12.

STRUCTURE AND FUTURE OF THE HUNGARIAN SOCIETY

László Hablicsek

MAJOR FINDINGS

- The population of Hungary has been diminishing ever since the early 1980s. Between 1981 and 2009 its number decreased by nearly 700,000 persons.
- The reduction is the joint consequence of the low number of births and the high number of deaths, and was slightly mitigated in the past decade by the positive balance of international migration.
- As women live nine years longer than men on average, their share within the population is growing.
- Besides the overall process of demographic ageing, i.e., the steadily growing number of elderly people, the age structure of the society is influenced also by the number of births largely fluctuating in the past decades. Over one fifth of the present Hungarian population has already turned 60 and every sixth citizen is more than 65.
- The index of ageing is steadily growing. Since 2007 there have been more people in the age group 60+ than in that of those below 20.
- As regards the territorial distribution of the population, the predominance of Central Hungary remains unchanged with a smaller share of Budapest as compared to Pest County. The territorial inequalities of economic development slightly modified the spatial distribution of the population to the advantage of the more developed regions.
- The Roma community constitutes a growing part of Hungary's population. Their rate is estimated to be 6-7 per cent. Due to the higher number of children in Roma families, their number has grown considerably in the regions of economically difficult position, though many of them migrated mostly to Central Hungary and Central Transdanubia in the hope of a better life.
- According to the latest population projections a further decrease and an even stronger ageing process can be expected. By 2030 the number of the population will decrease by half a million (5-6 per cent), and the proportion of the old (60+) will approach 30 per cent. The number of old people will be one and a half times as high as that of those below 20.
- All methods of projection suggest that significant positive changes are necessary in Hungary as regards the willingness to have children, life expectancy, and international migration in order to stop the decrease of the population and to slow down the process of ageing.

POPULATION – PAST, PRESENT, AND FUTURE

The population of a country changes relatively slowly, and compared to other socio-economic factors it is fairly predictable. The annual changes are relatively small, the major tendencies unfold only in the course of a longer period.

It is primarily the general census that reveals the number and distribution of the population by various characteristics like gender, age, residence, family status, educational level, economic activity, etc. The latest two censuses were taken in 1990 and in 2001, and the next one will take place in 2011.

The changes between two censuses are covered by the vital statistics (the registration of births, death, marriages, divorces, etc.), the statistics of migrations (both internal and external), and other country-wide surveys, microcensuses, and various representative surveys. The reliability of information gained by them is varied. Vital statistics can, for example, be considered much more reliable than migration statistics.

On the basis of vital statistics and migration statistics a population size is calculated for the years after the censuses by sex, age, and settlement (district). Due to various reasons the calculated size of the population is not quite accurate. The differences are corrected at the following census. For example, at the 1990 census 200,000 less individuals were registered than the calculated population, while in 2001 200,000 more were found.

The most important characteristics of the population are its total number and the changes thereof, its distribution by sex and age, and its territorial distribution. The changes of ethnic distribution is similarly significant, in the case of Hungary especially with regard to the Roma population the social and demographic features of which greatly differ from those of the national average. The level of education is taken increasingly into account as a considerably differentiating factor as regards demographic conditions and processes owing to the fact that the distribution of the population by educational level has been greatly modified.

The present chapter does not deal exclusively with statistical facts of the past and the present but introduces the results of a national projection with respect to the number of the population and its distribution by sex and age. Considering the fact that the analyses mostly cover the past twenty years, the projection will similarly cover twenty years ahead offering the latest estimations for the future.

Several projections are available on Hungary, the ones of the United Nations Population Division and the EUROSTAT for the year 2008 being among the most important. The projection presented here has been made at the Hungarian Central Statistical Office–Demographic Research Institute and is based on the latest population data of 2009 and on the vital statistics of 2008.[1]

Besides the number and distribution of the population by sex and age, the changes of its geographical distribution and the share of the Roma population will also be discussed.

1 See the home page of the Institute – www.demografia.hu.

CHANGES IN THE SIZE OF THE POPULATION AND ITS FACTORS

In 1981 the population of Hungary amounted to 10,710,000 persons, this being the largest population on the present territory of the country in the course of history. With the exception of 1992, this figure has been steadily decreasing since then. The 1990 census enumerated 10,375,000 persons and the one in 2001 registered 10,200,000. Based on statistics of births, deaths, and migrations since the last census a number of 10,030,000 was calculated for early 2009.

The projection for the population of 2030 varies within relatively broad limits. The size of the future population can be calculated by sex and years of age.

POPULATION PROJECTION

Projections are made by the component method recommended by the United Nations. They are very accurate in modelling the replacement processes within the population. The first step is to make calculations as to the components of population change, i.e., live births, deaths, and the balance of international migration. Based on them, the

Projections are based on hypotheses as regards fertility, mortality, and mobility. The hypotheses are the probable/expected low, high, and medium values of the average annual number of children, of life expectancy, and of the migration balance.According to the primary hypotheses of the national projection discussed here the estimated values for 2030 are the following:

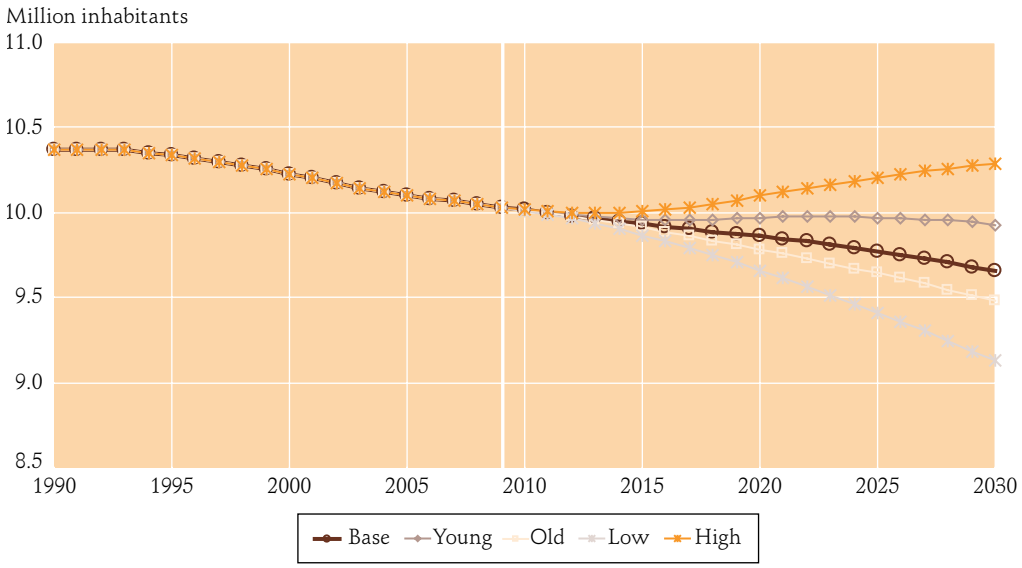
Types of indicators	Actual data for 2008	Medium	Low	High
		hypothetic values for 2030		
Average number of children (TFR)	1.35	1.50	1.30	1.80
Mean age of childbearing women (M1)	28.9	31.0	29.0	33.0
Male life expectancy	70.2	75.3	72.6	78.0
Female life expectancy	78.4	83.0	80.8	85.2
Balance of international migration (BM)	16,238	15,000	8,000	22,000

From among the possible combinations of the above hypothetic variants the following projections will be shown here:

Projection variant	TFR	M1	Life expectancy	BM
Base	medium	medium	medium	medium
Old	low	low	high	low
Young	high	high	low	high
Low	low	low	low	low
High	high	high	high	high

The base variant is considered the realistic frame of the future. The low variant is highly pessimistic, while the high variant is greatly optimistic. The old and the young variants offer estimates based on an alternately favourable development of the population processes.

Fig. 1. *Size of the population in Hungary, 1990–2030*



Source: Hungarian Central Statistical Office, Demographic Research Institute – Projection Database, 2009
www.demografia.hu

medium expectancy is 9,650,000 persons, the highest variant is 10,290,000, and the lowest is 9,130,000. This variance means that the margin of error is 5 per cent. The less extreme old and young variants differ by half a million. The lowest limit of the old variant is 9,480,000 and the highest limit of the young variant is 9,930,000.

This means that the decrease of the population can be considered a basic tendency between 2009 and 2030 as the population will not reach 10 million even if the maximum of the young variant is realized with its considerably growing fertility and intensive immigration. A population increase can be presumed only under exceptionally favourable conditions, in the case of a joint and considerable positive impact of all relevant factors (high variant). As a contrast, the low version reflecting a pessimistic image of the future would mean a severe population loss resulting in about 9 million inhabitants *(Fig. 1)*.

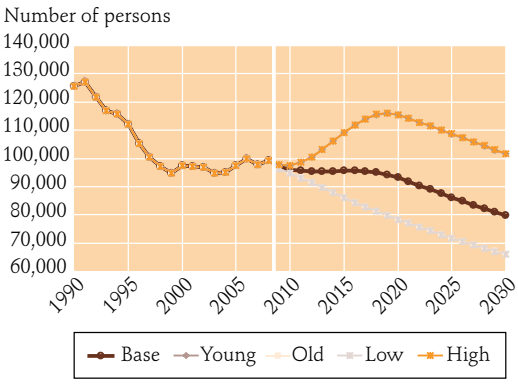
Population decrease has been more or less steady and even since the change of regimes. Between 1990 and 2001 the loss was 175,000, while between 2001 and 2009 it was 170,000. So the population of Hungary decreased by 340,000 to 350,000 persons in the past twenty years. The projection for the next twenty years is a loss of another 380,000 persons, even by moderately improving parameters.

The changes in the size of the population are governed by the number of live births, by that of deaths and by the balance of international migration. If the number of births exceeds that of deaths we speak of a natural increase. If not, we speak of natural decrease.

The number of live births is determined partly by the number of women in their fertile years, partly by their willingness to have children. The number of live births dropped considerably in the decade after the change of regimes, primarily due to

the decreasing fertility of the young people in their fertile years. In the course of 1990 126,000 babies were born but since 1998 their number has been below 100,000. This is the lowest figure ever in Hungary. What is more, the next twenty years will bring further decrease as a result of the diminishing number of women in the fertile age groups. If the average willingness to have children remains unaltered, the number of births will drop again but will remain below 100,000 even by a moderately improving fertility rate. Under exceptionally favourable conditions (by a high level of fertility) the number of live births can climb back to a level above 100,000 per year but will not reach the level of the early 1990s even in that case *(Fig. 2)*.

Fig. 2. *Number of live births, 1990–2030*



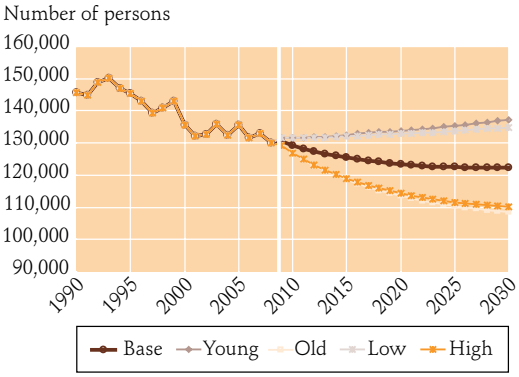
Source: Hungarian Central Statistical Office, Demographic Research Institute – Projection Database, 2009
www.demografia.hu

Compared to the number of births in 1990, about half a million babies less were born in the past two decades. So the loss between 1990 and 2030 can be estimated to reach 1.3 million.

The number of deaths is the other side of the coin in natural reproduction. The probability of death is growing with the passing years, so the number of deaths is basically determined by the number of persons belonging to the older age groups (to those above 40 or 50). The other factor influencing the number of deaths is life expectancy in the various periods of life. The mean life expectancy at birth is the summary indicator of this factor.

The number of deaths is very high due to the stagnation or decrease of life expectancy in the past regime. In the greater part of the 1990s it was over 140,000 per year. The gradual improvement in this field beginning with 1995 led to 130,000 deaths in 2008. In the case of a slight improvement in mortality the number of deaths will stagnate or increase moderately in the future. If a measured decrease of mortality occurs, the number of deaths can remain below 130,000, while a marked improvement can push it even below 110,000. However, a still lower figure cannot be achieved, so natural population decrease cannot be stopped by a rise in life expectancy alone. To achieve that goal a strong increase in the number of births would be needed *(Fig. 3)*.

Fig. 3. *Number of deaths, 1990–2030*



Source: Hungarian Central Statistical Office, Demographic Research Institute – Projection database, 2009
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As a result of the decrease in the high level of mortality 270,000 years lived could be saved between 1990 and 2008. In case of moderately improving conditions in the future this number can reach 460,000 between 2009 and 2030.

At the same time, it can be safely established that similarly to the past twenty years the number of live births will not reach that of deaths in the next twenty years, either. Between 1990 and 2008 660,000 more persons died than were born. In the next twenty years the natural loss will be 740,000 even under moderately improving conditions.

This negative tendency can be mitigated by the positive balance of international migration, which means that the number of persons moving to Hungary exceeds that of those leaving it. It has to be noted here that this time only those types of migration are dealt with that directly influence the number of the population, i.e., ones for which a settlement permit or a long-term residence permit is needed.

Between 1990 and 2008 the total balance of international migration was over 310,000 persons, i.e., this was the surplus of those immigrating as compared to the number of those leaving the country. According to the medium hypothesis of projection the immigration surplus will be 330,000 persons between 2009 and 2030 that will considerably (by about 40 per cent) mitigate the population loss due to low fertility.

The decrease of the population began in Hungary in the early 1980s and was at that time an exceptional phenomenon in the world. Today it is not a typically Hungarian phenomenon anymore. According to UN data 24 countries experienced a population decrease in 2000-2005, almost all lying east of the Elbe among them. However, it has to be noted that the joint share of these countries in the population of the world does not reach 5 per cent.

STRUCTURE OF THE POPULATION BY SEX AND AGE GROUPS

The distribution of the population by sex is shaped by three factors: the proportion of girls and boys among the new-born, the differences in mortality by sex, and the rate of women and men among the migrants. For biological reasons there are more boys among the new-born than girls and for similar reasons their life expectancy is lower. The differences in life style further enhance the difference in mortality, the life expectancy at birth for women can, therefore, exceed that for men even by 10 years. The typical difference in Hungary is 8 to 9 years to the benefit of women. In countries with a higher consciousness of health and a better health care system it is no more than 5 to 7 years.

A person's age is the time that has elapsed since his/her birth. The number of his/her years of age is identical with the number of birthdays since then. Age is thus the number of the complete years lived. At the beginning of a calendar year a person's age is one year less than what would be the result of deducing the year of birth from the given calendar year. At the end of the calendar year the age is, however, accurate. The persons born in the same calendar year belong to a birth cohort.

The population can be divided also to young, middle-aged, and elderly or old individuals. According to the general practice of the European Union persons below 20

are considered young. The limit of old age can, however, be either 60 or 65. In Hungary the first variety is more justified as the retirement age is (still) nearer 60 and the average age at retirement is below 60. The highest age in demographic tables today is 120 as this is held to be the highest limit of human life.

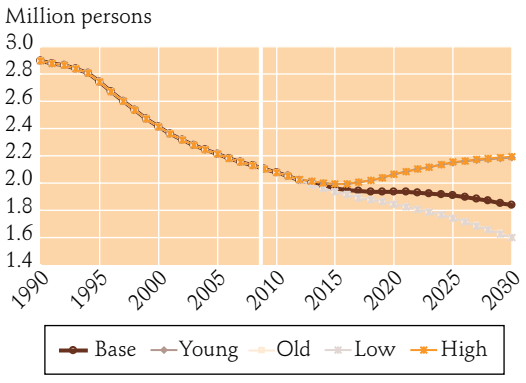
The changes in the number of persons belonging to the individual age groups are just as important as the changes in their rate as compared to the whole of the population. This latter figure is given special attention in examining the ageing of a population, i.e., the process when the mean age of a population rises and the rate of the old generation increases. The middle generations are the ones who provide for both the young and the old. The burden is shown by the dependency rate. The quotient of the number of the young and the middle-aged is the young age dependency rate, while the ratio of the old and the middle-aged is the old age dependency rate. The total of the two is the total dependency rate. The dependency rate is not to be mistaken for the ratio that compares the number of economically inactive persons with that of the active ones (sometimes mentioned also as dependency ratio in literature). Another important indicator is the ageing index that compares the number of the old to that of the young.

In 1990 there lived 5.4 million women and 5 million men in Hungary, i.e., 1082 women per 1000 men. In 2009 the number of women was 5.3 million and that of men was 4.8 million, so the sex ratio was 1106 women per 1000 men. The lower proportion of men within the population is primarily due to their higher mortality. According to the base variant of population projection that postulates a faster growing life expectancy for men there will be 5.1 million women and 4.6 million men in Hungary in 2030, resulting in a lower value of sex ratio (1099 women per 1000 men).

The size of the population by years of age is determined by several factors the most important of which is the size of the subsequent birth cohorts. As time passes, the outstandingly high birth peaks and deep troughs of the past results in outstandingly increasing or decreasing sizes of the various age groups. At present the people born in two outstanding periods form especially numerous age groups. Those born in the 1950s and the 1970s are much more numerous than the earlier and later birth cohorts. When age groups large in numbers reach old age, the ageing of the population suddenly – but not unexpectedly – accelerates. This is an additional burden on the ageing society struggling with the growing number of old people, arising from the improvement of life expectancy and the decreasing number of new generations, resulting from low fertility.

The young (aged 0-19) still numbered 2.9 million in the early 1990s, whereas in 2009 their number was only 2.1 million *(Fig. 4)*.

Fig. 4. *Number of the age group 0–19, 1990–2030*



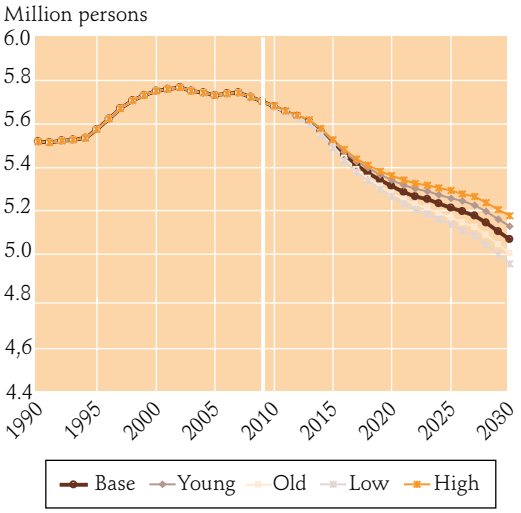
Source: Hungarian Central Statistical Office, Demographic Research Institute – Projection Database, 2009 www.demografia. hu

The decrease by 800,000 was due to the very low level of fertility, which is, in turn, the result partly of the postponement of childbearing. In the years towards 2030 a growing fertility can be projected among the fertile age groups ever decreasing in numbers but the growth should be much greater in the long run than what is expected to counterbalance the shrinking of the age groups 0–19. The tendency remains, therefore, a downward one, and the young age group can be estimated to number merely 1.8 million in 2030 according to the base version of projection. It could remain above 2 million only if fertility remained around the level of the 1990s. With the low average number of children today the number of the age group can decrease even by half a million. The rate of the young is at present 21 per cent, which is much lower than the 28 per cent of the early 1990s but prospectively higher than the approximately 19 per cent projected for 2030.

The size of the middle-aged population (age group 20–59) has greatly been increased by the fact that those born both in the 1950s and in the 1970s belong now to this age group. Also the positive migration balance has contributed to the large numbers. The group of those aged 20–59 numbers today 5.7 million (starting from 5.5 million in 1990) but this figure is already decreasing. The decrease will accelerate in a few years when the so-called Ratkó generations turn 60. In 2030 their number is expected to be only 5.3 million and in 2030 merely 5.0 to 5.2 million *(Fig. 5)*.

The number and rate of the old generation is an ever more frequently discussed subject in the society. It is often mentioned in the news and dealt with intensively by experts and decision-makers who are responsible for the large provision systems in charge of

Fig. 5. *Size of the age group 20-59, 1990-2030*



Source: Hungarian Central Statistical Office, Demographic Research Institute – Projection Database, 2009 www.demografia.hu

old people (i.e., the pension system, health care, care of the old, etc.) and for the harmonization of these systems with the challenges of demographic ageing.

The unparalleled increase in the number of the age group 60+ and in their rate within the population devolves a great number of tasks on the society even in more opulent countries than Hungary. Ageing is, in fact, a world-wide phenomenon and has an increasing impact also on less developed countries since the majority of the old people live in this part of the world. Projections reveal that in the distant future a new wave of ageing can be expected with an unprecedented rate of the old population. Taking the present category as a basis, in 2050 one third of the population in the developed countries will be old. China deserves special attention as the rate of old persons will surpass there even the level of the United States *(Fig. 6)*.

In Hungary the number of population in the age group 60+ was 1.9 million in

THE AGE PYRAMID

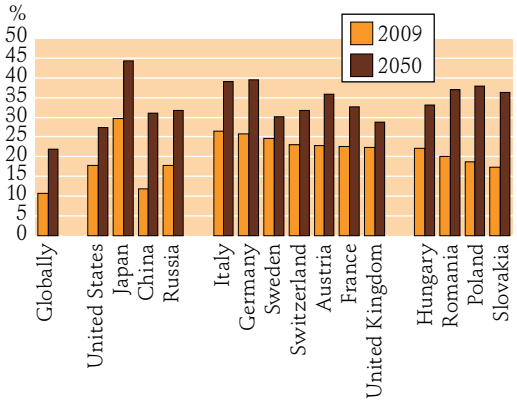
The age pyramid is a special illustration of the number of men and women by years of age or by age groups.* The age pyramid shows important events in the past, the various sizes of age groups, and the direction of the changes in the age distribution at the same time, and makes them comparable also by sex. By the juxtaposition or superposition of age pyramids of various countries, regions or points of time the spatial and temporal differences in the distribution of the populations can be clearly detected.

Our graphs show the age pyramids of Austria, Croatia, and Hungary for 2005 and 2030 on the basis of the United Nations projections of 2008. The three countries are different as regards their level of economic development and their relationship to the European Union but the rate of the age group 60+ is almost identical with 21-22 per cent in all of them. There is a significant difference among the age pyramids as well: in Austria the middle age group contains the members of one fertility peak, whereas in Croatia and in Hungary it contains those of two. The size of the age group in question is especially great in Hungary. The rate of the old will, however, differ in the future. By 2030 it will be 33 per cent in Austria, 30 per cent in Croatia, and 27 per cent in Hungary.

* The horizontal axis of the diagram shows the number of the population (that of women to the right and that of men to the left), while the vertical axis shows age groups.

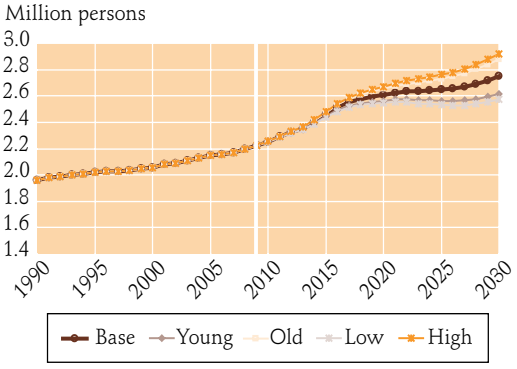
Source: UN Population Division. World Population Prospect. The 2008 Revision. Data collection http://esa.un.org/unpp

Fig. 6. *Rate of the age group 60+ in certain countries of the world, 2009 and 2050*



Source: UN Population Division, World Population Prospect. The 2008 Revision

Fig. 7. *Number of the age group 60+, 1990–2030*



Source: Hungarian Central Statistical Office, Demographic Research Institute - Projection Database, 2009 www.demografia.hu

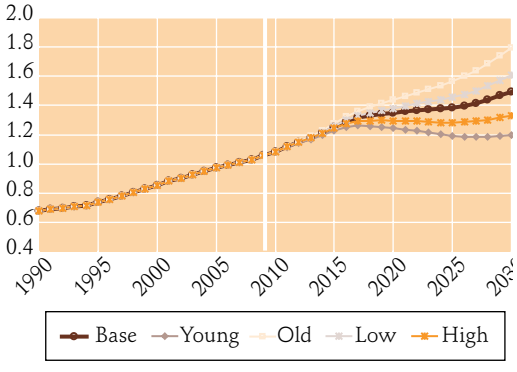
the early 1990s, and today it numbers 2.2 million. Its rate within the population has grown from 19 to 22 per cent. By 2030 the joint effect of the formerly mentioned fluctuation of age groups, of the low fertility rates, and of the improving mortality will result in a rise to 2.6 to 2.9 million, i.e., 26-30 per cent *(Fig. 7)*.

The increase of the number and rate of old people is so marked that it can be mitigated only by a considerable change in the definition of the 'old' age group. By raising the age limit to 65 years we can expect the age group 65+ to number 2.3 million in 2030, which is more than the present number of the age group 60+. The rate of the new age group 65+ will reach 22 per cent, the rate of the age group 60+ today. The raising of the retirement age is, therefore, extensively discussed but much less is said about the things to be done to make it possible.

The ageing index (the quotient of the old and the young age groups) is a similarly important indicator of the shifting focal points of the provision systems within the population. The ageing index has risen from 0.7 in 1990 to over 1.0, consequently there are today more old people than young in the society *(Fig. 8)*.

The proportion of the young and the old within the population will continue to rise dynamically in the decades to come. By 2015 it is expected to exceed 1.2, and by 2030 it may reach 1.5. Only a considerable rise in fertility could keep it below 1.2. By the present low level of child number, however, there can be 80 per cent more old people in Hungary in 2030 than young.

Fig. 8. *Changes of the ageing index, 1990-2030*



Source: Hungarian Central Statistical Office, Demographic Research Institute – Projection Database, 2009 www.demografia.hu

THE TERRITORIAL DISTRIBUTION OF THE POPULATION

For statistical reasons the territorial units of the individual countries are divided into categories within the European Union according to a unified system. The arrangement by five (the so-called NUTS levels)[2] for Hungary consists of the following: the whole of the country, the regions, the capital and the counties, the sub-regions, and the settlements. The second level contains at present seven regions, the third contains 19 counties and the capital city, the fourth contains 174 sub-regions, and the fifth contains about 3,000 settlements.

The population of a territory generally means the residential population, i.e., the individuals who specified the given county and locality as their place of residence. The place of residence is generally identical with the actual place where they live. Besides the factors influencing also the number of the population in a country (like births, deaths, and international migration), the number of the residential population in a territory is influenced also by internal migrations or movements between the individual territorial units within the country.

The spatial distribution of the residential population in Hungary can be called stable for a long time with no sudden changes *(Table 1)*. The inhabitants of Budapest represent 17 per cent, which is a considerable decrease as compared to the earlier 20 per cent. The Central Hungarian region (Pest County included) is, however, settled with its 28-29 per cent. The regions developing in the past 20 years show a slight rise as regards their population (Central Hungary, Central and Western Transdanubia), while the ones that had experienced a relatively severe crisis (Southern Transdanubia, the

Table 1. *Resident population of Budapest and the regions of Hungary, 1990, 2001, 2009*

Territorial units	Number of inhabitants (thousand)			Rate of inhabitants within the population of the country (per cent)		
	1990	2001	2009	1990	2001	2009
Budapest	2,017	1,759	1,687	19.4	17.2	16.8
Central Hungary	2,967	2,831	2,893	28.6	27.8	28.8
Central Transdanubia	1,110	1,117	1,102	10.7	10.9	11.0
Western Transdanubia	1,014	1,008	996	9.8	9.9	9.9
Southern Transdanubia	1,016	998	954	9.8	9.8	9.5
Northern Hungary	1,324	1,303	1,237	12.8	12.8	12.3
Northern Great Plains	1,547	1,564	1,516	14.9	15.3	15.1
Southern Great Plains	1,398	1,380	1,331	13.5	13.5	13.3
Total for Hungary	10,375	10,200	10,030	100.0	100.0	100.0

Source: Demográfiai évkönyv, 2008 (Hungarian Central Statistical Office)

[2] *Nomenclature d'unités territoriales statistiques* – Classification of statistical territorial units.

Northern Great Plains, the Southern Great Plains, and especially Northern Hungary) are losing inhabitants.

THE NUMBER AND RATE OF THE ROMA POPULATION WITHIN THE TOTAL POPULATION OF HUNGARY

The Roma or Gypsy ethnic group has been much talked about recently. The fact that we do not have reliable data about the Roma population makes an objective analysis highly difficult. Ethnicity is one of the questions at the census but since two thirds of the people considered Roma by their environment declare themselves Hungarian, statistics is hardly suitable for characterizing the ethnic group. The actual numbers can be found in the sociological datasurvey led by Kemény István (1997) but as the number of the interviewed was small, the possibility of misinterpretation is great.

Table 2 is the result of a special series of estimates in which the demographic features of the Roma population are determined by using census results, sociological datasurveys and demographic methods simultaneously.

Table 2. *Rate of the Roma community within the total population of Hungary, 1990, 2001, 2009 (per cent)*

Regions	1990/1991	2001	2009
Budapest	2.0	3.4	4.6
Central Hungary	2.2	3.4	4.4
Central Transdanubia	2.1	2.8	3.4
Western Transdanubia	2.2	2.6	3.0
Southern Transdanubia	6.3	7.3	8.2
Northern Hungary	9.4	11.6	14.1
Northern Great Plains	7.4	8.3	9.3
Southern Great Plains	2.5	3.0	3.6
Total for Hungary	4.3	5.4	6.4

Source: Hablicsek (2007b)

According to the estimates, the Roma population represented 4.3 per cent of the total population of the country at the time of the change of regimes with approximately 450,000 persons. In 2001 their number was probably 550.000 and in 2009 640,000, which means that the Roma population is fast increasing. Today it can represent 6 to7 per cent of the total population.

Their share within the residential population is growing in each region, though to different degrees. In Budapest the rate of the Roma community more than doubled and it numbers nearly 80,000 persons. In Central Hungary their rate has doubled and is now about 4 to 5 per cent with 120,000 to 140,000 persons. The growth of the Roma population has been especially great in Northern Hungary with over 170,000 persons and a rate of at least 14 per cent today. The increase has slowed down slightly in the Northern Great Plains and in Southern Transdanubia where their proportion remained below 10 per cent. Central Hungary shows, however, a low proportion but a dynamic growth of 60 per cent.

The detailed statistics and projections for the next 20 to 30 years estimate a further considerable increase in the number and rate of the Roma population in Hungary.

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