (Fig. 1b).

In the process of the ageing of societies, the decline in the fecundity index will play an essential role. In Europe, in 2005, this index fluctuated from 15.1‰ in Albania to 8.3‰ in Germany. It is estimated that by 2015, the downward trend will continue in most European countries. The situation will, however, stabilise

in Austria, Bosnia, Greece, Malta, Poland and Great Britain, while a slight increase should be noted in post-Soviet countries and in Sweden, Germany and Monaco as well as in Albania, thereby maintaining the upward trend throughout (Fig. 3).

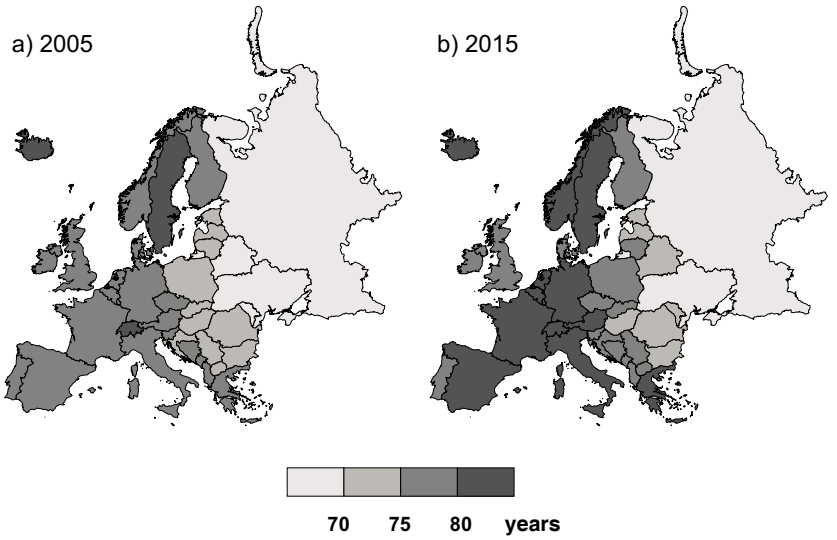

Fig. 1. An average life expectancy

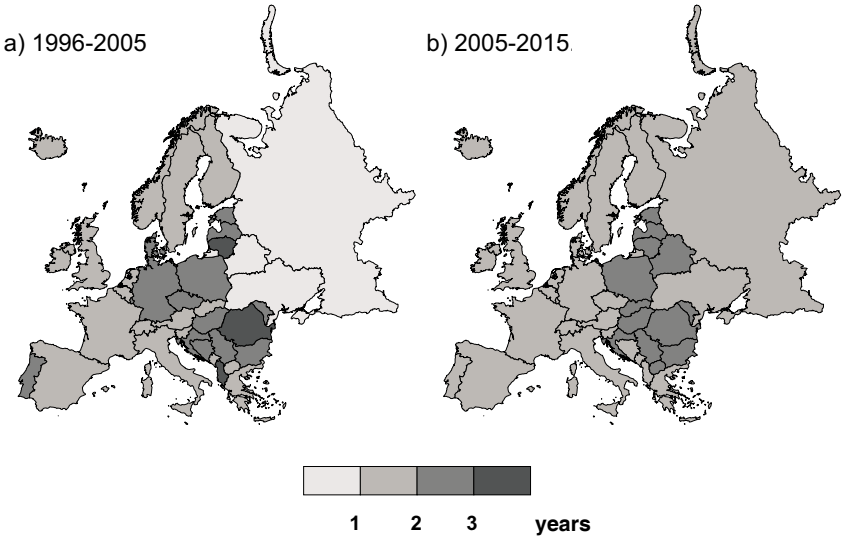

Fig. 2. The speed of changes in an average life expectancy

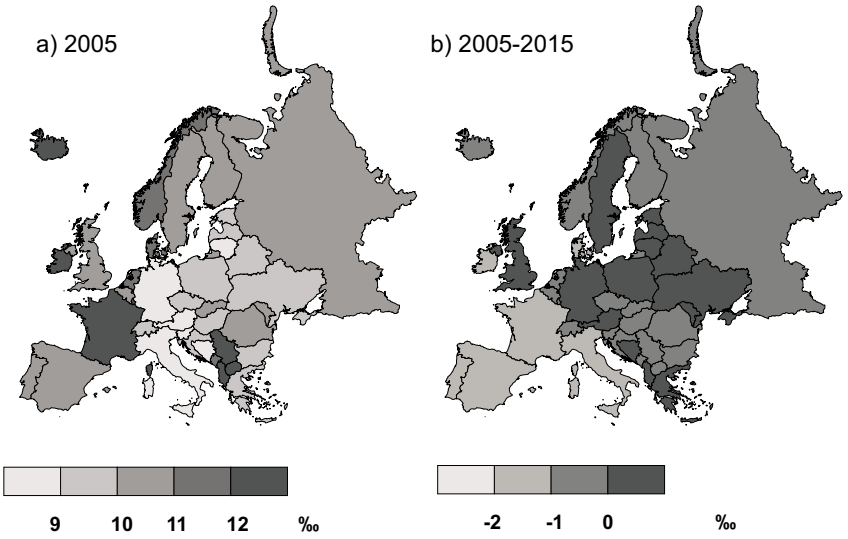

Fig. 3. The level (a) and dynamics (b) of birth rates

This trend appearing in most countries will result in a lower proportion of the youngest age classes. While in several countries, the percentage of the age group 0–14 years fluctuated around 18%, and in some even exceeded 20‰ (Albania – 25.6, Iceland – 22.1, the Farroe Islands – 21.3, Ireland – 20.9 and Macedonia – 20.5) while declined to the level of 13.9‰ in Italy. However, when considering 2015, the highest decline in this age class will be noted in Albania (4.2 ‰ points), while the increase in this parameter will be most remarkable in Russia (1.3 ‰ points) (Fig. 4).

As has been mentioned earlier, with constant tendencies in the average life-span and the level of births, the decisive effect will be exerted by the post-war generations of baby boomers and low birth-rate generations 'moving up the age pyramid', and primarily, the conditions affecting migrations abroad. These latter factors are difficult to predict in the longer run, hence they should be treated with great caution.

Taking as a fait accompli the average balance of migrations abroad for the years 2000–2005 and taking into consideration the forecasts for the years 2015––2020 (Fig. 5), it may be stated that the balance of migrations will record certain changes in some countries. On the one hand, in the countries showing a positive balance in terms of the coefficient to-date, the declines will be greatest in: Spain (by 11.3 points ‰), Bosnia (6), Ireland (5.4), Croatia (4.4), Portugal (3.9) and Malta (3.1), whilst it will show a slight increase only in Luxembourg (by 1.9‰ points), in the Czech Republic (0.1) and Slovakia (0.3), although these

changes still fall within the range of error for the forecasts. On the other hand, however, the countries that currently experience a net outward migration can expect decisive changes to occur in the future; namely in Montenegro, Moldova, Serbia and, Albania. The forecasts imply that migration losses will increase slightly in Bulgaria. In general, the greatest changes in this aspect will occur in the countries of Eastern Europe.

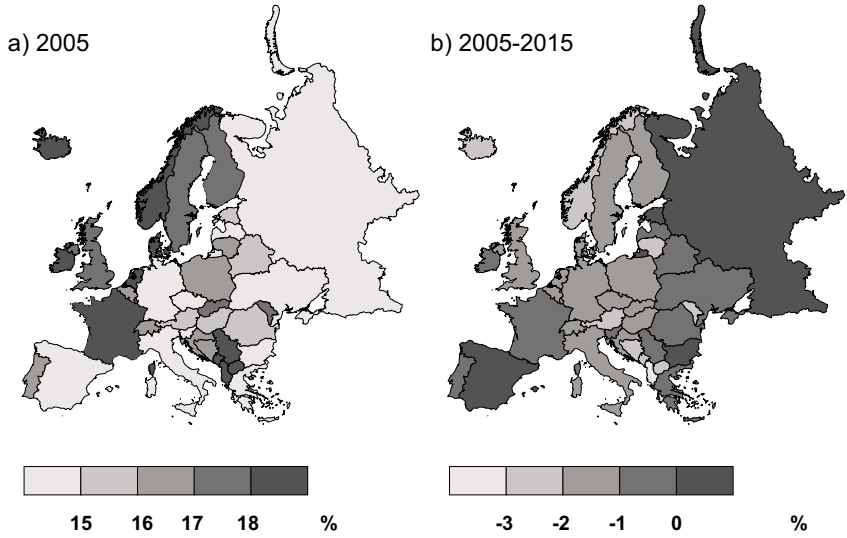

Fig. 4. The level (a) and changes (b) in the percentage of population under 15

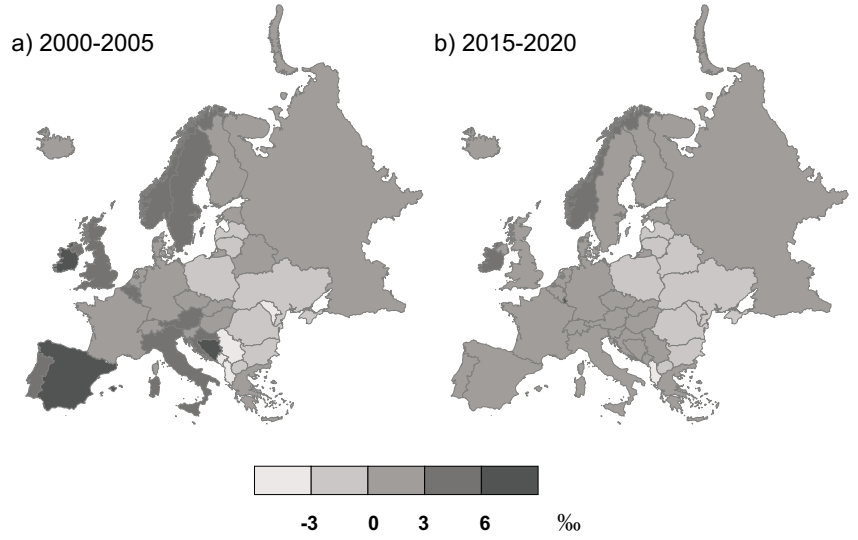

Fig. 5. An average net migration rates

Such a state of affairs and all predicted changes will form and affect the level of population ageing in Europe. Adopting in the classification of the European countries, the same values of the factor (I_{SD}) relevant to the three analysed time sections (Fig. 6), it should be stated that while in 1996, the general division into the countries of Eastern and Western Europe was still marked, in 2005, and beyond any doubt in 2015, the differences between them have been slowly disappearing. In the first section under study, the oldest countries oldest in terms of I_{SD} coefficient included: Monaco (157) and Italy (116), which means that per each child of the age up 14 years, there have been 2–3 persons aged above 65

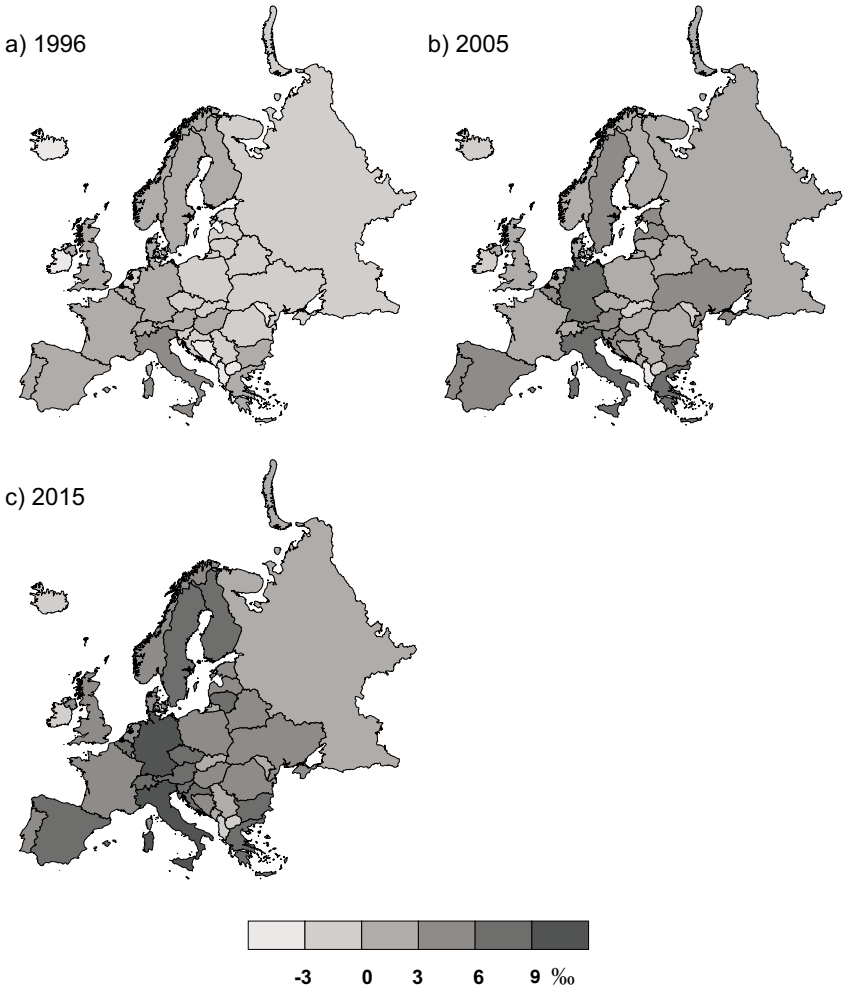

Fig. 6. The level and perspectives of an ageing index

years, whereas the youngest countries were: e.g. Albania (20), Macedonia and Moldova (37 each). In 2005, the group representing the oldest structure (Monaco – 145 and Italy – 140) were joined by Germany and Greece (131 each), while the 'island' representing the youngest society was still Albania (34). The forecasts for 2015 predict, that due to the deepening of demographic senility, the index of senility in some of the countries will exceed 150 (Monaco – 173, Italy – 171, Germany – 162, Guernsey – 154), whereas the lowest coefficient will still be that of Albania (51).

Both current and forecast data imply, that although in the years 1996––2005, the ageing process (according to W_{SD}) fluctuated in various countries on the level even higher than 9 (Moldova) and there were several countries which even recorded a population 'rejuvenation' (Monaco, Denmark, Isle of Man and Norway). However, in the time perspective up to 2015, these dynamics will slow down and the value of W_{SD} will not exceed 8, and the process of demographic rejuvenation will be marked only in Russia (Fig. 7).

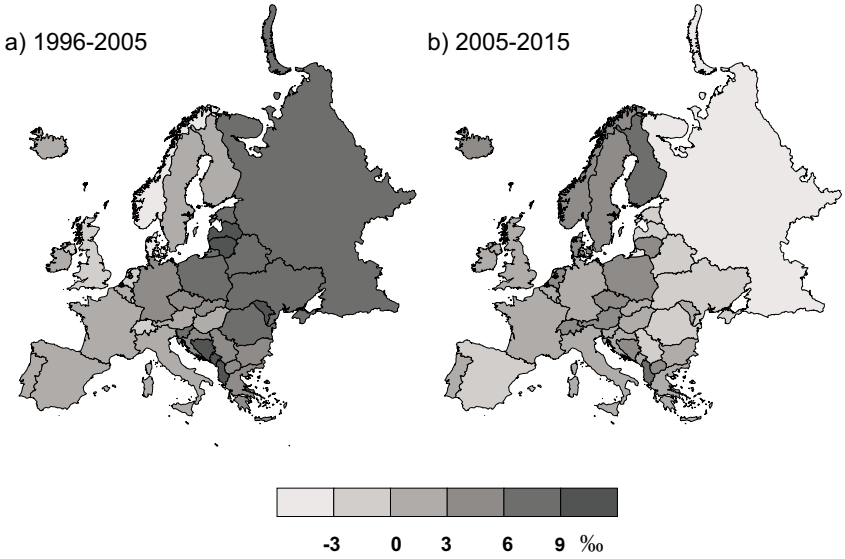

Fig. 7. Dynamics of population ageing by W_{sd} coefficient

To sum up, it should be stated that till the year 2015:

– generally, the process of ageing in European countries will deepen;

– although in the initial period, the dynamics of ageing will cover the Balkan states and Central and Eastern Europe; later these differences will disappear;

– a temporary slowing down of the process at the beginning of the 21st century

in the 'most senile' countries, will not broaden the disproportion between the youngest and the oldest social groups in these countries;

– comparing the level of the demographic ageing coefficient (W_{SD}) implies that the greatest increase in the dynamics will be most marked in Iceland, Norway, Ireland and Great Britain whereas the smallest decrease in this respect will be registered in Belarus, Bulgaria and Bosnia;

– as result it implies that, in this aspect, the most difficult demographic situation appear in San Marino, Sweden, Portugal, and Italy, namely in the countries relatively far advanced in terms of demographic senility where this process will have the highest dynamics till the year 2015, situation in Poland considered against the backdrop of Europe appears to be advantageous although there is a great unknown parameter, namely the outward migrations which may weaken the demographic potential of this country and dramatically affect the direction of the transformation of demographic structures.

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