DEMOGRAPHIC CHANGES AND PENSION SYSTEM IN POLAND

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Abstract
The aim of the article is to present the phenomenon of aging of Polish society and discuss its consequences for the pension system. The article describes the aging process of the Polish society which is the result of decline in fertility and lengthening of life expectancy. Over the last few years we observe in Poland significant changes in the age structure of its inhabitants. Rapid progress in the field of medicine that allows earlier and more accurate diagnosis of diseases, and thus more effective treatment, as well as a healthier lifestyle, improves the health of Poles and makes their lives longer. The changes that occur in the structure of the population's age cause that the number of people receiving retirement benefits increases, while the number of people paying contributions decreases. What's more, extending the average life expectancy of a person means a longer period of receiving retirement benefits. From the point of view of the pension system, the phenomenon of lengthening the average duration of human life causes an increase in the number of beneficiaries, and thus the total amount of retirement benefits. Unfavorable demographic trends thus have a direct impact on the pension system leading to the undermining of its stability and adequacy.

Keywords: aging of society, demographic changes, pension system.

JEL code: J1.

1. Introduction

Nowadays the aging of the population is considered to be a severe problem of many countries. The first noticeable changes in the population structure appeared in the 19th century in Europe (Great Britain, France, Denmark, Sweden) along with socio-economic changes related to industrialization and urbanization. In about a hundred years the aging of the population has spread throughout Europe. In the 1960s, transformations called the second demographic transition began. Their characteristic feature was transformation in the sphere of family formation and breakdown, delaying the age of entering into relationships and childbirth, and the intensity of these processes. Changes in the attitudes and system of values of especially young people that took place after the Second World War found a bearing in the sphere of demographic behavior. At the end of the century, behaviors characteristic of the second demographic transition occurred throughout Europe (GUS 2014a, p. 125).
Over the last dozens of years also in Poland we observe significant changes in the age structure of its inhabitants. Demographic changes in Poland are directly related to the system transformation time, started in 1989. The political transformation has changed many economic and social factors that have influenced the demographic situation of the country. The implementation of democratic procedures and the creation of a free market based on private property have reduced social benefits, while the completion of full employment policies has led to difficulties in finding a job and increasing unemployment. The increasingly difficult economic conditions have influenced the decline in the number of births and the change in the female fertility pattern. The decline in the birth rate is one of the main reasons for the aging of Polish society. The ongoing aging of society is also the result of extending the average duration of human life.

Increased participation of older people in the society brings with it certain socio-economic consequences, which include the increase in public expenditure on health care and retirement benefits. This burden may pose a threat to the sustainability of public finances and, above all, to the sustainability of pension systems. The low birth rate and the prolonging life of Polish society brings with it significant changes for the labour market, social security system and the entire economy.

The aim of the article is to present the impact of aging Polish society on the pension system in Poland.

2. Demographic changes in Poland

In Poland, from the time of political transformation, a progressive aging process of the population can be observed, which is mainly the result of decline in fertility and extension of life expectancy.

The factors that contributed to the reduction of fertility in Poland include: changes in the economic functions of the state, increased household responsibility for their economic situation and changing conditions for participation in the labour market (caused by economic reforms, globalization and high unemployment). These factors also include those that affect the shape of the modern family, regardless of the economic situation of the state. Among them, mention is made of development of women's educational opportunities and their professional activation, conflict of gender roles in family relations resulting from equalizing the professional status of women and men and changes in the process of population reproduction (fertility control thanks to the development of medicine and pharmacology) (Grodzka 2016, p. 79). Transformation processes generally created new career opportunities and related changes to the socio-economic position of individuals and households. Household welfare became more dependent on household resources, such as personal income, skills, and the ability to act in new circumstances. Simultaneously, growing labour market competition resulted in growing job requirements. For these reasons, more effort had to be made by individuals to get and to maintain a job. Therefore, to find a job and to stay in the highly competitive labour market became of crucial importance for the younger generations.
Moreover, changes in the institutional setting made it more difficult for women to be flexible and mobile and to adapt to increasing employers’ requirements (Kotowska et al. 2008, p. 824).

Lowering the birth rate is one of the main reasons for the aging of Polish society. The low number of births does not guarantee – for 25 years already – a simple replacement of generations. Since 1990, the total fertility rate (TFR) has been below 2, while the optimal value – described as advantageous for stable demographic development – is 2.1-2.15, i.e. the average number of children per 100 women aged 15-49 vary from 210-215 in a given year. In 2016 the total fertility rate (TFR) was 1.36, which means that for every 100 women of reproductive age (15-49 years), there were about 136 children born. Initiated in the 90s of the last century the demographic transformations are the result of choice, which is often made by young people, to reach a certain level of education and economic stability firstly and then (about the age of 30) to start and expand a family. The observed changes caused a shift of the highest women fertility from the group aged 20-24 to the group aged 25-34 where there was a significant increase fertility rate. The consequence of all the changes in procreation behaviors (since the beginning of this century) is the increase of the median age of women giving birth to a child. In 2016 this was 29.9 years – compared with 26.1 years in 2000 (in 1990 it was slightly less – 26 years). During this period also increased the average age of the women giving birth to their first child from 23.7 years to 27.8 years (in 1990 amounted 23 years) (GUS 2017a, pp. 14-15).

In the first half of 2017, the natural increase (the difference between the number of live births and the number of deaths) was negative and amounted to 10.7 thousand (the rate was at the level of -0.6 %). This means that in the first half of 2017, as a result of natural movement, for every 10 thousand of the population has declined 6 people (GUS 2017a, p. 11).

The longer the fertility stays at a low level, the lower chance of increasing its level. Three components affects that situation (GUS 2014a, p. 53):

- demographic – lower fertility means a smaller number of born children, which in turn leads to a decrease in the percentage of young people in the population.
  The consequence of this is increasing social benefits for older people, worsening the economic situation of young people and, as a result, low fertility;

- sociological — low fertility causes that there are more and more families with a small number of children. This leads to a change in the ideal family pattern in relation to the number of children and increasing future consumer aspirations (the decisive impact on economic aspirations are the conditions in which the individual was brought up – in smaller families they are usually better);

- economic – when economic aspirations increase and the possibility of meeting them decreases, some potential parents do not decide to bear the costs of having children or postpone them for a later date.

The new demographic situation also results from the prolongation of the average life expectancy of the human being resulting from the following factors (GUS 2014a, p. 79):
- decrease in the intensity of deaths due to: cardiovascular diseases in all age groups, cancers among people under 45 years old and among men aged 45-59, as well as external causes, such as: accidents, injuries, poisoning,
- uninterrupted – throughout the post-war period – decrease in infant mortality,
- positive changes in health-related behaviors of the population: changes in the way of eating to limit the consumption of unhealthy food and alcohol, increase in physical activity,
- increasing access to medical and care services, as well as improving the quality of these services,
- constant development of medical technologies,
- greater popularity of prophylactic examinations, such as mammography, cytology, blood sugar tests,
- favorable changes in the level of education – people with higher education are more aware of the need to care for their health, and thus live longer than less educated people,
- an increasing number of effective and safe drugs to stop or slow down the development of many diseases.

The new demographic situation also results from the prolongation of the average duration of human life. As predicted by the Central Statistical Office, over the years, the aging of Polish society will systematically progress. In the following years, a significant increase in the percentage of people aged over 65 is forecasted. In the years 1990-2016, the number of people aged 65 and more gradually increased (by over 2.4 million). In 1990, the share of older people in the general population was 10.2%, and at the end of 2016, it increased by more than half – to 16.4%. Currently, the number of elderly people is about 530 thousand greater than the number of children (GUS 2017a, p. 25). By 2030, the share of people in the discussed age group will amount to 22.6%, while in 2050 – 29.7%. The demographic forecast prepared by Eurostat shows that in 2060 the percentage of people over 65 in society will amount to 36.18%, and their number will exceed 11 million (Giannakouris 2008, pp. 7, 10). This means that Polish society will be one of the fastest ageing societies in the European Union (Russel 2016, p. 2). Long-term forecasts show that by 2050 the percentage of people aged over 80 will also increase significantly. While in 2013 the share of people in the discussed age group accounted for less than 4% of the total population, in 2050 it will be 10.4% (GUS 2014a, p. 164). In 2050, men will live an average of 83 years, while women will live for 88.4 years – Table 1.

**Table 1. The average duration of human life in Poland in the years 2015-2050**

<table>
<thead>
<tr>
<th>Year</th>
<th>Men</th>
<th>Women</th>
<th>Year</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>73,5</td>
<td>81,5</td>
<td>2035</td>
<td>79,1</td>
<td>85,6</td>
</tr>
<tr>
<td>2020</td>
<td>74,9</td>
<td>82,5</td>
<td>2040</td>
<td>80,3</td>
<td>86,5</td>
</tr>
<tr>
<td>2025</td>
<td>76,3</td>
<td>83,6</td>
<td>2045</td>
<td>81,6</td>
<td>87,4</td>
</tr>
<tr>
<td>2030</td>
<td>78,0</td>
<td>84,8</td>
<td>2050</td>
<td>83,0</td>
<td>88,4</td>
</tr>
</tbody>
</table>

Source: own elaboration based on GUS 2014a, p. 78.
Among European countries, Poland is a relatively demographically young country. In 2013, the median age of Poles was 37.4 years for men and 40.9 for women, while in 1990 it was lower by 6.5 years for men and 7.2 years for women (30.9 and 33.7 years, respectively) (GUS 2014a, p. 81).

Despite positive changes in the average life expectancy, Poland still performs unfavorably against the background of leading European countries. Men live an average of 73.8 years, i.e. by over 7 years less than in Cyprus (the highest parameter in Europe), and women – 81.6 years (less by 4 years than Spanish women – live for the longest time among European women) (GUS 2017b, p. 11).

The unfavorable demographic situation also includes the foreign migration of Poles. The Central Statistical Office estimates that in 2016 around 2515 thousand inhabitants of our country stayed temporarily abroad, i.e. by 118 thousand (4.7%) more than in 2015. In Europe in 2016 there were about 2214 thousand people, the vast majority – about 2096 thousand – in EU member states. This number increased by 113 thousand compared to 2015. Among the EU countries, the largest number of Polish emigrants resided in Great Britain (788 thousand), Germany (687 thousand), the Netherlands (116 thousand) and Ireland (112 thousand). In 2016, there was a significant increase in the number of Poles staying in Great Britain and in Germany, that is in the main destination countries of emigration from Poland in recent years. In the case of the United Kingdom as compared to 2015 year an increase of 68 thousand (9.4%), while in Germany the number of Poles staying has increased by 32 thousand (about 5%). The increase in the number of Poles staying temporarily was also observed in other EU countries – Austria, Belgium, Denmark, the Netherlands, Ireland and Sweden. A slight decrease in the number of Polish emigrants compared to the previous year was recorded in Spain and Italy (GUS 2017c, pp. 1-2).

There are also apprehensions about the demographic development of Poland. As expected, by 2050 there will be a systematic decline in the population. In 2050, the population of Poland will amount to 33 million 951 thousand. In comparison to 2013, this means a reduction of the population by 4.55 million, i.e. by 12%. In addition to the negative birth rate, we will observe further unfavorable changes in the population structure by age and decrease in the number of women in childbearing age. People aged 65 and more will account for almost 1/3 of the population, and their number will increase by 5.4 million compared to 2013 (GUS 2014a, p. 109).

3. The consequences of demographic changes for the pension system

The pension security system in Poland before its reform was based on an intergenerational contract, according to which the contributions paid on a regular basis were distributed for payment of pensions. However, due to changes in the labour market and unfavorable demographic trends, it was necessary to conduct a thorough reform of the system (Leśna-Wierszołowicz 2016, p. 191). Since January 1, 1999 there has been a three-pillar pension system in Poland, which is characterized by: reducing the nurturing role of the state, increasing the individual contribution to retirement planning, diversifying sources of financing retirement
income, and linking the pay-as-you-go system with the capital system (Ronka-Chmielowiec 2002, p. 121).
Currently, the pension system is facing a huge challenge related to the constantly deteriorating demographic trends. Changes that take place in the structure of the population’s age cause that the number of people receiving retirement benefits increases, while the number of people paying contributions decreases. Extending the average life expectancy, with a simultaneous decrease in fertility, causes that the number of people at post-working age and the number of people of working and pre-working age\(^1\) is decreasing.
Over the years 1999-2016 the number of people of working age gradually decreased. In 2016, the number of people of working age was 23.8 million and was lower by 234 thousand compared to 2015. In recent years, an increase in the number of post-working age people has been observed. At the end of 2016, the post-working age population amounted to over 7.8 million people, and its share in the total population was 20.2% (in 2000: 5.7 million and almost 15%, and in 1990 almost 13%). Compared to 2015, the number of post-working age people increased by 237 thousand (0.6%) (GUS 2017a, p. 27).
Demographic burden by population at post-working age will increase from 28 people in 2013 to 52 in 2050 – Table 2.

**Table 2.** Age dependency ratios\(^2\) in 2013-2050 (according to the Pension Act in force since 1.1.2013)

<table>
<thead>
<tr>
<th>Demographic burden by population at age</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-working</td>
<td>57</td>
<td>57</td>
<td>57</td>
<td>60</td>
<td>63</td>
<td>63</td>
<td>62</td>
<td>62</td>
<td>69</td>
<td>78</td>
</tr>
<tr>
<td>Pre-working</td>
<td>29</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>26</td>
<td>25</td>
<td>24</td>
<td>25</td>
<td>26</td>
</tr>
<tr>
<td>Post-working</td>
<td>28</td>
<td>29</td>
<td>29</td>
<td>32</td>
<td>35</td>
<td>37</td>
<td>37</td>
<td>38</td>
<td>44</td>
<td>52</td>
</tr>
</tbody>
</table>

Source: GUS 2014a, p. 150.

Nowadays post-working age people live longer and therefore they use their benefits from the pension system longer. As a consequence, pension systems based on intergenerational solidarity, with declining contributory income and rising pension expenditure, will not be able to guarantee adequate pensions.
The aging of the population is a significant threat to the stability of the pension system and the guarantee of payment of future retirement benefits. Nowadays in Poland, the balance of the Social Insurance Fund from which pensions are paid

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\(^1\) As a non-working age most commonly is defined as the age 0-17 (pre-working age) and 60 years and more for females and 65 years and more for males (post-working age); working age refers to 18-59/64 years (18-59 – for females and 18-64 – for males).
\(^2\) Age dependency ratio is the ratio of the number of people in non-working age to the number of people in working age.
out is negative, and subsidies from the state budget guaranteeing the continuity of payment of benefits exceed PLN 50 billion (Szczepański 2016, p. 744). In order not to lower the pensions paid and not to increase debt, many countries decide to increase the retirement age. Decisions on raising the retirement age are met with resistance from the society, but according to experts, this is the only way to preserve the financial stability of the pension system.

Population forecasts indicate that the phenomenon of aging will be deepening. This will further increase the demographic load of professionally active people. Such a dependence means that two solutions would be necessary to maintain a balanced pension system based on the principle of pay-as-you-go: the first is to increase pension contributions, the second to lower the amount of benefits (Jurek 2012, p. 102). None of these solutions is a suitable method to maintain a stable pension system, therefore in the future, thorough and radical transformations of the entire pension system will be necessary. The main directions of activities in the field of adaptation of pension systems to the new demographic situation were set in February 2012 by the European Commission in the White Paper: An Agenda for Adequate, Safe and Sustainable Pensions (European Commission 2012, p. 9). The most important goals of pension system reforms include: equalizing the retirement age of women and men, reducing early retirement, linking retirement age to a further average life expectancy, and developing voluntary pension schemes.

4. Conclusion

In Poland, along with the political transformation, a period of unfavorable demographic changes began, including the decline in the number of births and the extension of the average life expectancy. The main causes of low fertility rate include, above all: changing attitudes and the system of values among young people, increasing the importance of women on the labour market, delaying the age of getting married, postponing the decision on parenting and lengthening the age of first childbirth. Rapid progress in the field of medicine enabling earlier and more accurate diagnosis of diseases, and thus more effective treatment, maintaining a healthy lifestyle, changing the diet, as well as government actions leading to adequate living, working, education, physical culture and leisure and recreation, affect constant improvement of the health condition of Poles, and thus their longer life. Long-term forecasts show that by 2060 the percentage of people over 65 will increase to 36.18%. This means that Polish society will be one of the fastest ageing societies in the European Union. Long-term forecasts show that by 2050 the percentage of people aged over 80 will also increase significantly. While in 2013 the share of people in the discussed age group accounted for less than 4% of the total population, in 2050 it will be 10.4%. In 2050 men will live an average of 83 years, while women will live for 88.4 years.

The age structure of Polish society is changing to the disadvantage. The share of potential beneficiaries of the pension system grows with the decreasing number of people paying insurance premiums. With the increasing age, the average period of collecting pensions also increases. This means that the amount of funds
available to the Social Insurance Fund is decreasing, which makes it necessary to subsidize from the state budget. The consequence of population aging is an increase in public expenditure on retirement benefits. This burden may pose a threat to the sustainability of public finances and, above all, to the sustainability of pension systems.

Population forecasts indicate that the phenomenon of aging will be deepening. This will further increase the demographic load of professionally active people. If demographic trends do not change, then radical reforms of the pension system will have to be taken. It is necessary to take appropriate actions to ensure an appropriate level of benefits for the beneficiaries while maintaining financial stability of the state and avoiding excessive burden on people working with high contributions.

References


