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## **IMPLICATIONS OF THE DEMOGRAPHIC CHANGES IN THE SLOVAK REPUBLIC**

**Anna Juhászová – Aleš Kollár\***

### **ABSTRACT**

The developed world is facing a real challenge – increasing life-expectancy of their respective citizens, which highly contributes to the ageing of the population of these countries. The Slovak Republic is not an exception at all. On the one hand, the growing living standards in our country can be considered as a positive thing. On the other hand, though, the financial and political impacts of this demographic development are relatively very high. The aim of this article is to examine the current trends and determinants influencing the demography of the Slovak Republic. Methodologically, the article proceeds mainly from the macroeconomic analysis of empirical statistic indicators and also from the quantitative analysis of scientific sources in the field of demography. Accordingly, the authors are seeking to provide some usable solutions that could solve the demographic problems to some extent, whereas they are going to emphasize the possible reform of pensions and a great impact of education.

**Key words:** demographic development, demographic change, life-expectancy, population ageing, Slovak Republic

### **Introduction**

Demographic change is important regarding the whole society and deserves attention from a qualitative as well as a quantitative point of view. Not only is the change of the number of world population remarkable, but the emphasis has to also be put on the respective demographic trends in the context of short-term and long-term development. Greater attention, which has recently been given to demographic trends and demographic development in relation with globalisation

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and dynamic changes in the security background, leads to various demographic myths frequently having a political background. (Terem, 2008) The coincidence of various demographic, security-political and economic factors has developed a few critical, or more exactly to say, catastrophic zones of development in the world. (Kazanský, 2011) This article reacts to the tendencies in the extension of life-expectancy and decreasing fertility in the countries of the European Union and the authors especially devote their attention to the current demographic trends in the Slovak Republic. Its aim is to explain current trends and determinants in the demographic development of the Slovak Republic as a relatively new member state of the European Union. The article will attempt to emphasize the financial and political challenges with which the Slovak Republic is faced in terms of its demographic development.

## **1 Global Demographic Trends and their Implications for the EU and the Slovak Republic**

Global population is said to be increasing year by year as it achieved a number of 6.7 billion in 2005 (on the contrary, in 1950 the world population was about 2.5 billion) and is predicted to reach 9.1 billion by 2050. However, this rapid growth is not the product of the developed countries because of the fact that 95% of the population growth is said to occur in the less developed areas of the world. In fact, the population of the 50 least developed countries is said to have doubled. From the anticipations of various experts we cannot expect any population growth in the more developed world regions, whose population is presumably going to remain at the amount of 1.2 billion. As a consequence of growing life expectancy and decreasing fertility, still more and more countries are ageing rapidly. The population of the EU will form 6.4% of the world's population in 2020 and only 5.2% in 2050. But we should also mention that Europe will not be ageing alone, as a significant old-age dependency is going to occur in the United States, Japan, China or India. (Fésüs, Rillaers, Poelman, Gáková, 2008) On the other hand, this old-age dependency ratio (the number of people aged 65 and above compared to the working-age population between 15 and 64 of age) will go beyond the comparable ratios in the above mentioned countries.

Predictably in less than 10 years for the first time ever will be more than half of Europe's population older than 40 years, what is more, in Germany and Italy this level will be higher than 60%. The number of citizens between their 50 and

65 years of age of the five largest economies of the EU (Germany, France, the UK, Italy and Spain) will grow by 16% and the number of citizens between 20 and 40 will decrease by approximately 10%. The number of EU citizens of old age (above 65) will double by 2050, what means that this group will form 30% of the total EU population. (Clement, 2008) Today they are four wage earners per retiree in the whole EU, which will decrease to two wage earners per each retiree.

Consequences of the demographic change in Europe will depend especially on participation rates of the elderly. Policies to enhance human capital should be introduced mainly in the field of lifelong learning accompanied by labour market policies, taxes, benefit systems and pension schemes. If we want to completely discern the causality of functioning of today's economic systems, it is essential to look at this issue through the targeted optics of the selected context. (Masár, 2013) The basis of sustainable economic development in the information age of these days is thus human capital. Researches confirm that training and higher education support gradual productivity growth and material advance during the individual's working age. As far as the EU is concerned, regions with the highest score in lifelong learning include Denmark, Swedish regions, Etelä-Suomi in Finland and regions in the South-East of the United Kingdom, Noord-Holland and Bayern in Germany. (Fésüs, Rillaers, Poelman, Gáková, 2008) The Slovak Republic belongs to the regions with the lowest level of lifelong learning along with Romania and Poland, which is a consequence of low employment and low expenditure on R&D.

## **1.1 The Political Consequences of the EU's Ageing Population**

Current demographic trends consisting of increasing life expectancies and dropping birth rates seem to represent a large challenge for all economies in question especially due to the following reasons. Firstly, demographic change affects potential economic growth, which has an impact on the fall in the number of working age citizens. Without a significant change of policy, potential economic growth in the EU will decrease from 2.5% of these days to approximately 1% between 2031 and 2050. Secondly, current demographic challenge contains risks for pension, healthcare and social security systems of the EU member states. Moreover, this demographic trend could in case of some member states represent a more than 5% growth of their GNP. (Clement, 2008)

Thirdly, demographic change could considerably transform the relationship between the generations as higher expenditures on the older generations inevitably mean lower expenditures for other services – not excluding education. (Kováčik, 2012) In the end, this trend could lead to decreasing economic growth. All of these indexes exhibit that it is crucial to develop an adequate policy to handle the on-going demographic trends. New EU member states, not excluding Slovakia, belong among the 50 richest countries in the world, and most of these countries have undergone many changes and reforms over the past 15 years, when they had to quickly adapt to rapidly changing world and to integrate into the global community. (Ondria, Kollár, 2011) If these countries cannot adapt themselves, we could expect risks for the citizens of various states of the developed world including the Slovak Republic.

According to UN estimations the world population is supposed to be made up by 8.92 billion of people by 2050. The world population will reach its maximum in 2075 with 9.22 billion, which will be followed by a slow drop, and in 2300, the number of world population should be maintained at 8.97 billion. UN experts say that even a small change in the birth rate population data might cause that the population in 300 years might be completely different. The projected nine billion is therefore only a medium parameter originated from the assumption that each family in the world will have two children in average. If the average number of children per a family is one eighth lower, there will be 2.3 billion of people. Though it is impossible to exclude both variants, the UN does not reckon with them. The developed countries (countries of North America, Japan, Europe, Australia and New Zealand) will contribute to this with their increase only by 2 %, and to less extent it will be developed countries (countries of Latin America and the Caribbean, Asia excluding Japan, Malaysia and Polynesia) with the increase approximately 49 %, and to least extent developing countries (most countries of Africa) will participate with the increase 129 %. The developing countries have in their demographic trends “a kind of delay“ of 75 years, in comparison with the developed countries, and the process of demographic revolution should be finished in these countries in the period of 50 years. Consequently, a final solution to this problem can be expected in the second half of the 21<sup>st</sup> Century. A very problematic region in this regards is Africa, where the current population increase reaches 2.9 %. (Čajka, Kazanský, 2012) Another critical part is represented by Latin and South Africa and Asia.

Taking into account UN estimations there are currently approximately 343 thousand people in the world who are older than 100 years. By 2050 this

number is said to increase 10 times and there are said to be 3.2 million people older than 100 years living on Earth. For the currently born children this means that they have a very good chance to live that long. Michaela Grimm, expert for demography of the Allianz insurance company confirms that every second child has the chance to live longer than 100 years, what is only true for the developed countries. In the Slovak Republic there are currently 323 citizens older than 100 years, among which the majority are women. This number is though said to be gradually increasing in the upcoming decades. In 2060 the 2/3 of Slovaks are anticipated to be older than 65 and thus, the number of the 100 years old could reach as many as 3000. (Muthová, Tóth, 2013)

## **2 Age Structure of the Slovak Republic**

The population ageing is one of the main features of the current population development that has a future irreversible impact. The intensity and importance of this process is prominent in the global scale mainly in the last century. The population ageing is usually connected to the demographic transition and its conclusion in the more developed part of the world. Economic and social consequences of ageing are being dealt with below. The era when the ratio of children and pensioners will change is coming and this will be the time when the social traditions, habits and norms will have to change. This is one of the main reasons to devote considerable attention to this phenomenon. The population ageing is not a worldwide problem yet, it concerns mostly world developed countries. On the other hand, it is a fact that the population ageing in developing countries will culminate in few decades and will be more dramatic as the current population ageing in the developed world. In the developed countries, the population ageing is caused by the prolonged human life and the decrease of birth-rate. (Čajka, Kazanský, 2012) This trend is resulting from many factors that are related to the modernisation of the society in consequence of which a drop in fertility and birth-rate occurred. The health care improvement resulted in a prolonged life expectancy and a better health condition of the population. Moreover, the advance in science also prolonged the average life expectancy, which is the main reason for the population ageing.

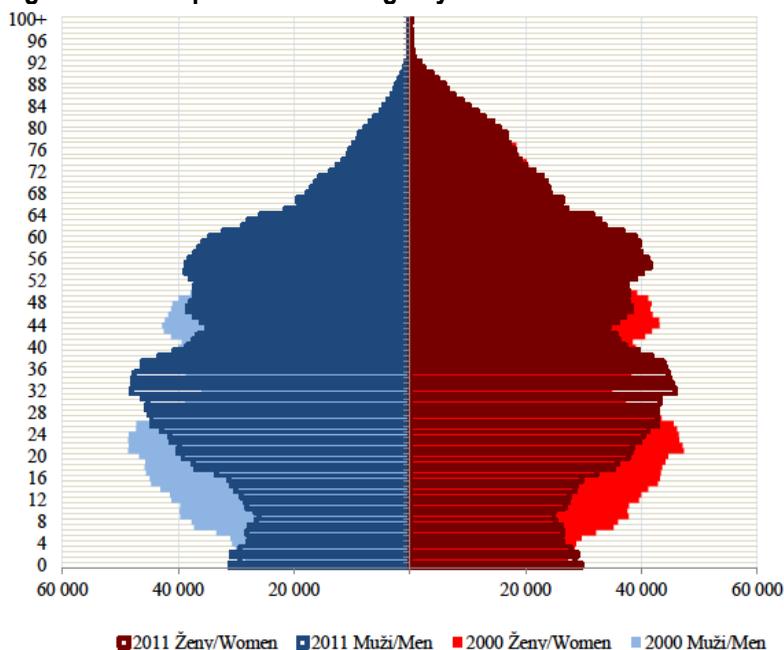
A significant change in the development of the population of the Slovak Republic was the gradual transition on the new model of reproductive behaviour (since the 1980s). Among the main characteristics of this behaviour belongs the drop of marriage, increase in divorce, fall of birth-rate and growth of life

expectancy. This change has led to a situation, in which the Slovak Republic has found itself under the level of reproduction, which means that the current birth-rate level cannot sufficiently renew the population. (Podmanická et al., 2008) As long as the causes are concerned, the current situation is mainly a consequence of the economic and social development of the Slovak society as well as the change of the hierarchy of values of the respective individuals. From the demographic point of view, the basic consequence of the growth of the level of economic possibilities and social services is especially the increase of life expectancy.

## **2.1 Unsteadiness and Ageing – Two Main Features of the Demography of the Slovak Republic**

The age structure of the Slovak population is currently characterised by two phenomena – unsteadiness and ageing. Swings in the intensity of demographic processes in the age structure represent significant unsteadiness as long as the demography of the Slovak Republic is concerned. These can be observed on the graphically created age pyramid. When we look at the age pyramid from 2011, we can see how periods of increasing birth-rates alternate with periods of decreasing birth-rates. Besides that, we can clearly observe two natal waves, which dominate the pyramid. The first one has its origins in the era from the second half of the 1940s till the end of the 1950s, which was a period of increasing birth-rates called as well as a compensating phase, which occurred after the end of the World War Two. The second natal wave came into being 20-25 years later and was influenced by some measures adopted in order to increase the intensity of birth-rates in the 1970s. These strong years with high birth rate in this era were expected to form the basis of another natal wave, which did not become a reality. On the contrary, as a consequence of changes in demographic reproduction, which reacted to the social and economic changes of 1989, an era of long-term decrease in birth rates came into being. (Vaňo, 2012) We can observe this change as a cut on the age pyramid from the 1990s of the previous century and from the new millennium.

**Figure 1: Comparison of the Age Pyramids of 2001 and 2011**



Source: Statistical Office of the Slovak Republic [online]

Comparing the age pyramids from 2000 and 2011 we get a complex picture on development and changes in the age structure from the onset of the new millennium till nowadays. In the year of 2000 the pyramid had a narrow basis and a typically regressive shape. The drop in birth rate in the 1990s caused a decrease of the population in the youngest age groups. Year 2008 was a landmark in the development of birth-rate as the number of born increased and the basis of the pyramid began to grow repeatedly. In 2011 the basis of the age pyramid was considerably similar to the level from the mid-1990s. Large generations born after the World War Two have been gradually leaving the productive age and they are moving into the group of post-productive age. On the other hand, smaller generations of the 1990s are moving from the pre-productive age to the productive one and regarding fertility, they are gradually going to replace the strong generations of the 1970s, who are going to leave the reproductive age. (Vaňo, 2012) Because of the fact that the generations of the 1990s belong to the smaller ones, they cannot adequately offer a compensation

for the “outgoing” population. As a consequence of the above mentioned facts we can assume that there is going to be a drop in population not only in the category of the productive age but also in the group of people prior to the productive age. On the contrary, the number of citizens in their post-productive years is going to increase.

The number of each population depends on the rate of natural increase and loss by natural variation (births and deaths) and by foreign migration. The period of 2001-2008 can be in respect of the demography of the Slovak Republic divided into two stages. The first encompasses the years of 2001-2003, when the Slovak Republic observed natural loss of population. This kind of natural loss occurred for the last time during the First World War (particularly in the years of 1916-1918). This stage is also characterised by the fact that there was no overall loss of population due to effective migration. The second stage, which began in 2004, is characterised by natural increase and also by migration. (Podmanická et al., 2008) But we also have to take into account that the level of migration was during these five years higher than the natural increase.

## **2.2 Projections until 2060**

On the ground of some research we can divide the forecast period into two parts. The first stage will encompass the upcoming years up to 2015, when the population of the Slovak Republic is anticipated to increase especially as an impact of migration. The rate of natural increase is going to remain under the level of five thousand people per year. During the second stage, after 2015, there is an anticipated fall of values of natural increase and its gradual change into natural loss (approximately from 2020). The positive effects of migration will not be capable to compensate for this kind of loss. Therefore, from 2015 on there is going to be a decrease in the overall rate of natural increase. The basic output of the prediction is the number of population. Until 2025 there will be no major change as long as the number of the population of the Slovak Republic is concerned. The number of population is said to reach its highest level just before 2015, when it is going to achieve a turning point, which is going to mean getting into the phase of decreasing tendency. (Podmanická a kol., 2008)

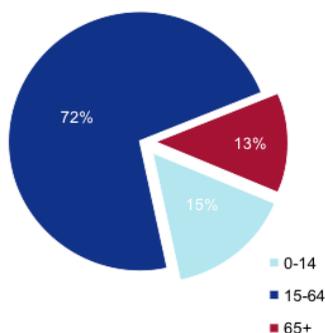
The situation in 2060 will be different from the current one in more aspects. The position of the population in the post-productive age will change the most, while this group is going to transform itself from the smallest to the largest group of population. Consequently, the number of population in the two youngest

groups of population will be gradually decreasing during the upcoming four decades. If we compare the initial and final state of population, the age group between 45 and 64 years is going the change the least. An interesting factor of the predicted development is the fact that around 2045 three out of four main age groups are going to have the same number of population. This concerns all of the main age groups excluding the youngest one, which is going to gradually drop, while this decrease will be determined by the actual birth-rate. This drop is not going to be uniform, though, as from 2025 till 2040 there is an anticipated sharp fall in the number of this age group. Overall, till 2060 the number of citizens in this age group is going to drop from 1151 thousand to approximately 920 thousand, which means a decrease by nearly 20%. (Bleha, Šprocha, Vaňo, 2013)

**Figure 2: Comparison of the Slovak Republic's Age Structure in 2012 and 2050**

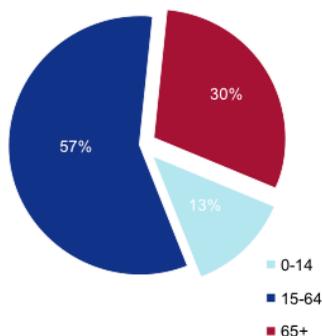
Age structure 2012

(in percent of total population)



Age structure 2050

(in percent of total population)



Source: M. Grimm [Allianz Group], Demographic Roundtable Bratislava 6.9.2013

The number of citizens in the reproductive age, in other words, between 20 and 40 years of age, is said to be gradually decreasing during the projected time period, while this drop is going to be the largest from all groups. This fact is based on the argument that there is going to be an intense drop until 2030, when the strong population years of the 1970s and the first half of the 1980s are going to leave this group. As a consequence of this transformation, the number

of citizens of the reproductive group is going to decrease by estimated 34%. That also means that the reproductive group ceases to be the largest population group giving the primacy to the post-reproductive age group. The largest change in number is estimated to occur in the category of the elderly population. All of the strong population years born in the second half of the 20<sup>th</sup> Century are going to gradually move into the group of people above 64 years. The smallest group of citizens from 2011 is going to transform itself by 2045 into the largest group of all. The increase of number of pensioners above 65 years is about to rise by more than one million in the next five decades. (Bleha, Šprocha, Vaňo, 2013) This actually means that in 2060 each third citizen of the Slovak Republic will be older than 65.

### **3 Recommendations for the Future**

If future pensioners want to achieve at least the level of pensions of today's pensioners, they have necessarily to change their working and saving patterns. That also means that individuals have to take over responsibility for their own old age. In the Slovak Republic one pensioner is currently financed by 1,6 working citizens, but this figure going to equal (1 pensioner financed by 1 working citizen) in 2040 and by 2060 it will only by 0,74 working citizen financing the life conditions of one pensioner. Besides increasing expenditures on pensions the expenditures on healthcare will also be significantly raised as long as the increasing life expectancy trend continues. According to **Vladimír Baláž** expenditures on the long-term care represent the biggest risk for the Slovak economy, while it has not sufficiently been developed yet. On the other hand, demands for a long-term care are going to increase in the near future. A good example could be provided by the rate between the ill on dementia and those who are capable to work. While there are currently 100 capable to work on two ill citizens, by 2050 there could be 5 ill citizens compared to 100 capable to work. (Muthová, Tóth, 2013) Ageing population has also an impact on a great deal of life areas, as the needs of elderly people have to be taken into account by planning the infrastructure of cities etc. The lifestyle of pensioners is anticipated to change as well, while they are expected to travel or learn more. The biggest chances to celebrate their 100<sup>th</sup> birthday, thus, have those pensioners (mainly women) who lead a healthy way of life and have higher education.

One of the solutions could be increasing birth rates or larger amount of

immigrants. **Vladimír Baláž** sees it sceptically, though, as he says that no developed country could raise its birth rates onto the sustainable level of 2.1 or 2.2 children on one mother in the age of fertility. Birth-rates have been gradually dropping even in some Muslim countries, such as Iran. (Muthová, Tóth, 2013) With prolonged life expectancy the pressure on adequate care for elderly is going to grow as well and, as a consequence of that, the need to work or save longer for the pension will be much stronger than before. The number of working population in the age group of 60-64 has been growing year by year, no matter where – in Europe, Asia or in the United States. This trend in Europe is the most noticeable in Germany and the Netherlands, where the number of employed in that respective age group has more than doubled. One challenge for the future is, therefore, to increase the working possibilities on the labour market exactly for these elderly employees. (Kazanský, Kováčik, 2009) As many as 65% employees in the EU is interested in combining a part-time job with a part-time pension in order to secure a certain level of income in their old age. Another solution could represent the personal savings, which are a part of second or third pillar for example. In the last decade there has occurred a change in pension system in nearly all European countries. (Muthová, Tóth, 2013) The shares of the first pillar on pensions are likely to decrease in the future in almost every European country. On the other hand, the Slovak Republic goes currently against this trend. The aim of the consolidation of public finances seems appropriate, but additional cuts in the second pillar could cause a total dependency of the Slovak Republic on social pensions from the Social Insurance Agency.

## **Conclusion**

The current demographic trends in the Slovak Republic may seem terrifying, but we are not the only country that has to deal with solving this problem. As we mentioned above, no developed country has managed to increase natality above the level of 2.1 or 2.2 children per mother, as these are the exact numbers that could provide a solution to increasing the number of the younger age groups. That means, that the Slovak Republic is neither able to fasten its population growth, nor is it capable of providing an attractive place for immigrants. Accordingly, the Slovak Republic has never been a popular country when it comes to immigrants choosing a place to work and live in. Population change is also expected to lead to large increases in public spending, mainly on

pension, health care and long-term care as well as on other public infrastructure. With prolonged life-expectancy, each citizen is supposed to work longer than the traditional Slovak trends would prescribe. On the other hand, each working citizen will be presumably grateful for the opportunity to work, as long as their pensioned will not be secured to the same extent as it used to be in the past. Most importantly, the Slovak Republic has to extend the working possibilities in general in order to raise the level of employment. This factor is crucial when it comes to the issue of financial and social problems caused by decreasing birth-rate and prolonged life-expectancy.

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