

# POST-COMMUNISTIC TRANSFORMATION AND POPULATION AGEING VERSUS THE CHANGING MIGRATORY PATTERNS OF SENIORS: THE CASE OF THE SLOVAK REPUBLIC

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## ABSTRACT

Vigorous socio-economic changes, the transformation to a market economy, the transformation of demographic reproduction and rapid ageing. These terms are associated with the development of Central and Eastern Europe after 1990. Many studies exist that evaluate the changes in international migration, fewer studies analyse the internal migration. The area of migration of seniors and their response to population ageing and socio-economic changes associated with the transformation remains almost completely unexplored. In the study we analyse the migration of seniors in the example of the Slovak Republic using detailed migration data and changes in this migration during the last quarter of a century full of transformational changes. Using regression statistical models we reveal the essential factors of migration. We try to determine to what extent the migration of seniors is selective, and to what extent seniors reflect the general migration trends associated with the change of political regime.

**Keywords:** migration, seniors, ageing, transformation, migration factors

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## 1. Introduction

Redistribution of the population is not a random process. Some regions are preferred over others; consequently, the immigration levels may vary from place to place. Similarly, the characteristics of migrants as a group are not identical with those of the general population that does not migrate. Migration is a selective process therefore the redistribution of the population has two dimensions: (a) the number of migrants, which includes the size and direction of migration flows and (b) the demographic and socio-economic characteristics of migrants (Longino, Biggar 1982). Bradley et al. (2008) state that the ageing of generations from the baby-boom period will cause a significant increase in the absolute number of older migrants since it presumes a relatively unchanging rate of mobility. In addition, that the migration of seniors could be an important factor in the structural changes of the destination communities. Countries that have long been facing the problems of ageing have developed a method in which seniors become the persons involved in countryside development (economically and socially) (Murakami, Atterton, Gilroy 2008; Bleha, Kobayashi, Ohzeki 2011).

Investigating the migration of seniors, due to the many specificities of this population group, is not just a demographic but also a sociological phenomenon. Many sociological factors that distinguish the migrant seniors from the productive population should be included in the interpretation of the results of demographic methods, as the (most often) used economic theories are practically inapplicable.

This work deals with the analysis of the migration of seniors<sup>1</sup> in Slovakia, in a transforming country with a lower life expectancy, poorer social situation of seniors and lower quality of health of seniors in comparison with Western Europe. The spatial mobility of seniors has not been a very frequent topic among scholars in Central and Eastern Europe. The population ageing will very likely induce the raising concern on this topic. On the other hand population ageing is currently a hot topic among the scholars and politicians. Slovakia will become one of the oldest countries in Europe and the world (Bleha, Šprocha, Vaňo 2013; EUROSTAT 2015). The proportion of seniors, which is currently around 17%, will rise by 2020 to more than 21%, by 2030 to around 25% and in 2050 they should represent more than 35% of the Slovak population. Simultaneously, the representation of the “oldest old” over 80 years will rise dramatically: in 2060 their share will be almost 13%. Šprocha, Vaňo and Bleha (2013) anticipate stagnation, in some ways even an increase in regional demographic disparities that could be the driving force of migration. From this point, Slovakia is a convenient country for the research of migration of seniors.

The migration of seniors in Slovakia accounts for about 7% of the total internal migration in Slovakia. Senior housing is influenced by many factors: age, family and health status, household composition, kinship, quality and accessibility of social services and social support

<sup>1</sup> The definition of seniors is discussed in chapter Data and Methods.

(Kinsella, Velkoff 2001). Migration of seniors in the future will generate an ever greater social pressure to meet their living needs, particularly in health and social areas.

The main research questions of the study are as follows:

(1) Is the (internal) migration in the case of seniors selective? Do younger seniors, some of whom have recently stepped out of the labour market, migrate more than old seniors, for whom severe forms of disability are more frequent and their social situation can also be different? This research question embraces the search of key qualifying factors – driving mechanisms of the migration of seniors in a transforming, regionally differentiated country and with a rapidly ageing population?

(2) Are assumptions of Life-Cycle Hypothesis present among Slovak seniors and can they influence decisions on migration of seniors? Has the demographic structure of migrant seniors changed between the observed periods, and what influences the changing structure of seniors?

(3) The unevenness of age structure causes a shift of variously large generations to senior or retirement age. Has the mobility of seniors increased after the shift of generations with large populations to the age of 55 years or more?

## 2. Theoretical basis

The main theoretical bases of our work are the ideas of American authors: geographer and demographer Everett S. Lee and sociologist Eugene Litwak and Charles F. Longino. Lee in his fundamental and well-known work entitled *A Theory of Migration* brought forth an expanded view of the migration process, which he formulated in his own version of the Push-pull theory (Lee 1966). He summed up factors influencing the decision to migrate and the migration process in four areas:

- Factors associated with the original location;
- Factors associated with the destination location;
- Incoming obstacles;
- Personal factors.

According to the author, numerous factors exist in any space that keep people in a place, attracting them or forcing them out. Some factors affect humans the same way, others are perceived subjectively. The perception of these factors changes depending on depending on the age of the respective person. Whether migration flows occur or not depend on the potential benefits obtained by migration overcome the costs associated with incoming obstacles e.g.: overcoming distance, finding new accommodation but also the loss of social capital in the form of breaking relations with family and friends. Even in such a case, the perception of these obstacles is largely subjective and is influenced by the actual life cycle or age of the prospective migrant. Furthermore, various personal factors influence the decision to migrate, more or less constant throughout life. Migration itself is not only the result of the comparison of factors in the original location and destination

location. The nature (sensitivity) of man, intelligence, awareness of the situation in other places, access to information and other effects also play their role. It is also necessary to take into account the fact that not every migration is caused by the decision of the migrant; for example, children migrate with their parents, seniors with serious medical problems are transferred to social facilities if their family is unable to care for them, etc. Sjaastad interpreted the decision to migrate after considering the risk and profit ratio as the return on investment of an individual in his human capital (Sjaastad 1962). This theory is one of the most common and generally accepted migration theories. Its advantage is that it is universally applicable (e.g. contrary to the various economically based theories) on the micro and macro levels. At the same time, it is not based on the existence of any conditions (such as the migration network theory and others).

Character of migration, changes hand in hand with the changing phase phase of life of potential migrants. Litwak and Longino studied migration patterns among seniors and they defined three types of migration movement of this part of the population (Litwak, Longino 1987):

*Movement 1:* If a person has an intact marriage, is relatively healthy and has a sufficiently high income, social pressure for relocation may occur in some cases.

*Movement 2:* This movement occurs if a person starts suffering from a medium strong chronic disease that makes it difficult to manage daily activities such as shopping, cooking, and cleaning but also the ability to defend oneself and others. The presence of a husband/wife is the motivation for managing these activities, so the movement may occur in particular after becoming a widow(-er). If a person lives in this state far from his or her children, he or she must move in order to get the services he needs.

*Movement 3:* This movement occurs with people suffering from severe chronic diseases and the family cannot take care of them or provide adequate healthcare, or these are the persons described in “Movement 2” that do not have a family. In these cases, these persons move to social facilities in which trained staff takes care of them.

The social care and healthcare system is related especially to the second and third type of movement. In its broader sense it covers, besides public/state providers of these services, also the trends in family behaviour (caring, or not caring for a close person). Three types of social care for seniors are provided in Slovakia: ambulatory, field and with stay (Káčerová, Ondačková, Mládek 2013a, see also MPSVR 2014b). The adoption of Act 485/2013 Coll. should allow citizens to stay as long as possible in their natural environment and be provided with community-oriented social services (MPSVR 2014a). These changes should act to reduce mobility, especially of younger seniors. A focus on field social services or community-based care as a result of current demographic and socio-economic development is probably the only form of care provision that would allow, mainly in the

future, the fulfilment of the expected stay of seniors in their “natural” environment. The combined effect of the diminishing number of potential carers (traditionally caring was the task of the younger family members), increase of pressure of the labour market (especially at younger family members) and longer persistence in the labour market (of seniors) increase the exigence of social care (Hoff, Feldman, Vidovićová 2010).

Litwak and Longino (1987) regard the migration of seniors as a consequence of changes in old age, both somatic and psychological. While somatic changes in the last stage usually result in terms of mobility in the placement of seniors in facilities that provide care and healthcare, psychological changes can lead to migration caused by changes in the hierarchy of values. The three types of movements above suggest the existence of certain sub-populations of seniors influenced by these movements. In addition to somatic and psychological changes, ageing also brings social – status changes. According to Havlíková (2007), the social process of ageing refers to the socially defined age structure and the age standards (expectations). These standards specify the appropriate behaviour. Thus, there are social roles, expected patterns of behaviour that are associated with the social position of the individual. The social role is linked to what sociology calls the representation of status. These are the expectations through which a person in a particular social position shall demonstrate his affiliation to the group of those who are in the same position (Kövérová 2002).

Subjective understanding of the age identity of individuals themselves plays an important role in the context of migration of seniors. Subjective perception is reflected in the ability to adapt to the ageing process. The most important determinants of subjective age are education, self-esteem, satisfaction and financial health (Piscová 2011). Flynn, who examined interstate migration within the USA<sup>2</sup>, concluded that older migrants concentrate in fewer number of migration flows as compared to the migration of productive population, in other words, their migration is less spatially atomised (Flynn 1980 as quoted in Longino, Biggar 1982). For this reason, redistribution of the older population may have potentially huge implications for the main emigration and immigration regions. Migration to these regions will eventually change the overall characteristics of the older population, and therefore affects the level of services required. Older migrants have a much greater impact on demand as on the pressure on the labour market (Longino, Biggar 1982). This demand is reflected in different dimensions of the housing market, through transport possibilities, availability of different services that can be highly specific (pensioners clubs and other organizations) to healthcare.

Special type of housing for seniors are retirement houses. According to Káčerová, Ondačková and Mládek (2013b) Number of these facilities increased by more than 100% between years 1997 and 2010. Authors also claim that this type of facility accounts for more than 47% of all facilities dedicated to social support of seniors. Overall capacity is approximately 5 beds to 100 seniors.

### 3. Data and methods

#### 3.1 How to define the seniors?

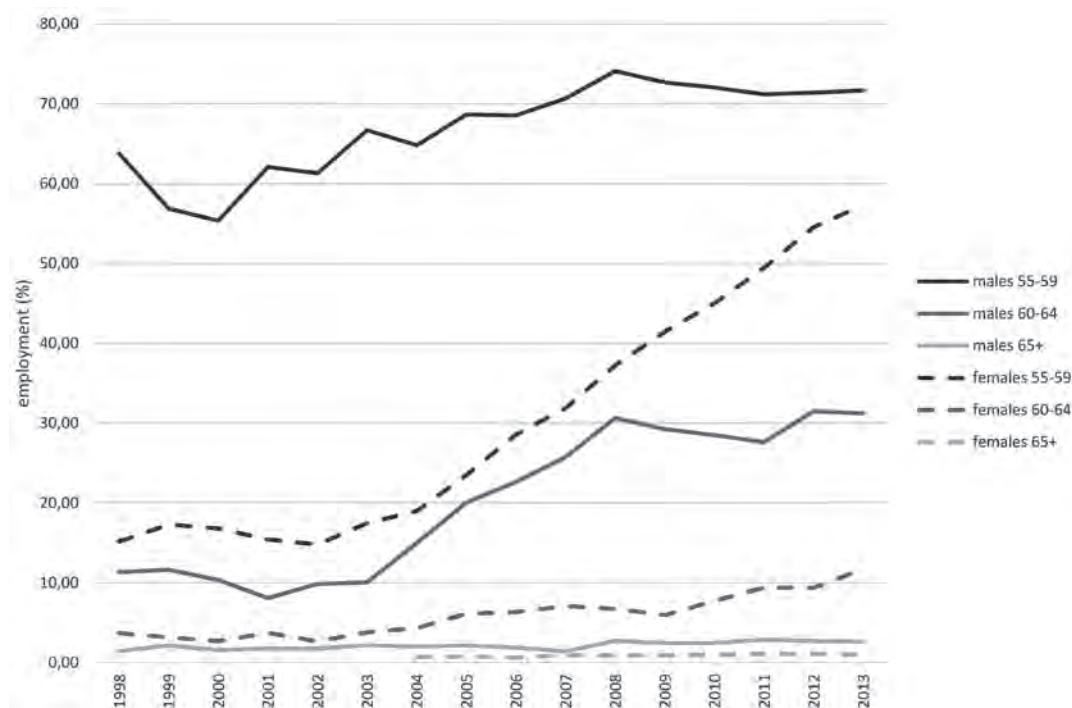
A significant methodological problem is the very definition of the age of persons who can be included among seniors. The literature has not yet created a single concept (Haas *et al.* 2006). The inconsistency in the age definition of “old age” is confirmed by the work of different authors, of which, for example, Forman *et al.* (1992) used for the purpose of his analysis the division of seniors to young seniors (“young old”) aged 60–69 years, middle-aged seniors (“middle old”) aged 70–79 years old and the very old seniors (“very old”) aged 80 years or more. A different division was used by Zizza *et al.* (2009) in their study of water consumption of the elderly. In their work we encounter age groups of 65–74 years (“young-old”), 75–84 years (“middle-old”) and 85 or more years (“oldest-old”). Some qualitative studies (Denney, Lennon 1972; Denney, Denney 1973) investigated the differences between people in middle age and advanced age (seniors, “elderly”), while the lower age limit of the group of seniors participating in the study in the examples was 67, respectively 75 years. According to Holmerová, Jurašková and Zikmundová (2007) about 80–90% of seniors (65 years and more) are self-sufficient with the help of family and the local environment, 13% need help in the household, 7–8% need a more systematic home care and 2% (sometimes it is indicated 5%) need institutional care.

When working with concepts such as senior, economic activity, marginalization, social role and others in the context of mobility, one needs to pay attention to the difference between retirement migration and migration in old age. Also, according to Haas *et al.* (2006), migration in older age (“later-life migration”) and retirement migration (“retirement migration”) cannot be conceptually or methodologically confused.

Moreover, as it becomes evident, neither would the use of retirement age as the lower age limit be trouble free, for two reasons:

- a) The age of retirement is not stable and within a short period of time can change several times, depending mainly on pension reforms (Table 1).
- b) Part of the population remains economically active even after reaching this age; with increasing age their share declines but, according to Holmerová, Jurašková and Zikmundová (2007), it never completely

<sup>2</sup> Interstate migration in the USA is, in our opinion, a priori closer to inner migration than international migration despite the possible distances that migrants overcome.



**Fig. 1** Employment of seniors.

Source: Population by sex, age, citizenship and labour status (Eurostat, accessed 4-24-2015) [http://ec.europa.eu/eurostat/en/web/products-datasets/-/LFSA\\_PGANWS](http://ec.europa.eu/eurostat/en/web/products-datasets/-/LFSA_PGANWS).

disappears. On the contrary, part of the population is becoming economically inactive even before reaching this age (early retirement, disability pension).

**Tab. 1** The highest official retirement age and real retirement age.

Year	Male		Female	
	Real	Official	Real	Official
1996	60.3	60 years	55.6	57 years
1997	59.9	60 years	55.1	57 years
1998	59.7	60 years	54.5	57 years
1999	59.4	60 years	55.1	57 years
2000	59.4	60 years	55.9	57 years
2001	59.7	60 years	55.9	57 years
2002	59.4	60 years	56.1	57 years
2003	59.8	60 years	56.1	57 years
2004	59.7	60 years and 9 months	56.0	57 years and 9 months
2005	59.2	60 years and 9 months	55.5	57 years and 9 months
2006	59.4	61 years and 6 months	55.1	58 years and 6 months
2007	59.3	61 years and 6 months	54.5	58 years and 6 months
2008	59.3	62 years	55.4	59 years and 3 months
2009	59.9	62 years	56.2	59 years and 3 months
2010	59.9	62 years	56.9	60 years
2011	60.4	62 years	57.7	60 years and 9 months
2012	60.9	62 years	58.7	60 years and 9 months
2013	n/a	62 years	n/a	61 years and 6 months

Source: [http://www.oecd.org/els/emp/Summary\\_1970+values.xls](http://www.oecd.org/els/emp/Summary_1970+values.xls)

Thus, we speak about the difference between the official retirement age and the actual retirement age. According to the OECD data<sup>3</sup> the real retirement age in Slovakia in 2012 was 60.9 years for males and 58.7 years for females (Table 1). In contrary to Hurd's (1990) findings the average age of retirement had not fallen, rather it is relatively stable (Table 1). In case of female seniors there is evidence of growth of average retirement age, which suggest that there is longer persistence of female seniors in the labour market (Figure 1).

Our categorisation used for age is not the result of random selection, although the limits of individual categories might suggest so. This classification is the result of several attempts to select the most appropriate, while maintaining the following conditions:

The classification should correspond to the characteristics of the population (in particular social, economic and demographic):

- Taking into account the retirement age and the employment rate;
- Taking into account the most significant differences between the sexes (life expectancy, retirement age).

The categorization should be at least partially comparable with previous classifications.

Although the changes do not happen suddenly but gradually, the selected limits should create categories of

<sup>3</sup> [http://www.oecd.org/els/emp/Summary\\_2012\\_values.xls](http://www.oecd.org/els/emp/Summary_2012_values.xls), accessed 4-24-2015

persons that, as a migrating entity, differ significantly from each other<sup>4</sup>.

Therefore, we have taken into account the following variables (separately for males and women): changes of demographic structures by age, changes of reasons of migration, life expectancy, health life expectancy based on EHIS 2009 (according to health and chronic diseases).

The result is the following categorization<sup>5</sup>:

1. People of “higher middle” age of 55 to 59 years as an additional category to seniors. It was created for comparison or for adding some conclusions. Given the actual retirement age, there is a possibility of retirement migration before the official retirement age, as demonstrated by the data of Figure 1. Nevertheless, this population is to a large extent economically active. Given the impossibility of individual selection of data on migration, it is necessary to work also with this category. Slovak migration data unfortunately make it impossible to determine whether the migrant is or is not a pensioner or for how long he or she has been retired. If such information existed, the range of research questions could be considerably expanded. It would be possible to examine in particular the relationship between the change in economic activity (status in terms of labour) and the change in probability of migration. Our definition attempts to be a certain approximation, the best possible given the data limitations.

60–69 years – group of young seniors who are the closest after retirement age<sup>6</sup>. We assume their best health status (within the group of seniors) and best options or potential for migration.

70–79 years – group of middle-aged seniors. We assume they have increased symptoms of chronic diseases. The persons have an increased need for healthcare. A study from the US environment (Neuman, Cubanski, Damico 2015) shows that people in this age receive 32% of healthcare (provided to all persons) and their expenditures represent 30% of total healthcare spending.

80 and more years – group of oldest seniors for which we expect a significant deterioration in health and limitation of migration to the third type of movement referred to in the chapter.

### 3.2 Theoretical basis

The advantages of this categorization come from easy comparison of the results with other works, as the classification is very similar to established classifications abroad. Another advantage is that the limits of the categories form a sort of natural break points, corresponding to break points in several indicators used for the classification. Furthermore, the break points are logical and static in time, allowing a good interpretation of the resulting data. A certain disadvantage might be that this classification was defined by a mechanical approximation of “hard” data. Therefore it probably does not correspond to the subjective perception of the very people concerned.

We are also aware that the situation in Slovakia may differ from Western European countries, as Slovakia's population, despite ageing rapidly, is relatively younger, with lower life expectancy and lower retirement age. For example, compared to Germany, life expectancy in 2013 was lower by 5.7 years for males and 3.1 years for females (Eurostat, 2015), and the average retirement age was lower by 1.2 years (OECD). At the same time, between 1996 and 2013 life expectancy in Slovakia increased by 2.8 years for females and up to about 4 years for males (processed according to Infostat-VDC) and the retirement age increased by 0.6 years for males and 3.6 years for women.

### 3.3 Methods

In this paper we used primary migration data from the years 1996–2013, and we worked in detail with the three periods 1996–1998, 2003–2005 and 2011–2013. The data is anonymized and provides detailed information on individual migration. Each migration is characterized by the following features: date of migration, gender of the migrant, marital status of the migrant, migrant's education, reason for migration, district (district – LAU 2) and municipality (municipality – NUTS V) prior to migration, district and municipality after migration.

Internal migration in Slovakia is officially defined as the movement across the municipal boundaries bound with the change of so called “permanent residence” of migrant. The method to record migration using the “Migration Report” is not entirely flawless. For the purposes of our analysis the biggest defaults are the following: failure to report changes of permanent residence, which means that part of the population that has actually changed residence keeps permanent residence in the original location (for seniors in particular it may be the case of persons accommodated in social facilities). The second problem lies in the method of stating the reason for migration. In this case the migrant can choose only one of the nine above reasons that are not entirely apparent or may overlap, thereby substantially reducing the information value. In any case, it is the best and only complex source of data on internal migration in Slovakia.

4 However, it is likely that persons close to the limit ages are similar in characteristics, even though they do not fall into one category defined by us.

5 We have considered using other alternatives, for example differentiation of age categories by gender or different definition for the years 1996–1998 and 2011–2013. Such classifications (should they occur only mechanically – quantitatively) would allow more accurate identification of groups of seniors but at the cost of decreased possibility of interpreting the results.

6 We are aware that part of the population in this age is still economically active, in their case, however, we expect a lower participation rate on internal migration precisely due to their employment acting as a pull factor in the place of residence.

The selected period allowed us to perform an in-depth analysis of the structure of migrant seniors and their changes over time. Although it would be preferable to have initiated the time series in 1990 or 1993, data are only available since 1996. The second selected period is related to Slovakia's entry into the EU. It is clear that the entry into the EU had a much greater effect on Slovak foreign migration than on the internal migration. Nevertheless, it is possible that starting from this period changes occurred also in this relatively small proportion of internal migration in Slovakia and mainly due to the development of social services (e.g. use of European funds) and changes in state social policy (e.g. under the concepts that originated from some of the EU projects and others).

We used cumulative values for three years in order to eliminate potential random fluctuations and also to achieve a sufficiently large set of values in terms of statistical analysis. Through this cumulation, the numbers of statistical units (migrations of seniors) were: for the period 1996–1998 20,846, for the period 2003–2005 it was 22,103 and finally for the period the number decreased to 15750.

The basic indicator is the mobility rate:

$$mm = \frac{M_x^{m/w}}{P_x^{m/w}} \times 1000(\text{‰}) \quad (1)$$

where  $M_x^{m/w}$  is the number of migrants – males or females aged  $x$ ,  $P_x^{m/w}$  is the size of the population of males or females aged  $x$ . The principle of calculation is the same as for other age-specific rates and eliminates the effect of population size.

We also use the method of direct standardization, which removes the impact of differences in age structures of populations. In this work we used it to remove the effects of the changing demographic structure since 1996. The result is a mobility rate that would be achieved by the Slovak population in the years 2003–2005 and 2011–2013 in the case of maintaining the initial age structure.

$$mm^{stp} = \frac{\sum_x mm_x P_x^{st}}{\sum_x P_x^{st}} \quad (2)$$

where  $mm^{stp}$  is a directly standardized mobility rate,  $mm_x$  is the mobility rate of  $x$  aged population which is standardized,  $P_x^{st}$  is the absolute number of inhabitants aged  $x$  in the population we chose as standard.

## 4. Results

### 4.1 Seniors of Slovakia and their migration behaviour.

Population ageing is common problem in most of developed countries. Population of Slovakia was during its socialist period characterized by relatively high fertility rates. After political and social changes in early 90s there are visible some certain behavioural changes which could be identified as signs of second demographic transition

(Lesthaeghe, Van de Kaa 1986; Van de Kaa 1987, 1994, 2002). Another aspect of population deformation is impact of post war baby boom and population wave from 70s. These factors caused current problems with population ageing in Slovakia.

Focusing on seniors, in 1996 males aged 55 and more accounted for 12.5% of the total population and females aged 55 and more accounted for 20.4% of the total population of women. This proportion increased slightly and in 2013 the proportions were already at the level of 13.8% for males and 21.3% for women. As we can see from these values, the proportion of males has increased more significantly than the proportion of women, which is mostly due to the improving mortality ratios of men. From the early 90s until 2011, the average life expectancy of males increased by 5.6 years and for females by 4.1 years (Šprocha, Vaňo, Bleha 2013). Males will continue to “catch up” with the better mortality rates of women, particularly given the scale of their reserves in the mortality rate, reducing the current significant male excess mortality, but full adjustment to the mortality rates of females is not expected (Bleha, Šprocha, Vaňo 2013). The second reason for increasing the share of these persons as a whole is the already mentioned shift in the age generations that have large numbers (ageing from the middle of the age pyramid). Figure 2 shows the development of the average age of our defined cohort of late middle aged persons and seniors in the group and in the group of 25–54 years old. The course of the two curves shows the alleged transfer of numerous generations born after the Second World War. As a result of this transfer a decrease occurred in the average age among seniors whereas the proportion of young seniors increased (and also the number of seniors as a whole) and also the average age in the category 25–54 years old decreased, due to the shift of a large number of people in late middle age being replaced by smaller generations.

Despite the relatively large and steadily increasing representation in the population, seniors participate in the migration only to a very small extent. In the years 1996–1998 only 6.66‰ of all males aged over 55 years and 8.05‰ of all females over 55 years participated on

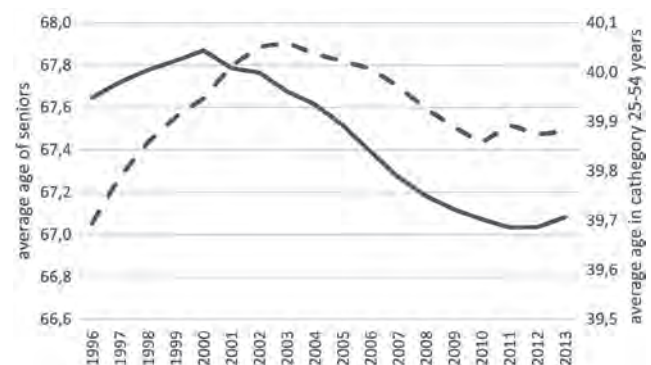
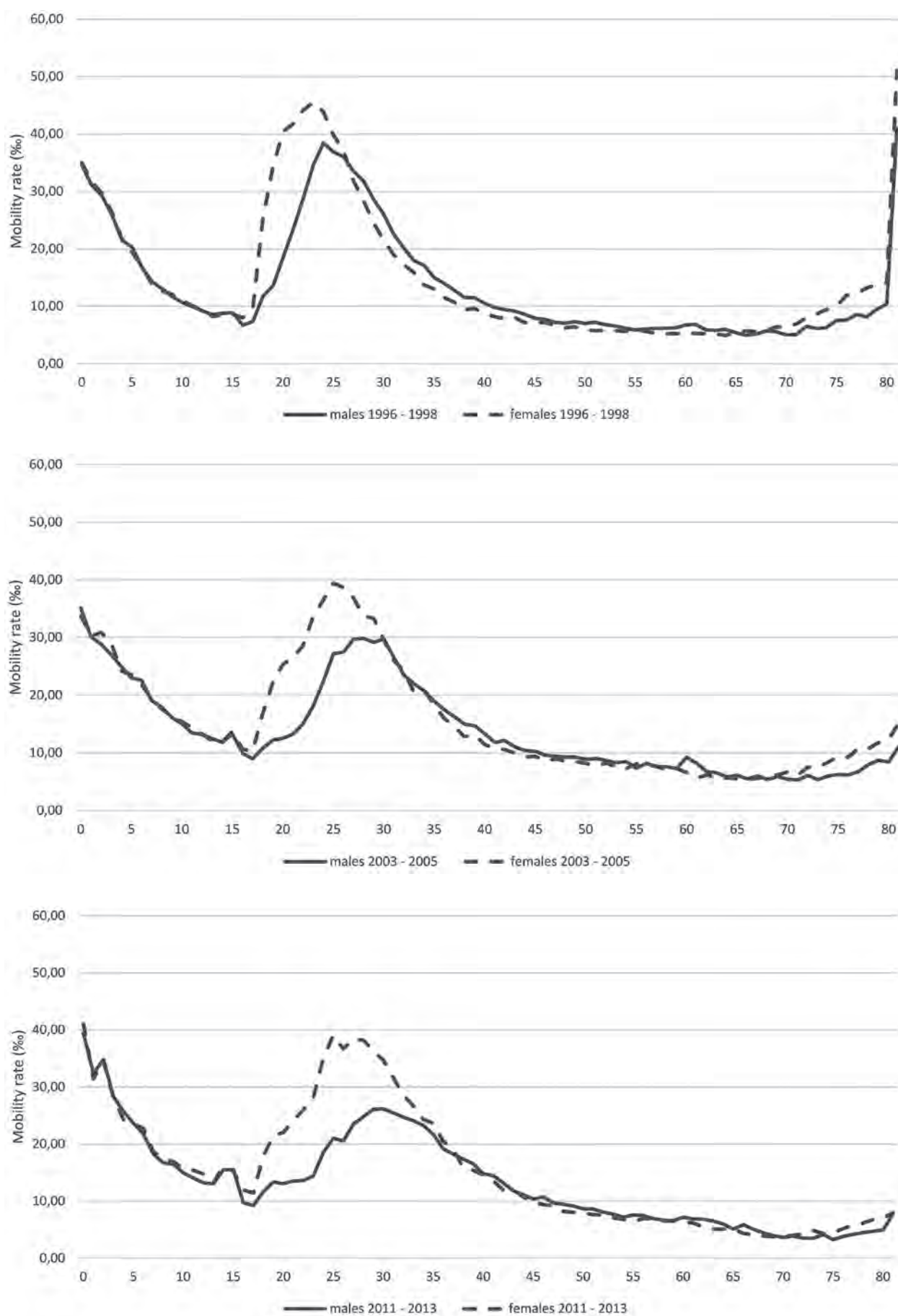
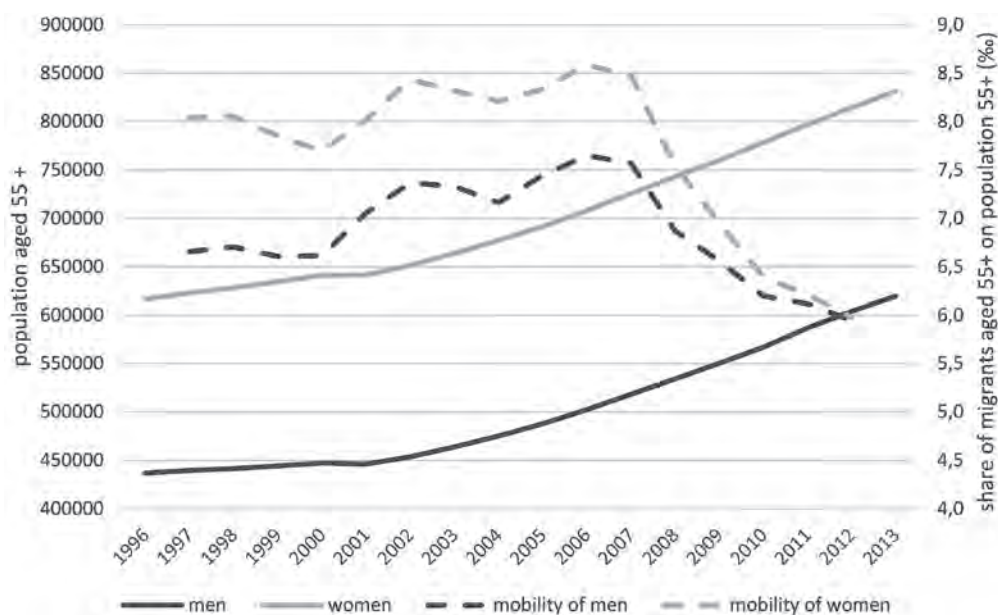


Fig. 2 Change in the average age in the age groups 25–54 years and 55 and years.

Source: SO SR.



**Fig. 3** Mobility rate (%) according to age.  
Source: SO SR.



**Fig. 4** Numbers and mobility of seniors.

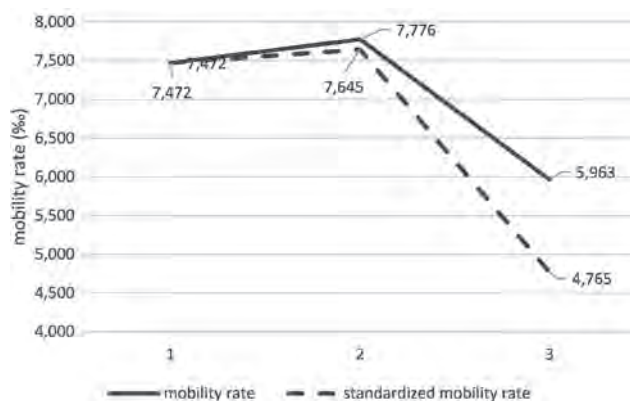
Source: SO SR.

internal migration. This low mobility was relatively stable until 2007 with minor fluctuations in its intensity. Since 2007 a significant decrease in both sexes has occurred, which cannot be understood merely as a random fluctuation. At the same time, there is a convergence of mobility rates of males and females who are currently at approximately the same level of around 6‰. For comparison, mobility rates culminate at age from 24 (in 1996–1998) to 33 (in 2011–2013) and with maximum close to 40‰ (in case of female, males show slightly lower rates). Figure 3 shows mobility rates in each of three periods. It is obvious that impact of population ageing affects also age structure of migrants. Regardless of the period it is clear that there is the same pattern of mobility distribution among the age groups of population. In principle higher rates occur within age group of new-borns, subsequently as age increases the mobility declines. At the age of 18 there is break in declining trend, and increase ends at the age of 32 (we can assume that this age will increase in future as consequence of the shift of large – within the meaning of the number – generations to higher age groups). After this second peak of mobility rate there is simultaneous decline of mobility with rising age. The last increase of mobility appears among older seniors and falls short of mobility rates among young adults. Since we focus on mobility of seniors it is important to find out why the older seniors are more mobile than younger ones. This could be result of some changes which occur with rising age. Venti and Wise (2002, 2004) identified them as precipitating shocks (spouse's death, health shocks), Hurd (1990) relates them with Life-Cycle Hypothesis. Consideration of these factors is ongoing in the following sections.

Relatively low mobility is also reflected in the low share of senior migrants among migrants in the total of – a relatively stable share of 9–10%.

Although the mobility of seniors has been declining since 2006, their absolute number has increased by 17%, while the number of all migrants has increased only by 5.46%. This means that seniors have a 29.7% share in the total increase of internal migrants in Slovakia. The increase relates mainly to the number of male-seniors (an increase of 33.95%), the number of migrant female-seniors is growing more slowly (an increase of 7.12%). In absolute numbers, however, males still do not reach the numbers of females in 1996 (Figure 4).

The standardization of values of mobility rates by age structure in 1996–1998 shows that in the case of cessation of ageing of the population, the mobility rate of current seniors would be significantly lower than it is today. The influence of age structure is already visible in the period 2003–2005; more significantly, however, it is reflected in the period 2011–2013. The development of non-standardized mobility rates also reflects the differences in the number of migrant seniors and the total number of



**Fig. 5** Standardized mobility rates.

Source: SO SR.



seniors in the population of Slovakia, more specifically the different intensity of changes in these two variables. Between the periods 1996–1998 and 2003–2005 the number of migrating seniors grew faster than the total number of seniors (the increase, however, concerned mainly seniors younger than 65 years) resulting in an overall increase in the mobility of seniors. From the 2003–2005 period, however, a significant change in migration patterns of seniors occurred and had led to a significant drop in the mobility of migrants (Figure 5).

We evaluate the direction of migrations of seniors by comparing the type of settlement before and after migration. Settlements in Slovakia are divided into two basic types: rural municipalities (communes, villages) and urban municipalities (cities and towns, in general over 5 thousand inhabitants with several exceptions). If we assume the existence of push and pull factors that differentiate two spatial units between which the migration occurs, we could establish two highly probable hypotheses:

- Seniors are increasingly moving to higher order settlements (to cities) which are also the seat of higher order services. Cities should be centres with institutions for the provision of services for seniors (e.g. retirement clubs, social facilities, community centres etc.), health centres and state and municipal institutions. It is also likely that with this movement seniors concentrate on a smaller number of courses because cities make up only a small part of the settlement structure of the Slovak Republic (138 towns out of 2,927 municipalities).
- The second hypothesis is based on the premise of improving the health, economic and social conditions of seniors in Slovakia. The combination of these changes may lead to some form of suburbanization and amenity migration<sup>7</sup>, reflected in deconcentration migrations of seniors from cities to rural municipalities.

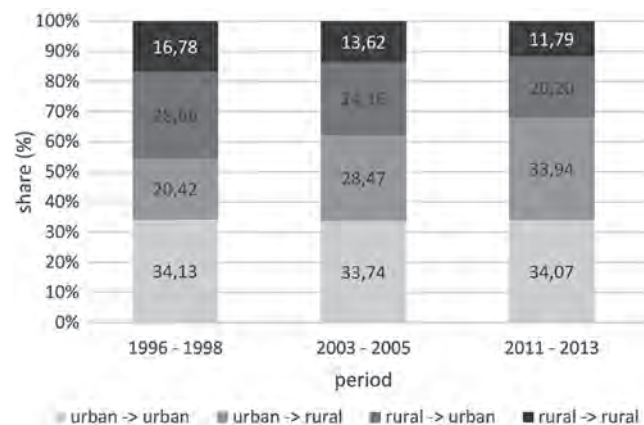
The analytical results (Table 2) show that there has been a significant change in the migratory directions of seniors. A common feature of all the periods is that most migrant seniors come from towns, but their proportion has relatively substantially increased (from 54.55% to 68.01%). Likewise, in all periods the target places are cities, in this case their proportion has declined (from 62.79% to 54.28%). The change is continuous in both cases; it appears that in this case the entry in the EU did not affect the migration of seniors. When dividing the two types of settlements, there are four types of spatial movement: from city to city (a), from the city to the

<sup>7</sup> Amenity migration and suburbanisation are two different processes which, in spite of this, are related. In a broader sense, the suburbanization triggered by the need to improve the living environment of the migrant could be considered as amenity migration. However, not all suburbanisation can be described as amenity migration. Gosnell and Abrams (2011) offer in their work a comprehensive analysis of the concepts and development of understanding amenity migration.

**Tab. 2** Direction of migrant seniors according to the type of municipality (%).

1996–1998				
type		after		Σ
		urban	rural	
before	urban	34.13	20.42	54.55
	rural	28.66	16.78	45.45
Σ		62.79	37.21	100.00
2003–2005				
type		after		Σ
		urban	rural	
before	urban	33.74	28.47	62.22
	rural	24.16	13.62	37.78
Σ		57.90	42.10	100.00
2011–2013				
type		after		Σ
		urban	rural	
before	urban	34.07	33.94	68.01
	rural	20.20	11.79	31.99
Σ		54.28	45.72	100.00

Source: SO SR



**Fig. 6** Direction of seniors by type of settlement.

Source: SO SR.

countryside (b), from the countryside to the city (c) and from the countryside to the countryside (d). Our two hypotheses concern in particular types “b” and “c”. Figure 6 shows the change of proportion of these four types of movements. Also, in this division a continuous change in the structure of spatial direction of seniors is evident. The basic characteristic of this change is a stable proportion of migrants from city to city.

Significant proportion of this type of migration is migration between the city districts of Bratislava and Košice, which are de facto migrations within one city<sup>8</sup>.

<sup>8</sup> In the Slovak Republic migration is considered the spatial movement during which there was a change in the address of

**Tab. 3** Structure (%) of reasons of migration of seniors according to their age in periods 1996–1998 and 2011–2013.

Age	Change of workplace	Approximation to workplace	Study	Health reasons	Marriage	Divorce	Housing reasons	Follow of the family	Other reasons	Sum (%)
<b>1996–1998</b>										
Males										
55–59	2.32	2.76	0.00	9.62	1.97	2.66	44.08	7.20	29.39	100
60–69	0.96	0.99	0.00	20.22	1.46	0.93	36.63	7.32	31.48	100
70–79	0.51	0.18	0.00	37.59	0.69	0.37	21.41	6.66	32.59	100
80+	0.07	0.00	0.00	52.86	0.37	0.00	9.90	5.94	30.87	100
Average	1.03	1.05	0.00	27.12	1.22	1.05	30.45	6.91	31.18	100
Females										
55–59	0.79	0.98	0.00	9.64	1.07	1.40	45.69	12.30	28.13	100
60–69	0.65	0.30	0.00	23.89	0.62	0.25	32.12	10.37	31.80	100
70–79	0.54	0.20	0.00	44.88	0.22	0.02	16.10	6.85	31.18	100
80+	0.36	0.05	0.00	54.31	0.15	0.00	7.97	5.28	31.87	100
Average	0.56	0.30	0.00	36.70	0.43	0.27	22.49	8.16	31.09	100
<b>2011–2013</b>										
Males										
55–59	1.12	1.52	0.00	3.27	0.84	2.74	51.47	6.16	32.89	100
60–69	0.51	0.75	0.00	6.37	0.93	1.35	47.25	8.27	34.57	100
70–79	0.15	0.15	0.00	19.04	0.51	0.29	32.99	9.81	37.06	100
80+	0.22	0.11	0.00	37.79	0.65	0.00	14.77	9.77	36.70	100
Average	0.66	0.90	0.00	9.54	0.82	1.61	44.19	7.82	34.46	100
Females										
55–59	0.87	1.17	0.00	2.88	0.57	1.24	49.75	11.04	32.47	100
60–69	0.47	0.55	0.00	7.55	0.34	0.62	47.15	11.41	31.90	100
70–79	0.14	0.11	0.00	27.40	0.32	0.04	25.11	10.83	36.05	100
80+	0.10	0.16	0.00	43.23	0.16	0.00	11.24	9.43	35.68	100
Average	0.44	0.55	0.00	17.57	0.36	0.55	36.09	10.78	33.66	100

Secondly, a significant increase in the proportion of migrations from the city to the countryside, which was already in the period 2003–2005 higher than the migration from the countryside to the cities. The last characteristic is the decline in the proportion of migration from the countryside to the cities and from the countryside to the countryside. This change may be due to differences in the development of mobility of seniors living in rural municipalities and towns. The changing mobility could be associated with the changing ratio of push and pull factors of the city and the countryside. The proportion of migration from the countryside to the countryside was already the least represented type of movement in the period 1996–1998, which could also be expected. To compare, persons aged 25–54 years in the 2003–2005

permanent residence, while crossing the administrative boundaries of the municipality. Therefore, migration between the city districts of Bratislava and Košice distort the results (migration in other cities does not qualify for the condition of crossing the administrative boundaries and therefore is not recorded).

period came more often from the cities than seniors did. In the years 2011–2013, however, the proportion of those leaving the cities was already lower than for seniors. But what is constant in all three periods is that these people often prefer rural municipalities for their housing, as can be seen with seniors, despite the fact that the differences in the direction of these two population groups are gradually decreasing.

#### 4.2 Sex and age structure of migrants – seniors

Changes in the age structure that occurred between 1996 and 2013 have the same course for males and women, they only differ in intensity.

The fundamental features of gender and age structure of the population of seniors in Slovakia are the following:

As in the case of all migrants in Slovakia, even among seniors migrant females prevail and, with increasing age, their share is increasing, under the effect of male excess mortality and thus ultimately increasing the

representation of females with increasing age. This phenomenon is valid in both reporting periods.

An important change is the significant increase in the proportion of migrants under the age of 69 years, which is caused by the ageing of large generations born after the Second World War.

Most of senior migrants are aged 55 to 69 years. The decrease in the mobility of seniors during the observed period is a possible consequence of changing age structure of seniors. Since we already know that mobility of seniors increase with age, rejuvenation of senior population (rise of share of younger seniors) decreases mobility of whole cohort. Another aspects that could play some role in the context of Slovak reality are improving health conditions of seniors, improving accessibility and the creation of new field forms of medical and social care, and the implementation of some of the objectives of the state policy in the area of addressing the challenges of ageing populations. The existence of these changes improves the quality of life of seniors and creates favourable conditions

for old seniors to remain in their own homes, which is the aim of national and supranational (European) institutions supporting the concept of active ageing. With younger migrants, particularly until 60 years, the influence of factors related to labour mobility should not be omitted. In this age group, the level of economic activity, particularly for men, is still relatively high.

### 4.3 Marital status

The structure of the senior migrants by marital status is partially a reflection of trends in the demographic processes of marriage and divorce in the past. According to Marenčáková and Pastor, demographic and socio-economic factors influence these processes (Marenčáková, Pastor 2006).

The composition of migrant seniors by marital status differs significantly between the sexes. These differences relate mainly to the category of married and widowed migrants. The proportion of married migrant males at

**Tab. 4** Structure (%) of reasons of migration of seniors according to their family status in periods 1996–1998 and 2011–2013.

Family status	Change of workplace	Approximation to workplace	Study	Health reasons	Marriage	Divorce	Housing reasons	Follow of the family	Other reasons	Sum (%)
<b>1996–1998</b>										
Males										
Single	3.49	1.80	0.00	38.62	0.11	0.00	17.14	2.96	35.87	100
Married	1.00	1.43	0.00	16.30	2.11	0.48	41.44	9.24	28.01	100
Divorced	0.71	0.89	0.00	23.15	0.89	6.32	30.19	3.12	34.73	100
Widowed	0.22	0.09	0.00	45.14	0.13	0.00	14.90	5.93	33.59	100
Average	1.03	1.05	0.00	27.12	1.22	1.05	30.45	6.91	31.18	100
Females										
Single	4.40	1.63	0.00	34.23	0.14	0.00	18.04	3.48	38.07	100
Married	0.41	0.32	0.00	18.57	1.41	0.18	34.67	16.57	27.88	100
Divorced	0.18	0.53	0.00	25.09	0.00	3.07	35.09	6.32	29.74	100
Widowed	0.07	0.06	0.00	45.36	0.17	0.00	17.01	5.95	31.38	100
Average	0.56	0.30	0.00	36.70	0.43	0.27	22.49	8.16	31.09	100
<b>2011–2013</b>										
Males										
Single	1.45	1.35	0.00	21.14	0.52	0.00	29.43	4.15	41.97	100
Married	0.70	0.85	0.00	4.82	1.19	0.15	51.95	10.09	30.26	100
Divorced	0.57	1.19	0.00	7.26	0.31	7.21	40.02	3.25	40.19	100
Widowed	0.07	0.36	0.00	26.25	0.22	0.00	26.83	7.83	38.43	100
Average	0.66	0.90	0.00	9.54	0.82	1.61	44.19	7.82	34.46	100
Females										
Single	2.23	1.56	0.00	21.07	0.22	0.00	28.44	4.99	41.47	100
Married	0.37	0.58	0.00	5.41	0.80	0.12	46.93	16.80	28.99	100
Divorced	0.42	0.71	0.00	9.07	0.08	3.09	44.76	6.64	35.23	100
Widowed	0.10	0.25	0.00	30.04	0.15	0.00	25.55	8.85	35.06	100
Average	0.44	0.55	0.00	17.57	0.36	0.55	36.09	10.78	33.66	100

each age is higher than the proportion of married migrant females when compare the absolute numbers, and married male record a higher rate of mobility too. Conversely, the proportion of widowed females is always higher than the proportion of widowers and this is due to the fact that widows are typically represented in higher age groups dominated by women. The proportion of divorced is significant only in the age group 55–59 years and 60–69 years, especially in the case of men. In this category, there has been an increase in the proportion of both males and women, manifested the most in groups aged 55–59 and 60–69 years, more significantly in the lower age category. Overall, however, the structure by marital status for both sexes is fairly stable and with no significant change between periods. Considering the Life Course Hypothesis, it seems that some reasons of migration are connected to certain marital status. Approximately 70% of health reasons were stated by widowed migrants. With respect to fact that widowed senior migrant belong to older seniors this should be not surprising. Housing reasons are very common among married migrants as well as among widowed ones. We postulate different reasons for occurrence of housing reasons among these two different groups. In case of married seniors we expect the effects of getting retired which is connected with change of financial situation. Widowed seniors are perhaps more prone to factors connected with change of family structure (spouse's death) or special requirements for housing equipment considering the health condition (in this section we have to remind the problematic methodology of identifying of migration reasons). Factors affecting both groups of seniors are creating the same gap between current and desired housing. In case of younger married seniors we can assume the migratory factor of "consumption" while in case of older widowed seniors we can rather presuppose a factor of "need".

#### 4.4 Education

Like in the case of marital status of migrants, the current educational structure of seniors reflects the education being performed several decades ago. It should be taken into account that the present seniors studied at different times, with different educational methods as compared to those in the contemporary educational system.

As the first period being analysed are the years 1996–1998 and as the minimum age of our cohort we selected is 55 years, many of these migrants were educated even during the inter-war period. Later generations that joined the seniors in the 2011–2013 period were educated in the post-war period, in which there was a change in the organization of schooling. Unlike the inter-war period, when mainly the number of primary schools increased and Slovak education only began to take shape, in the post-war period also middle and high schools expanded (Marenčáková 2006). School policy with regard to the nature of the socialist economy tried to cover most of its

needs for graduates oriented directly into the labour market (Šprocha 2012).

Changes in education were reflected also in the case of migrants. In the given periods females acquired lower education. In the period 1996–1998 the category of primary education dominates in all age groups of seniors and for both sexes. After 15 years, in the period of 2011–2013, the massive decrease in frequency of this category was recorded. In case of men, there was an increase in particular in the category of secondary education without general certificate, for females to a greater extent in the category with general certificate. For persons who completed their education during the previous political regime, it was characteristic that males most often acquired vocational education in fields without certificate and females had a completed secondary education (with certificate) (Šprocha 2012).

The proportion of migrants with university education is interesting, especially for men. Already in the years 1996–1998 18.98% of migrants, males aged 55–59 (generation of the late 30s and early 40s of the 20th century) had university education, for males aged 60–69 years (generations from the late 20th and mid-30s of the 20th century) it was completed by 16.13%. In the overall population, tertiary educated males accounted for around 10% of the above generations (Šprocha 2012). Migrant females currently achieve a higher proportion of tertiary education than in the past in the lower age categories, but in comparison with men, this proportion is lower. Until the mid-50s only a very small proportion of females completed university studies. The first change occurred in the second half of the 50s, when there was a relatively sharp increase of the share of females in the total number of university students (Šprocha 2011).

Therefore it appears that senior's selectivity by education demonstrates in migration as in the productive ages does. This is well documented by the higher proportion of university-educated senior migrants whereas less educated senior migrants do not migrate in such a large extent.

#### 4.5 Regression analysis

The dependent variable of regression model is the mobility rate; independent (explanatory) variables are: gender, marital status, education, reason of migration, type of municipality before and after migration and variable "x/Ex" which is share of migrants' age and his or her average life expectancy. In last variable lower values can be considered as better since they mean that in average these people still have relatively longer life to live in comparison to people with higher values of this variable. Reason to calculate such a variable was due to high VIF values (variance inflation factor – quantifies the severity of multicollinearity) of age and average life expectancy.

All independent variables except "x/Ex" were transformed into dummy variables; the omitted categories are the following:

**Tab. 5** Results of regression analysis.

variables		1996–1998		2003–2005		2011–2013	
		parameter estimate	p value	parameter estimate	p value	parameter estimate	p value
intercept		3.838	<0.0001	6.477	<0.0001	6.015	<0.0001
gender		0.377	<0.0001	0.258	<0.0001	0.098	<0.0001
marital status	married	-0.017	0.7450	0.099	0.0400	0.068	0.0330
	divorced	-0.028	0.6710	0.062	0.2710	0.160	<0.0001
	widower/widow	0.488	<0.0001	0.358	<0.0001	-0.214	<0.0001
education	secondary without grad.	-0.216	<0.0001	-0.243	<0.0001	-0.025	0.3010
	secondary with grad.	-0.122	0.0100	-0.114	0.0030	0.056	0.0320
	college	-0.145	0.0180	-0.142	0.0040	-0.006	0.8490
municipality before migration		-0.112	0.0002	0.048	0.0940	0.060	0.0020
municipality after migration		-0.141	<0.0001	-0.103	<0.0001	-0.191	<0.0001
stated reason	better approach to the employment	-0.047	0.8500	-0.077	0.7740	0.147	0.3420
	health reasons	0.225	0.1880	-0.140	0.4700	-0.476	<0.0001
	marriage	-0.060	0.7990	-0.350	0.1710	-0.350	0.0330
	divorce	0.049	0.8500	-0.237	0.3410	-0.005	0.9710
	household reasons	-0.204	0.2330	-0.638	0.0009	-0.395	0.0008
	follow of the family	-0.076	0.6690	-0.531	0.0070	-0.575	<0.0001
	other reasons	0.036	0.8310	-0.447	0.0210	-0.458	<0.0001
x/Ex		0.604	<0.0001	0.290	<0.0001	0.116	<0.0001
coefficient of determination – R <sup>2</sup>		80.09%		58.84%		30.8%	

- Gender – men;
- Marital status – single;
- Education – elementary;
- Reason for migration – change of workplace;
- Type of municipality before migration – rural municipality;
- Type of municipality after migration – rural municipality.

In all three periods we had to exclude two variables from the regression analysis – the age of the migrant and the categorical variable “reasons for migration”. These two variables reached high multicollinearity. It was mainly due to the fact that some (e.g. health) reasons were, in the vast majority, reported by older seniors and, conversely, others were typical of young seniors or for those in late middle age.

The results (Table 5) show evidently that there has been a significant change in the migration of seniors. The main manifestation of this change is that while in the period 1996–1998 our used data was able to explain up to 80.09% of the variability of values of mobility rates of seniors, in the period 2003–2005 it was only 58.84%, and at present it explains only 30.80% of variability.

We would like to point out p-values of single variables. As we can see from table 3, most of variables are not statistically significant. We consider that this is due to low share

of these categories in the cohort of migrating seniors. They do not necessary mean that they are not substantively significant. In fact our hypothesis is that some of them should be considered as specifics that when they appear we can expect that there will be higher or lower prevalence of migration among certain groups of seniors. Good example is migrations due to health reasons. In first two periods this reason was not statistically significant however we suppose that even in these periods seniors who have reached a certain level of health problems were more likely migratory active than those with relatively good health.

To sum up, we can see that even among single variables there is substantively significant change within analysed time period. Based on coefficients of explanatory variables, as the most important life experiences influencing decision to migrate can be considered:

(1) Gender – Especially in first two periods were women much more likely to migrate. Partially this was caused by big differences in mortality rates of men and women which resulted in high values of femininity among seniors. Nowadays, these differences are shrinking, but as we can see there is still a little higher mobility rate among women.

(2) Being a widower – Death of spouse is a life course event which changes lot of attitudes and increases the probability of migration.

(3) Level of education – Since this paper is case study, this factor is very specific and has to be considered in context of Slovak educational process and its history which was strongly connected with markets demand for labour force and its quality. In first two periods seniors had lower education then contemporary cohort seniors and therefore we can assume that those people had different views and opinions resulting into some differences in their migration decisions (some of those can be find as little changes in coefficients certain variables). To sum up, we are awaiting further changes in this category of variables. Question is whether seniors with college degree will migrate more than those with lower education (just like economically active people in Slovakia) or less since people with higher educational attainment have in general better health and therefore at least younger seniors will have less reasons to change their homes.

(4) Type of municipality after migration – It seems that among seniors there is a tendency to migrate into rural environment. We recorded this behaviour in all periods and we do not await any change. Probable reasons of this migration patterns are: better environment, cheaper real estates and in case of seniors who changed their home during communist urbanisation there are probably emotional connections to rural environment which they leaved.

(5) Reasons of migration – Reasons of migration of seniors in the past can be identified as “traditional” ones (health reasons, household reasons etc.). What we can see from our results is that “economic” reasons are becoming more important even among seniors. People are leaving labour market at higher age and are willing to change their place of living because of their jobs as well.

(6) Age and life expectancy – It seems like life and probable life expectancy are becoming less important in decision whether migrate or not. This is quite interesting finding especially when we consider common opinion on seniors as less flexible people who are not doing greater changes in their lives.

## 5. Conclusion

Ageism, the increasing weight of seniors in society, and pension security foster public debates in ageing European societies. However, one significant aspect which was not studied (in case of Slovakia) previously in connection with seniors is their migration mobility. In the Slovak Republic and neighbouring countries such studies are rare. At the same time, it can be assumed that the mobility of seniors may have more significant consequences, at least at regional and local levels.

In the beginning of this paper there were three research questions. First one, regarding the selectivity of the (internal) migration in the case of seniors was approved. Analysis of migration data confirmed that within our defined group of seniors, age and other demographic

characteristics are quite distinct differentiating characteristics that influence the selectivity of migration itself. It can be assumed, that some inter-generational shifts in the patterns of migration occur. In the case of migration it applies in particular, that the data are not in any case satisfactory, in this case we also have to deal with insufficient size of the analysed group and statistical relevance. It was therefore not always possible to realize the intended analysis of cross interactions. Nevertheless, the study has brought some interesting, some more and some less expected, results. It is confirmed that, with increasing age, the structure of the main reasons for migration of seniors changes, with an increasing representation of health reasons. The educational attainment of migrant seniors definitely influences the migration patterns, as the group of migrants differs by migratory characteristics. The analysis showed that over the course of time some attributes of migration change, yet it is not always possible to see a clear and distinct developmental trajectory and a clear change of trend in the time of transformation. It is, however, quite clear that migration of seniors is selective. The migration of seniors in some aspects changes or develops more dynamically than the overall internal migration, it is more volatile. Based on regression analysis we were able to demonstrate a direct effect of the size of generations and ageing on the change of mobility and the attributes of migration of seniors.

Second research question dealt with assumptions of Life Course hypothesis. In this case we can say, that partially, internal migration of seniors can be explained by this hypothesis. On the other hand we have to mention that there is still strong impact of religiosity among Slovak population and therefore older people stay longer with their families.

Last research question was targeted on the link between mobility of seniors and their population size. Although the generational composition is still the most important factor affecting the mobility rate of seniors, its importance decreases and the importance of other characteristics of migrants increase. It is certain that also the migrant seniors responded to some general migration trends taking place in the transition countries, such as suburbanization and amenity migration, in which they engage. Overall as main determinant and characteristics of current internal migration of Slovak seniors we see an occurrence of unevenness of current and desired housing. This unevenness is result of certain events in life (Hurd 1990; Venti, Wise 2002, 2004). Therefore we approach to Life-Cycle Hypothesis as the explanatory theory of internal migration of seniors in Slovakia.

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## RÉSUMÉ

### Post-communistic transformation and population ageing versus the changing migratory patterns of seniors: the case of the Slovak Republic

Changes of demographic behaviour in post socialistic countries over the last decades are raising question about the problem of population ageing. In this paper authors analyse internal migration of Slovak seniors. Even though current seniors are often overlooked, we have to admit that their generation are much more numerous than generations born nowadays.

On the example of three periods we try to identify which seniors are more mobile and what factors do play any role in their migration decision. The issue who can be considered as senior is discussed in separate section. We use our own categories of seniors with regards to best match to social reality of Slovakia.

In empirical analysis we compare migration behaviour of single categories of senior according to their specific structural categories (e.g. age, sex, etc.). Moreover we track these differences and their development within three periods from 1996 to 2013.

Knowledge about migration behaviour of certain groups of seniors may be helpful in creating appropriate conditions for their life in destination regions. This could help with their social inclusion to local society and prevent the occurrence of pathological phenomena.

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